

# PSD2-TPP Technical Design

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## Authorisations and version control

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Version	Date	Affects	Brief description of the change
1.7.3	March 2022	EVERYTHING	Initial Version

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## 1. INTRODUCTION

### 1.1 Scope

This document describes the technical design of the interface between third-party (payment service) providers (TPPs) and the HUB to ensure compliance with the PSD2 Directive.

### 1.2 Context

It is the final joint document between Redsys and the financial institutions associated with the HUB.

### 1.3 Glossary

The table below lists the acronyms/abbreviations and their definitions used in the document.

Acronym	Definition
ASPSP	Account Servicing Payment Services Provider Provides and maintains customer accounts from which payments can be made.
PISP	Payment Initiation Services Provider Initiates a payment order at the request of the user, from a payment account held at another payment services provider
AISP	Account Information Service Provider Provides account information services to customers for payment accounts held with other providers.
TPP	Third Party Provider Executes the services defined by PSD2 on behalf of a PSU. If it is necessary for the service, it accesses the account(s) of the PSU administered by an ASPSP using the XS2A interface of this ASPSP. It sends request messages to the XS2A interface of the ASPSP and receives response messages corresponding to this ASPSP.
PIISP	Payment Issuer Instrument Services Provider Provides users with a payment instrument with which to initiate and process payment transactions.
PSU	Payment Services User

May be a natural or legal person under PSD2 legislation. Implicitly or explicitly instructs the TPP to perform any PSD2 service for its ASPSP.



## 2. GENERAL DESCRIPTION OF THE SYSTEM

The following table lists the services available:

Service		Functionality
CORE	PIS	Initiate simple single signature payment
		Initiate recurring payments
		Initiate recurring multiple/bulk payments
		Initiate future payments
		Check payment status
		Recover payment initiation information
		Cancel payment
	AIS	Establish consent
		Recover consent information
		Check consent status
		Remove consent
		Read list of accounts available with/without balances
		Read list of accounts accessible with/without balances
		Read account details with/without balances
		Read balances
		Read transactions with/without balances
		FCS
	Recover consent information	
	Check consent status	
	Remove consent	
	Fund confirmation	
	SCA	SCA by redirected flow
	Common processes	Initiate explicit authorisation
		SCA status query
		Obtain authorisation sub-resources
		Update authorisation data
	OAUTH	Obtain access token
		Renew access token

**Table 1: CORE services**

Service	Functionality
---------	---------------

SVA	ASPSP DIR.	List of available ASPSPs (v1 and v2)
	PIS	Payment initiation with list of accounts available for PISP

**Table 2: Value-added services**

### 3. DESCRIPTION OF CORE SERVICES

#### 3.1 PIS: Payment initiation service

##### 3.1.1 Payment initiation

Message sent by the TPP to the ASPSP through Hub to initiate payment.

##### 3.1.1.1 Request

###### Endpoint

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

###### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
payment-product	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>sepa-credit-transfers</li> <li>instant-sepa-credit-transfers</li> </ul>	String	MAN	E.g. {provider}/{aspsp}/v1/payments/sepa-credit-transfers/

###### Query parameters

No additional parameters are specified for this request.

###### Header

Field	Description	Type	Man.	Format
Content-Type	Value: application/json	String	MAN	Content-Type: application/json
X-Request-ID	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g.

				X-Request-ID: 1b3ab8e8-0fd5-43 d2-946e-d75958b1 72e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsi cMWpAA
<b>Consent-ID</b>	This data is contained if the payment initiation transaction forms part of a session (combination of AIS/PIS). Will contain the consentId of the AIS consent that was arranged before the payment initiation.	String	OPT	^{1,36}\$ E.g. Consent-ID: 7890-asdf-4321
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. If it is not available, the TPP must use the IP address used by the TPP when it sends this request.	String	MAN	^[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Language: es-ES

<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: POST
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device.  The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b>  ^[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}\$  E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43 d2-946e-d75958b1 72e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b>  ^GEO:[\d]*.[\d]*[:][\d]*.[\d]*\$  E.g. PSU-Geo-Location : GEO:90.023856;2 5.345963
<b>TPP-Redirect-URI</b>	TPP URI, where the transaction flow must be redirected after one of the phases of the SCA.  We recommend always using this header field.  In the future, this field may become mandatory.	String	COND	^.{1,250}\$  E.g. TPP-Redirect-URI" :"https://tpp.example.es/cb"

<b>TPP-Nok-Redirect-URI</b>	If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.	String	OPT	$^{\{1,250\}}\$$ E.g. TPP-Nok-Redirect-URI:"https://tpp.example.es/cb/nok"
<b>Digest</b>	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	$^{\{1,100\}}\$$ E.g. Digest: SHA-256=NzdmZj A4YjY5M2M2NDY yMmVjOWFmMG NmYTZiNTU3MjV mNDI4NTRIMzJkY zE3ZmNmMDE3Z GFmMjhhNTc5OT U3OQ==
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	$^{\{1,5000\}}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugA wIBAgIIzZvBQIt0 UcwDQYJ..... ....KoZlhvcNAQEL BQAwSTELMAkG A1UEBhMCVVMx EzARBgNVBA

**Body**

The content of the Body is that defined in 5.15 SinglePayment.

**3.1.1.2 Response****Header**

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the link to the resource generated.	String	MAN	$^{\{1,512\}}\$$ E.g. Location: /v1/payments/{payment-product}/{payment-id}

<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> $^{[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}}$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>EMBEDDED</li> <li>DECOUPLED</li> <li>REDIRECT</li> </ul> The SCA based on OAuth will be taken as REDIRECT.	String	COND	E.g. ASPSP-SCA-Approach : REDIRECT

### Body

Field	Description	Type	Man.	Format
<b>transactionStatus</b>	Status of the transaction. Values defined in annexes in 6.4 Estados de transacción	String	MAN	<b>ISO 20022</b> E.g. "transactionStatus": "RCVD"
<b>paymentId</b>	Identifier of the resource that references the payment initiation.	String	MAN	$^{.}{1,36}$$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
<b>transactionFees</b>	Fees associated with the payment.	Amount	OPT	E.g. "transactionFees": {...}
<b>transactionFeeIndicator</b>	If equal to "true", the transaction will involve a fee depending on the ASPSP or what has been agreed between the ASPSP and the PSU. If equal to "false", the transaction will not involve any additional fee for the PSU.	Boolean	OPT	E.g. "transactionFeeIndicator": true

<b>_links</b>	List of hyperlinks to be recognised by the TPP. Types supported in this response: <ul style="list-style-type: none"> <li>• scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP.</li> <li>• self: link to the resource created by this request.</li> <li>• status: link to recover the transaction status.</li> </ul>	Links	MAN	E.g. "_links": {...}
<b>psuMessage</b>	Text to show to the PSU.	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.1.1.3 Examples

#### Example of redirection for SCA via redirection

POST <https://www.hub.com/aspsp-name/v1/payments/sepa-credit-transfers>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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": "Name123",
  "remittanceInformationUnstructured": "Additional information"
}
```

### Example of the response in the case of SCA via redirection with a sub-resource of authorisation implicitly created

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/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/payments/sepa-credit-transfers/123-qwe-456",
      "status": {
        "href":
"/v1/payments/sepa-credit-transfers/123-qwe-456/status"
      },
      "scaStatus": {
        "href":
"/v1/payments/sepa-credit-transfers/123-qwe-456/authorisatio
ns/123auth456"
      }
    }
  }
}

```

### 3.1.2 Initiation of future payment

Message sent by the TPP to the ASPSP through the Hub to initiate a future payment.

#### 3.1.2.1 Request

##### Endpoint

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

##### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. hub.example.es
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>payment-product</b>	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>sepa-credit-transfers</li> <li>instant-sepa-credit-transfers</li> </ul>	String	MAN	E.g. {provider}/{aspsp}/v1/payments/sepa-credit-transfers/

##### Query parameters

No additional parameters are specified for this request.

## Header

Field	Description	Type	Man.	Format
<b>Content-Type</b>	Value: application/json	String	MAN	Content-Type: application/json
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>Consent-ID</b>	This data is contained if the payment initiation transaction forms part of a session (combination of AIS/PIS). Will contain the consentId of the AIS consent that was arranged before the payment initiation.	String	OPT	$^{\{1,36\}}$$ E.g. Consent-ID: 7890-asdf-4321
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. If it is not available, the TPP must use the IP address used by the TPP when it sends this request.	String	MAN	$^{[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}}$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\{1,5\}}$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$$ E.g. PSU-Accept-Charset: utf-8

<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: POST
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device. The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b> $^{\{0-9a-fA-F\}\{8\}-\{0-9a-fA-F\}\{4\}-\{0-9a-fA-F\}\{4\}-\{0-9a-fA-F\}\{12\}}$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> $^{\text{GEO}}:\{[\backslash\text{d}]^*\}.\{[\backslash\text{d}]^*\};\{[\backslash\text{d}]^*\}.\{[\backslash\text{d}]^*\}$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963

<b>TPP-Redirect-URI</b>	<p>TPP URI, where the transaction flow must be redirected after one of the phases of the SCA.</p> <p>We recommend always using this header field.</p> <p>In the future, this field may become mandatory.</p>	String	COND	$^{\{1,250\}}\$$ E.g. TPP-Redirect-URI:"https://tpp.example.es/cb"
<b>TPP-Nok-Redirect-URI</b>	<p>If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.</p>	String	OPT	$^{\{1,250\}}\$$ E.g. TPP-Nok-Redirect-URI:"https://tpp.example.es/cb/nok"
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	$^{\{1,100\}}\$$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjh hNTc5OTU3OQ==
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	$^{\{1,5000\}}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQIt0UcwDQYJ.....KoZlhvcNAQELBQAwSTELMAkGA1UEBhM CVVMxEzARBgNVBA

### Body

The content of the Body is defined in 5.15 SinglePayment and the following parameter must also be entered:

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>requestedExecutionDate</b>	The payment will be executed on the reported date. <b>Note:</b> this field must be entered.	String	OPT	<b>ISODate</b> E.g. "requestedExecutionDate": "2019-01-12"
-------------------------------	------------------------------------------------------------------------------------------------	--------	-----	------------------------------------------------------------------

### 3.1.2.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the link to the resource generated.	String	MAN	<b>Max512Text</b> E.g. Location: /v1/payments/{payment-product}/{payment-id}
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>REDIRECT</li> </ul>	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

#### Body

Field	Description	Type	Man.	Format
<b>transactionStatus</b>	Status of the transaction. Values defined in annexes in 6.4 Estados de transacción	String	MAN	<b>ISO 20022</b> E.g. "transactionStatus": "RCVD"
<b>paymentId</b>	Identifier of the resource that references the payment initiation.	String	MAN	^{1,36}\$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
<b>transactionFees</b>	Fees associated with the payment.	Amount	OPT	E.g. "transactionFees": {...}

<b>transactionFeeIndicator</b>	<p>If equal to "true", the transaction will involve a fee depending on the ASPSP or what has been agreed between the ASPSP and the PSU.</p> <p>If equal to "false", the transaction will not involve any additional fee for the PSU.</p>	Boolean	OPT	E.g. "transactionFeeIndicator": true
<b>_links</b>	<p>List of hyperlinks to be recognised by the HUB. Types supported in this response:</p> <ul style="list-style-type: none"> <li>• scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the Hub.</li> <li>• self: link to the resource created by this request.</li> <li>• status: link to recover the transaction status.</li> </ul>	Links	MAN	E.g. "_links": {...}
<b>psuMessage</b>	Text sent to TPP through the HUB to be shown to PSU.	String	OPT	$^{\{1,512\}}\$$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP sent through the HUB.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.1.2.3 Examples

#### Example of redirect for SCA via redirect

POST <https://hub.example.es/aspasp-name/v1/payments/sepa-credit-transfers>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541

Authorization: Bearer 2YotnFZFEjrlzCsicMwPAA

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"
  },
  "debtorAccount": {
    "iban": "ES1111111111111111111111"
  },
  "creditorAccount": {
    "iban": "ES2222222222222222222222"
  },
  "creditorName": "Name123",
  "remittanceInformationUnstructured": "Additional information",
  "requestedExecutionDate": "2019-01-12"
}

```

### 3.1.3 Bulk payment initiation

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

#### 3.1.3.1 Request

##### Endpoint



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

### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. hub.example.es
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>payment-product</b>	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>• sepa-credit-transfers</li> <li>• instant-sepa-credit-transfers</li> </ul>	String	MAN	E.g. {provider}/{aspsp-name}/v1/bulk-payments/sepa-credit-transfers/

### Query parameters

No additional parameters are specified for this request.

### Header

Field	Description	Type	Man.	Format
<b>Content-Type</b>	Value: application/json	String	MAN	Content-Type: application/json
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> $^{\wedge}[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA

<b>Consent-ID</b>	This data is contained if the payment initiation transaction forms part of a session (combination of AIS/PIS). Will contain the consentId of the AIS consent that was arranged before the payment initiation.	String	OPT	$^{\{1,36\}}$ E.g. Consent-ID: 7890-asdf-4321
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.  If it is not available, the TPP must use the IP address used by the TPP when it sends this request.	String	MAT	$^{[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}}$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\{1,5}}$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)

<b>PSU-Http-Method</b>	<p>HTTP method used in the interface between the PSU and the TPP. Permitted values:</p> <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	<p>E.g. PSU-Http-Method: POST</p>
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[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\}}\\$</math></p> <p>E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP.</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}\\$</math></p> <p>E.g. PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>TPP-Redirect-Preferred</b>	<p>If "true", the TPP has communicated to the HUB that it prefers SCA via redirection.</p> <p>If "false", the TPP has communicated to the HUB that it prefers not to be redirected for SCA and that the procedure will be via decoupled flow.</p> <p>If the parameter is not used, the ASPSP will chose the SCA flow to be applied, depending on the SCA method chosen by the TPP/PSU.</p> <p><b>EMBEDDED NOT SUPPORTED IN THIS VERSION</b></p>	Boolean	OPT	<p>E.g. TPP-Redirect-Preferred: true</p>

<b>TPP-Redirect-URI</b>	<p>TPP URI, where the transaction flow must be redirected after one of the phases of the SCA.</p> <p>We recommend always using this header field.</p> <p>In the future, this field may become mandatory.</p>	String	COND	$^{\{1,250\}}\$$ E.g. TPP-Redirect-URI:"https://tpp.example.es/cb"
<b>TPP-Nok-Redirect-URI</b>	<p>If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.</p>	String	OPT	$^{\{1,250\}}\$$ E.g. TPP-Nok-Redirect-URI:"https://tpp.example.es/cb/nok"
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	$^{\{1,100\}}\$$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjh hNTc5OTU3OQ==
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	$^{\{1,5000\}}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZzVbQIt0UcwDQYJ.....KoZlhvcNAQELBQAwSTELMAkGA1UEBhM CVVMxEzARBgNVBA

### Body

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>batchBookingPreferred</b>	If this element is "true", the PSU prefers only one entry. If this element is equal to "false", the PSU prefers individual entries for each individual transaction contained. The ASPSP will follow this preference in accordance with the agreement with the PSU.	Boolean	OPT	E.g. "batchBookingPreferred":true
<b>debtorAccount</b>	The debtor's account.	AccountReference	MAN	E.g. "debtorAccount": { "iban": "ES1111111111111111111111" }
<b>requestedExecutionDate</b>	If it is contained, the payments contained in the batch will be executed on the indicated date. This field may or may not be used together with the requestedExecutionTime field	String	OPT	<b>ISODate</b> E.g. "requestedExecutionDate": "2018-05-17"
<b>requestedExecutionTime</b>	If it is contained, the payments contained in the batch will be executed at the indicated date/time. This field may not be used together with the requestedExecutionDate field	String	OPT	<b>ISODateTime</b>
<b>payments</b>	This element is an array of payment initiations in JSON notation for the payment products supported. Excluding the data: <ul style="list-style-type: none"> <li>• debtorAccount</li> <li>• requestedExecutionDate</li> <li>• requestedExecutionTime</li> </ul>	Array<SinglePayment>	MAN	E.g. "payments":[...]

### 3.1.3.2 Response

#### Header

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>Location</b>	Contains the link to the resource generated.	String	MAN	$^{\{1,512\}}$ E.g. Location: /v1/bulk-payments/{payment-product}/{payment-id}
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>REDIRECT</li> </ul>	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

**Body**

Field	Description	Type	Man.	Format
<b>transactionStatus</b>	Status of the transaction. Values defined in annexes in 6.4 Estados de transacción	String	MAN	<b>ISO 20022</b> E.g. "transactionStatus": "RCVD"
<b>paymentId</b>	Identifier of the resource that references the bulk payment initiation.	String	MAN	$^{\{1,36\}}$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
<b>transactionFees</b>	Fees associated with the payment.	Amount	OPT	E.g. "transactionFees": {...}
<b>transactionFeeIndicator</b>	If equal to "true", the transaction will involve a fee depending on the ASPSP or what has been agreed between the ASPSP and the PSU. If equal to "false", the transaction will not involve any additional fee for the PSU.	Boolean	OPT	E.g. "transactionFeeIndicator": true
<b>_links</b>	List of hyperlinks to be recognised by the HUB. Types supported in this response:	Links	MAN	E.g. "_links": {...}

	<ul style="list-style-type: none"> <li>• scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the Hub.</li> <li>• self: link to the resource created by this request.</li> <li>• status: link to recover the transaction status.</li> </ul>			
<b>psuMessage</b>	Text sent to TPP through the HUB to be shown to PSU.	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP sent through the HUB.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.1.3.3 Examples

#### Example of redirect for SCA via redirect

POST <https://hub.example.es/aspsp-name/v1/bulk-payments/sepa-credit-transfers>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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"
  },
}
```

```

    "requestedExecutionDate": "2018-12-21",
    "payments":
    [
    {
        "instructedAmount": {
            "currency": "EUR",
            "amount": "153.50"
        },
        "creditorAccount": {
            "iban": "ES22222222222222222222222222222222"
        },
        "creditorName": "Name123",
        "remittanceInformationUnstructured": "Additional information"
    },
    {
        "instructedAmount": {
            "currency": "EUR",
            "amount": "20.30"
        },
        "creditorAccount": {
            "iban": "ES33333333333333333333333333333333"
        },
        "creditorName": "Name123",
        "remittanceInformationUnstructured": "Additional information"
    }
    ]
}

```

### 3.1.4 Initiation of permanent orders for recurring/periodic payments

Message sent by the TPP to the ASPSP through the Hub to create a future recurring/periodic payment initiation.

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

A TPP may send a recurring initiation payment in which the initiation date, frequency and termination date (if appropriate) is provided.



Once authorised by the PSU, the payment will be executed by the ASPSP, if possible, following the "permanent order" as sent by the TPP. No additional actions are needed by the TPP.

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

**Note:** for the permanent payment initiation orders, the ASPSP will always request SCA with Dynamic linking. No exceptions are allowed.

### dayOfExecution field rules

- **Daily payments:** the "dayOfExecution" field is not required. The first payment is the "startDate", and from then on, 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, the "startDate" used is that of the day of the week on which the payment was made. (If the "startDate" is Thursday, the payment will be made every Thursday)
- **Twice-monthly payments:** the same rule as for weekly payments applies.
- **Monthly or less frequent payments:** the possible values range from 01 to 31, using 31 as the last day of the month.

#### 3.1.4.1 Request

##### Endpoint

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

##### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. hub.example.es
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
payment-product	Payment product to be used. List of supported products: sepa-credit-transfers instant-sepa-credit-transfers	String	MAN	E.g. {provider}/{aspsp-name}/v1/periodic-payments/sepa-credit-transfers/

##### Query parameters

No additional parameters are specified for this request.

## Header

Field	Description	Type	Man.	Format
<b>Content-Type</b>	Value: application/json	String	MAN	Content-Type: application/json
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>Consent-ID</b>	This data is contained if the payment initiation transaction forms part of a session (combination of AIS/PIS). Will contain the consentId of the AIS consent that was arranged before the payment initiation.	String	OPT	^{1,36}\$ E.g. Consent-ID: 7890-asdf-4321
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. If it is not available, the TPP must use the IP address used by the TPP when it sends this request.	String	MAN	^[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8

<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: POST
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device. The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b> $^{\{0-9a-fA-F\}\{8\}-\{0-9a-fA-F\}\{4\}-\{0-9a-fA-F\}\{4\}-\{0-9a-fA-F\}\{4\}-\{0-9a-fA-F\}\{12\}}$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> $^{\text{GEO}}:\{[\backslash\text{d}]^*\}.\{[\backslash\text{d}]^*\};\{[\backslash\text{d}]^*\}.\{[\backslash\text{d}]^*\}$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963

<b>TPP-Redirect-URI</b>	<p>TPP URI, where the transaction flow must be redirected after one of the phases of the SCA.</p> <p>We recommend always using this header field.</p> <p>In the future, this field may become mandatory.</p>	String	COND	$^{\{1,250\}}\$$ E.g. TPP-Redirect-URI:"https://tpp.example.es/cb"
<b>TPP-Nok-Redirect-URI</b>	<p>If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.</p>	String	OPT	$^{\{1,250\}}\$$ E.g. TPP-Nok-Redirect-URI:"https://tpp.example.es/cb/nok"
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	OPT	$^{\{1,100\}}\$$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	$^{\{1,5000\}}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQIt0UcwDQYJ.....KoZlhvcNAQELBQAwSTELMAkGA1UEBhM <sup>CVVMxEzARBgNVBA</sup>

### Body

The content of the body is defined in 5.15 SinglePayment together with the following definitions:

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>startDate</b>	The first execution date applicable after this date is the first payment	String	MAN	<b>ISODate</b> E.g. "startDate":"2018-12-20"
<b>endDate</b>	The last applicable execution day. If there is none it is a permanent order without an end date.	String	OPT	<b>ISODate</b> E.g. "endDate":"2019-01-20"
<b>frequency</b>	The frequency of the recurring payment resulting from this permanent order. Permitted values: <ul style="list-style-type: none"> <li>• Daily</li> <li>• Weekly</li> <li>• EveryTwoWeeks</li> <li>• Monthly</li> <li>• EveryTwoMonths</li> <li>• Quarterly</li> <li>• Annual</li> </ul>	String	MAN	<b>ISO 2002 EventFrequency7Code</b> E.g. "frequency":"Monthly"

### 3.1.4.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the link to the resource generated.	String	MAN	^{1,512}\$ E.g. Location: /v1/periodic-payments/{payment-product}/{payment-id}
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>• REDIRECT</li> </ul>	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

## Body

Field	Description	Type	Man.	Format
<b>transactionStatus</b>	Status of the transaction. Values defined in annexes in 6.4 Estados de transacción	String	MAN	<b>ISO 20022</b> E.g. "transactionStatus": "RCVD"
<b>paymentId</b>	Identifier of the resource that references the bulk payment initiation.	String	MAN	^{1,36}\$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
<b>transactionFees</b>	Fees associated with the payment.	Amount	OPT	E.g. "transactionFees": {...}
<b>transactionFeeIndicator</b>	If equal to "true", the transaction will involve a fee depending on the ASPSP or what has been agreed between the ASPSP and the PSU.  If equal to "false", the transaction will not involve any additional fee for the PSU.	Boolean	OPT	E.g. "transactionFeeIndicator": true
<b>_links</b>	List of hyperlinks to be recognised by the TPP. Types supported in this response: <ul style="list-style-type: none"> <li>• scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP.</li> <li>• self: link to the resource created by this request.</li> <li>• status: link to recover the transaction status.</li> </ul>	Links	MAN	E.g. "_links": {...}
<b>psuMessage</b>	Text sent to TPP through the HUB to be shown to PSU.	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP sent through the HUB.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.1.4.3 Examples

#### Example of redirect for SCA via redirect

POST <https://hub.example.es/{aspsp-name}/v1/periodic-payments/sepa-credit-transfers>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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"
  },
  "creditorName": "Name123",
  "remittanceInformationUnstructured": "Additional information",
  "startDate": "2018-03-01",
  "executionRule": "preceeding",
  "frequency": "Monthly",
  "dayOfExecution": "01"
}
```

### 3.1.5 Obtain payment status

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

#### 3.1.5.1 Request

##### Endpoint

GET

{provider}/{aspsp}/v1/{payment-service}/{payment-product}/{paymentId}/status

### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
payment-service	Possible values are: <ul style="list-style-type: none"> <li>payments</li> <li>bulk-payments</li> <li>periodic-payments</li> </ul>	String	MAN	E.g. {provider}/{aspsp}/v1/payments
payment-product	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>sepa-credit-transfers</li> <li>instant-sepa-credit-transfers</li> </ul>	String	MAN	E.g. {provider}/{aspsp}/v1/payments/sepa-credit-transfers/
paymentId	Identifier of the resource that references the payment initiation.  Sent previously as a response to a message initiating payment by the TPP to the HUB.	String	MAN	^{1,36}\$  E.g. 1234-qwer-5678

### Query parameters

No additional fields are specified.

### Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7



<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWp AA
<b>Accept</b>	Response format supported. Supported values: <ul style="list-style-type: none"> <li>application/json</li> </ul>	String	OPT	^{1,50}\$ E.g. Accept: application/json
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	^[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\d{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>POST</li> <li>GET</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET

	<ul style="list-style-type: none"> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>			
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{\{0-9a-fA-F\}\{8\}-\{0-9a-fA-F\}\{4\}-\{0-9a-fA-F\}\{4\}-\{0-9a-fA-F\}\{12\}}\\$</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP.</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{\text{GEO}:[\text{\\d}]*.[\text{\\d}]*[;][\text{\\d}]*.[\text{\\d}]*\\$}</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{\{1,100\}}\\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZINTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p>See annexes</p>
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	<p><math>^{\{1,5000\}}\\$</math></p> <p>E.g.</p> <p>TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgII ZzZvBQIt0UcwDQYJ... .....KoZlhvcNAQELBQA wSTELMAkGA1UEBhMCVVMxEzARBgNVBA</p>

## Body

No additional data are specified.

### 3.1.5.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

#### Body

Field	Description	Type	Man.	Format
<b>transactionStatus</b>	Status of the payment transaction. Values defined in 6.4 Estados de transacción	String	MAN	<b>ISO20022</b> E.g. "transactionStatus": "ACCP"
<b>fundsAvailable</b>	This data is contained if it is supported by the ASPSP, if a confirmation of funds has been made and if the "transactionStatus" is one of the following: <ul style="list-style-type: none"> <li>• ATCT</li> <li>• ACWC</li> <li>• ACCP</li> </ul>	Boolean	COND	E.g. "fundsAvailable": true
<b>psuMessage</b>	Text to show to the PSU.	String	OPT	^.{1,512}\$ E.g. "psuMessage": "Information for PSU"
<b>tppMessages</b>	Message for the TPP.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.1.5.3 Examples

#### Example of request

GET

<https://www.hub.com/aspsp-name/v1/payments/sepa-credit-transfer/123asdf456/status>

Accept: application/json

```
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA
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 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
}
```

## 3.1.6 Recover payment initiation information

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

### 3.1.6.1 Request

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>payment-service</b>	Possible values are: <ul style="list-style-type: none"> <li>payments</li> <li>bulk-payments</li> <li>periodic-payments</li> </ul>	String	MAN	E.g. {provider}/{aspsp}/v1/payments
<b>payment-product</b>	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>sepa-credit-transfers</li> <li>instant-sepa-credit-transfers</li> </ul>	String	MAN	E.g. {provider}/{aspsp}/v1/payments/sepa-credit-transfers/
<b>paymentId</b>	Identifier of the resource that references the payment initiation.  Sent previously as a response to a message initiating payment by the TPP to the HUB.	String	MAN	^{1,36}\$  E.g. 1234-qwer-5678

### Query parameters

No additional fields are specified.

### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$  E.g.  X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g.  Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	^[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\$  E.g.

				PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\d{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device.  The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g.

				PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946 e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> ^GEO:[\d]*.[\d]*[;][\d]*.[\d]*\$ E.g. PSU-Geo-Location: GEO:90.023856;25.3459 63
<b>Digest</b>	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	^{1,100}\$ E.g. Digest: SHA-256=NzdmZjA4YjY 5M2M2NDYyMmVjOWF mMGNmYTZiNTU3MjVm NDI4NTRIMzJkYzE3Zm NmMDE3ZGFmMjhhNTc 5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	^{1,5000}\$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgII ZzZvBQIt0UcwDQYJ... .....KoZlhvcNAQELB QAwSTELMAkGA1UEBh MCVVMxEzARBgNVBA

**Body**

No additional data are specified.

**3.1.6.2 Response****Header**

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$

				E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7
--	--	--	--	-------------------------------------------------------------------

### Body

The fields to return are those requesting initiation of the original payment:

- 3.1.1 Payment initiation
- 3.1.2 Initiation of future payment
- 3.1.3 Bulk payments initiation
- 3.1.4 Initiation of permanent orders for recurring/periodic payments

Plus the following:

Field	Description	Type	Man.	Format
<b>transactionStatus</b>	Status of the transaction. Values defined in annexes. Short code.	String	MAN	<b>ISO 20022</b> E.g. "transactionStatus": "ACCP"
<b>psuMessage</b>	Text sent to TPP through the HUB to be shown to PSU.	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP sent through the HUB.	List<TppMessage>	OPT	E.g. "tppMessage": [...]

### 3.1.6.3 Examples

#### Example of request

GET

<https://www.hub.com/aspsp-name/v1/payments/sepa-credit-transfers/123-asdf-456>

Accept: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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 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": "ES11111111111111111111111111111111"
  },
  "creditorAccount": {
    "iban": "ES22222222222222222222222222222222"
  },
  "creditorName": "Name123",
  "remittanceInformationUnstructured": "Additional information",
  "transactionStatus": "ACCP"
}
```

### 3.1.7 Cancel payment initiation

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

#### 3.1.7.1 Request

##### Endpoint

DELETE

{provider}/{aspsp}/v1/{payment-service}/{payment-product}/{paymentId}

**Path**

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the ASPSP where the service is published.	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>payment-service</b>	Possible values are: <ul style="list-style-type: none"> <li>periodic-payments</li> </ul>	String	MAN	E.g. {provider}/v1/payments
<b>paymentId</b>	Identifier of the resource that references the payment initiation.  Sent previously as a response to a message initiating payment by the HUB to the ASPSP.	String	MAN	^{1,36}\$ E.g.123-qwe-456

**Query parameters**

No additional fields are specified.

**Header**

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	^[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5

<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\\d{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"><li>• POST</li><li>• GET</li><li>• PUT</li><li>• PATCH</li><li>• DELETE</li></ul>	String	OPT	E.g. PSU-Http-Method: DELETE
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device. The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b> ^[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}\$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP	String	OPT	<b>RFC 2426</b> ^GEO:[\\d]*.[\\d]*:[;][\\d]*.[\\d]*\$

				E.g. PSU-Geo-Location: GEO:90.023856;25.345963
<b>Digest</b>	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	^{1,100}\$ E.g. Digest: SHA-256=NzdmZjA4YjY5M 2M2NDYyMmVjOWFmMG NmYTZiNTU3MjVmNDI4N TRIMzJKYzE3ZmNmMDE3 ZGFmMjhhNTc5OTU3OQ= =
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	^{1,5000}\$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIZ zZvBQlt0UcwDQYJ..... ...KoZlhvcNAQELBQAwS TELMakGA1UEBhMCMVVM xEzARBgNVBA

**Body**

No additional data are specified.

**3.1.7.2 Response****Header**

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

**Body**

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>transactionStatus</b>	Status of the transaction. Values defined in annexes in 6.4 Estados de transacción	String	MAN	<b>ISO 20022</b> E.g. "transactionStatus": "CANC"
<b>scaMethods</b>	<p>This element is contained if SCA is required and if PSU can choose between the different methods of authentication.</p> <p>If this data is contained the link "startAuthorisationWithAuthenticationMethodSelection" will also be informed.</p> <p>These methods must be presented to the PSU.</p> <p><b>Note:</b> Only if ASPSP supports selection of the SCA method</p>	List<AuthenticationObject>	COND	E.g. "scaMethods": [...]
<b>_links</b>	<p>List of hyperlinks to be recognised by the TPP. Depend on the decision taken by the ASPSP dynamically when evaluating the transaction. Types supported in this response.</p> <ul style="list-style-type: none"> <li>• startAuthorisation: if an explicit initiation of the transaction authorisation is necessary (there is no selection of the SCA method)</li> <li>• startAuthorisationWithAuthenticationMethodSelection: link to the authorisation endpoint where the authorisation sub-resource has to be generated while the SCA method is selected. This link is contained under the same conditions as</li> </ul>	Links	COND	E.g. "_links": {...}

	the "scaMethods" field			
<b>psuMessage</b>	Text sent to TPP through the HUB to be shown to PSU.	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP sent through the HUB.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.1.7.3 Examples

#### Example of request

DELETE <https://www.hub.com/aspsp-name/v1/payments/sepa-credit-transfers/123-qwe-456>

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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

Content-Type: application/json

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

#### Example of response where no authorisation for cancellation is required by the PSU

HTTP/1.1 204 No Content

X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc

Date: Sun, 26 Sep 2017 15:02:47 GMT

#### Example of response where an authorisation for cancellation is required by the PSU

HTTP/1.1 200 Ok

X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc

Date: Sun, 26 Sep 2017 15:02:47 GMT

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

## 3.2 AIS: Service to establish consent for account information

### 3.2.1 Characteristics of the consent

#### 3.2.1.1 Consent model

Model	Description
<b>Detailed consent</b>	<p><b>Request consent for the accounts indicated</b></p> <p>Create a consent, which the ASPSP must store, requesting access for the accounts indicated and with the requested access.</p> <p>If there was already consent, this consent will expire and the new agreement will enter into force when authorised by the PSU.</p> <p>The accounts for which consent is requested to access the "balances" and/or "transactions" are also assumed to have the "accounts" access type.</p>
<b>Global consent</b>	<p><b>Request consent for the list of available accounts</b></p> <p>This functionality only serves to request consent for the list of available PSU accounts. It does not give consent for "accounts", "balances" and/or "transactions".</p> <p>This request does not indicate the accounts for which access is wanted. It indicates that it is requested for "all available accounts", indicating in the access the "availableAccounts" or "availableAccountsWithBalances" with the value "allAccounts".</p> <p>It is a once-time-only consent to obtain the list of available accounts. It will not give details of the accounts.</p>

	<p><b>Request consent to obtain access to all the accounts for all the PSD2 AIS services</b></p> <p>Request access for all the PSU accounts available on all the PSD2 AIS services.</p> <p>The accounts are not indicated by the TPP.</p> <p>This request does not indicate the accounts for which access is wanted. The request is indicated as being for "all PSD2 accounts", indicating in the access the "allPsd2" attribute with the value "allAccounts".</p> <p>Through the HUB, the TPP may recover this information managed between ASPSP and PSU, making a request to recover consent information.</p>
<p><b>Bank-offered consent</b></p>	<p><b>Request consent without indicating the accounts</b></p> <p>Request consent to access "accounts", "balances" and/or "transactions" without indicating the accounts. Thus the "accounts", "balances" and "transactions" attributes will include a blank array.</p> <p>To select the accounts that will be provided, access must be obtained bilaterally between ASPSP and PSU through the ASPSP interface in the OAuth redirect flow.</p> <p>In the redirection process, the ASPSP will show the PSU its accounts so that the PSU can choose which to provide consent for to the TPP.</p> <p>Through the HUB, the TPP may recover this information managed between ASPSP and PSU, making a request to recover consent information.</p>

### 3.2.1.2 Recurring access

#### Recurring consents

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

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

Solo se permitirá un consentimiento en curso por TPP y cliente, cualquier nuevo consentimiento sobrescribirá el consentimiento anterior

Note: giving access to "balances" and/or "transactions" automatically grants "accounts" access to these accounts.

#### Non-recurring consents



A consent request for non-recurring access (once-only and with recurringIndicator=false) will be treated as a new consent (new consentId) without affecting previous existing consents.

### 3.2.2 Information consent on payment accounts

With this service, a TPP may request consent through the HUB to access the PSU accounts. This request may be for indicated accounts or not.

That is why the consent request has these variants:

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

**Note:** each consent information will generate a new resource, i.e. a new consentId.

#### 3.2.2.1 Request

##### Endpoint

POST {provider}/{aspsp}/v1/consents

##### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name

##### Query parameters

No additional fields are specified.

##### Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\\$</math></p> <p>E.g.</p>

				X-Request-ID: 1b3ab8e8-0fd5-43d2-946e -d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpA A
<b>PSU-IP-Addresses</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	$^{[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}}\$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\d{1,5}}\$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{1,50}}\$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{1,50}}\$$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{1,50}}\$$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{1,50}}\$$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> </ul>	String	OPT	E.g. PSU-Http-Method: POST

	<ul style="list-style-type: none"> <li>PATCH</li> <li>DELETE</li> </ul>			
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}\\$</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}*\\$</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>TPP-Redirect-URI</b>	<p>TPP URI, where the transaction flow must be redirected after one of the phases of the SCA.</p> <p>We recommend always using this header field.</p> <p>In the future, this field may become mandatory.</p>	String	COND	<p><math>^{\{1,250\}}\\$</math></p> <p>E.g.</p> <p>TPP-Redirect-URI": "https://tpp.example.es/cb"</p>
<b>TPP-Nok-Redirect-URI</b>	<p>If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.</p>	String	OPT	<p><math>^{\{12,50\}}\\$</math></p> <p>E.g.</p> <p>TPP-Nok-Redirect-URI": "https://tpp.example.es/cb/nok"</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{\{1,100\}}\\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYtZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p>	String	MAN	<p>See annexes</p>

	See 6.1 Firma for more information.			
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	$^{\{1,5000\}}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIz zZvBQIt0UcwDQYJ..... ....KoZlhvcNAQELBQAWS TELMAkGA1UEBhMCMVV MxEzARBgNVBA

### Body

Field	Description	Type	Man.	Format
<b>access</b>	Accesses requested to the services. Only the sub-attributes with "accounts", "balances" and "transactions" tags are accepted. In addition, the ASPSP may support the attributes "availableAccounts", "availableAccountsWithBalances" or "allPsd2" with the value "allAccounts".	AccountAccess	MAN	E.g. "access":{...}
<b>recurringIndicator</b>	Possible values: <ul style="list-style-type: none"> <li>true: recurring access to the account.</li> <li>false: once-only access.</li> </ul>	Boolean	MAN	E.g. "recurringIndicator":true
<b>validUntil</b>	Date until which the consent requests access.  The following value should be used to create consent with the maximum possible access time: 9999-12-31  When consent is recovered, the maximum possible date will be adjusted.	String	MAN	<b>ISODate</b> E.g. "validUntil":"2018-05-17"
<b>frequencyPerDay</b>	Indicates the frequency of access to the account every day.  1 if it is one-use only.	Integer	MAN	E.g. "frequencyPerDay":4

<b>combinedServiceIndicator</b>	Indicator that a payment initiation will be carried out in the same session.	Boolean	MAN	E.g. "combinedServiceIndicator": false
---------------------------------	------------------------------------------------------------------------------	---------	-----	-------------------------------------------

### 3.2.2.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the hyperlink to the resource generated	String	MAN	<b>Max512Text</b> E.g. Location: /v1/consents/{consentId}
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>REDIRECT</li> </ul>	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

#### Body

Field	Description	Type	Man.	Format
<b>consentStatus</b>	Consent authentication status. See values defined in 6.5 Estados de consentimiento	String	MAN	E.g. "consentStatus": "received"
<b>consentId</b>	Identifier of the resource that references the consent. It must be contained if a consent was generated.	String	MAN	^{1,36}\$ E.g. "consentId": "123-QWE-456"
<b>_links</b>	List of hyperlinks to be recognised by the TPP. Types supported in this response: <ul style="list-style-type: none"> <li>scaRedirect: in case of SCA by redirection. Link where the PSU</li> </ul>	Links	MAN	E.g. "_links": {...}

	<p>navigator must be redirected by the TPP.</p> <ul style="list-style-type: none"> <li>• self: link to the resource created by this request.</li> <li>• status: link to recover the transaction status.</li> </ul>			
<b>psuMessage</b>	Text to show to the PSU.	String	OPT	$^{\{1,512\}}\$$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP.	List<Tpp Message >	OPT	E.g. "tppMessages": [...]

### 3.2.2.3 Examples

#### Example of consent request for the accounts indicated with SCA via redirect

POST <https://www.hub.com/aspsp-name/v1/consents>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacblf6541

Authorization: Bearer 2YotnFZFEjrlzCsicMwPAA

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": "ES11111111111111111111111111111111"
      },
      {
        "iban": "ES22222222222222222222222222222222",
        "currency": "USD"
      },
      {
        "iban": "ES33333333333333333333333333333333"
      }
    ],
    "transactions": [
      {
        "iban": "ES11111111111111111111111111111111"
      }
    ]
  },
  "recurringIndicator": true,
  "validUntil": "2018-05-17",
  "frequencyPerDay": 4
}

```

### Example of consent request for the list of accounts available with SCA via redirect

POST <https://www.hub.com/aspsp-name/v1/consents>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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
}

```

### 3.2.3 Obtain consent status

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

#### 3.2.3.1 Request

##### Endpoint

GET {provider}/{aspsp}/v1/consents/{consent-id}/status

##### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>consentId</b>	Identifier of the resource that references the consent. Sent previously as a response to a request message for consent from the TPP to the HUB.	String	MAN	^{1,36}\$ E.g.123-qwerty-456



## Query parameters

No additional fields are specified.

### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	$^{[0-9]\{1,3\}\.[0-9]\{1,3\}\.[0-9]\{1,3\}\.[0-9]\{1,3\}}\$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\d{1,5}}\$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$

				E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device.  The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b>  ^[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}\$  E.g.  PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b>  ^GEO:[\d]*.[\d]*[;][\d]*.[\d]*\$  E.g.  PSU-Geo-Location: GEO:90.023856;25.345963
<b>Digest</b>	It is contained if it carries the Signature field.  See 6.1 Firma for more information.	String	MAN	^{1,100}\$

				E.g. Digest: SHA-256=NzdmZjA 4YjY5M2M2NDYyM mVjOWFmMGNmY TZiNTU3MjVmNDI4 NTRIMzJkYzE3Zm NmMDE3ZGFmMjh hNTc5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	^{1,5000}\$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwI BAgIIzZvBQIt0Ucw DQYJ.....KoZI hvcNAQELBQAwST ELMAkGA1UEBhM CVVMxEzARBgNV BA

### Body

No additional data are sent.

### 3.2.3.2 Response

This message is returned by the HUB to the TPP as a response to the request message for the consent status.

### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7

### Body

Field	Description	Type	Man.	Format
<b>consentStatus</b>	Consent authentication status. See values defined in 6.5 Estados de consentimiento	String	MAN	E.g. "consentStatus": "valid"
<b>psuMessage</b>	Text to show to the PSU	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for PSU"
<b>tppMessages</b>	Message for the TPP	List<Tpp Message >	OPT	E.g. "tppMessages": [...]

### 3.2.3.3 Examples

#### Example of request

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

}

### 3.2.4 Recover consent information

#### 3.2.4.1 Request

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

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
consentId	Identifier of the resource that references the consent. Sent previously as a response to a request message for consent from the TPP to the HUB.	String	MAN	^{1,36}\$ E.g. 7890-asdf-4321

#### Query parameters

No additional fields are specified.

#### Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g.

				Authorisation: Bearer 2YotnFZFEjr1zCsicMWp AA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	$^{[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}}\$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\d{1,5}}\$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"><li>• POST</li><li>• GET</li><li>• PUT</li><li>• PATCH</li><li>• DELETE</li></ul>	String	OPT	E.g. PSU-Http-Method: GET

<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[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\}}\\$</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP.</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}\\$</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{\{1,100\}}\\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p>See annexes</p>
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	<p><math>^{\{1,5000\}}\\$</math></p> <p>E.g.</p> <p>TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgII ZzZvBQlt0UcwDQYJ... .....KoZlhcNAQELB QAwSTELMAkGA1UEBh MCVVMxEzARBgNVBA</p>

### Body

No additional data are sent.

### 3.2.4.2 Response

This message is returned by the HUB to the TPP as a response to the message requesting recovery of the consent information.

## Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><code>^[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}\$</code></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>

## Body

Field	Description	Type	Man.	Format
<b>access</b>	Accesses requested to the services. Only the sub-attributes with "accounts", "balances" and "transactions" tags are accepted. In addition, the ASPSP may support the attributes "availableAccounts", "availableAccountsWithBalances" or "allPsd2" with the value "allAccounts"	Account Access	MAN	E.g. "access": {...}
<b>recurringIndicator</b>	<p>Possible values:</p> <ul style="list-style-type: none"> <li>• true: recurring access to the account.</li> <li>• false: once-only access.</li> </ul>	Boolean	MAN	E.g. "recurringIndicator": true
<b>validUntil</b>	<p>Date until which the consent requests access.</p> <p>The following value should be used to create consent with the maximum possible access time: 9999-12-31</p> <p>When consent is recovered, the maximum possible date will be adjusted.</p>	String	MAN	<p><b>ISODate</b></p> <p>E.g. "validUntil": "2018-05-17"</p>
<b>frequencyPerDay</b>	Indicates the frequency of access to the account every day.	Integer	MAN	E.g. "frequencyPerDay":4



	1 if it is one-time-only access.			
<b>lastActionDate</b>	Date of the last modification made to the consent.	String	MAN	<b>ISODate</b> E.g. "lastActionDate":"2018-01-01"
<b>consentStatus</b>	Consent authentication status. Values defined in annexes.	String	MAN	E.g. "consentStatus":"valid"
<b>psuMessage</b>	Text to show to the PSU	String	OPT	^{1,512}\$ E.g. "psuMessage":"Information for PSU"
<b>tppMessages</b>	Message for the TPP	List<Tpp Message>	OPT	E.g. "tppMessages":[...]

### 3.2.4.3 Examples

#### Example of request

GET <https://www.hub.com/aspsp-name/v1/consents/7890-asdf-4321/>

Accept: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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 response to consent with accounts indicated

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": "ES11111111111111111111111111111111"
      },
      {
        "iban": "ES22222222222222222222222222222222",
        "currency": "USD"
      },
      {
        "iban": "ES33333333333333333333333333333333"
      }
    ],
    "transactions": [
      {
        "iban": "ES11111111111111111111111111111111"
      }
    ]
  },
  "recurringIndicator": true,
  "validUntil": "2018-05-17",
  "frequencyPerDay": 4,
  "lastActionDate": "2018-01-17",
  "consentStatus": "valid"
}
```

### Example of response to consent with global 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

```
{
  "access": {
    "availableAccounts": "allAccounts"
  },
  "recurringIndicator": true,
  "validUntil": "2018-05-17",
}
```

```

    "frequencyPerDay": 4,
    "lastActionDate": "2018-01-17",
    "consentStatus": "valid"
  }

```

### 3.2.5 Remove consent

#### 3.2.5.1 Request

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

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
consentId	Identifier of the resource that references the consent.  Sent previously as a response to a request message for consent from the TPP to the HUB.	String	MAN	^.{1,36}\$  E.g. 7890-asdf-4321

#### Query parameters

No additional fields are specified.

#### Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	^[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\d{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: DELETE

<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\\$</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP.</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}\\$</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{.}\{1,100}\\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p>See annexes</p>
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	<p><math>^{.}\{1,5000}\\$</math></p> <p>E.g.</p> <p>TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgII ZzZvBQlt0UcwDQYJ... .....KoZlhvcNAQELBQA wSTELMAkGA1UEBhMCVVMxEzARBgNVBA</p>

### Body

No additional data are sent.

### 3.2.5.2 Response

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

**Header**

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$</math></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7</p>

**Body**

No additional fields are specified.

**3.2.5.3 Examples****Example of request**

DELETE <https://www.hub.com/aspsp-name/v1/consents/7890-asdf-4321>

Accept: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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 of response**

HTTP/1.1 204 Ok

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Date: Sun, 26 Sep 2017 15:02:50 GMT

### 3.3 AIS: Account data reading service

#### 3.3.1 Account list reading

This service allows a list of PSU accounts to be obtained, including the account balances if requested and the consent includes it.

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

As a requirement, it is assumed that the PSU has given its consent for this access and it 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	<p>This type of access is associated with once-only consents.</p> <p>If the consent associated with the request has this type of access, it will be a once-only consent and may be obtained:</p> <ul style="list-style-type: none"> <li>List of all the available PSU accounts.</li> </ul> <p>The following may not be obtained:</p> <ul style="list-style-type: none"> <li>Account balances (unless supported by the ASPSP)</li> <li>Links to the endpoint of balances or transactions</li> </ul>
availableAccountsWithBalances	<p>This type of access is associated with once-only consents.</p> <p>If the consent associated with the request has this type of access, it will be a once-only consent and may be obtained:</p> <ul style="list-style-type: none"> <li>List of all the available PSU accounts.</li> <li>Account balances (unless supported by the ASPSP)</li> </ul> <p>The following may not be obtained:</p> <ul style="list-style-type: none"> <li>Links to the endpoint of balances or transactions</li> </ul>
account	<p>If the consent associated with the request has this type of access, the accounts included in the consent with the "account" type of access may be listed.</p>
balances	<p>If the consent associated with the request has this type of access, the accounts included in the consent with the "balances" type of access may be listed and their balances may be obtained if supported by the ASPSP.</p>
transactions	<p>If the consent has accounts with this type of access, these accounts may be listed with the "account" access type. This type of access does not imply a "balances" type of access.</p>
allPsd2	<p>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.</p> <p>Note: allPsd2 grants the three types of access.</p>

### 3.3.1.1 Request

#### Endpoint

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

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

#### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name

#### Query parameters

Field	Description	Type	Man.	Format
<b>withBalance</b>	If it is included, this function includes the balances. This request will be rejected if access to balances does not include consent or the ASPSP does not support this parameter.	Boolean	OPT	E.g. true

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA



<b>Consent-ID</b>	Identifier of the consent obtained in the transaction requesting consent.	String	MAN	$^{\{1,36\}}$ E.g. Consent-ID: 7890-asdf-4321
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. Must be included if and only if this request was actively initiated by the PSU.	String	COND	$^{[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}}$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\d{1,5}}$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET

	<ul style="list-style-type: none"> <li>DELETE</li> </ul>			
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[0-9a-fA-F]{8}}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP.</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{.\{1,100\}}</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjh hNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p>See annexes</p>
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	<p><math>^{.\{1,5000\}}</math></p> <p>E.g.</p> <p>TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQIt0UcwDQYJ.....KoZlhvcNAQELBQAwSTELMAkGA1UEBhM CVVMxEzARBgNVBA</p>

## Body

Data are not sent in the body in this request.

### 3.3.1.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^{[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\}}\\$</math></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>

#### Body

Field	Description	Type	Mand.	Format
<b>accounts</b>	List of available accounts.	List<AccountDetails>	MAN	E.g. "accounts": []
<b>psuMessage</b>	Text to show to the PSU.	String	OPT	$^{\{1,512\}}\$$ E.g. "psuMessage": "Information for PSU"
<b>tppMessages</b>	Message for the TPP.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.3.1.3 Examples

#### Example of request to obtain list of accessible PSU accounts

```
GET https://www.hub.com/aspsp-name/v1/accounts
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 2YotnFZFEjrlzCsicMWpAA
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 the response obtaining list of accessible PSU accounts

Response where the consent has been given for two different IBAN numbers.

```
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
{
  "accounts": [
    {
      "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e80f",
      "iban": "ES1111111111111111111111",
      "currency": "EUR",
      "product": "Girokonto",
      "name": "Main Account",
      "_links": {
        "balances": {
          "href":
            "/v1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e80f/balances"
        },
        "transactions": {
          "href":
            "/v1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e80f/transactions"
        }
      }
    }
  ],
}
```

```

    {
      "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e81g",
      "iban": "ES2222222222222222222222",
      "currency": "USD",
      "name": "US Dollar Account",
      "_links": {
        "balances": {
          "href":
            "/v1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e81g/balances"
        }
      }
    }
  ]
}

```

### Example of the response obtaining list of accessible PSU accounts and owner name

Response where the consent has been given for two different IBAN numbers.

```

HTTP/1.1 200 Ok
HUB-Transaction-ID: 3dc3d5b3-7023-4848-9853-f5400a64e80f
HUB-Request-ID: 870b8698-6ff9-11e8-adc0-fa7ae01bbebc
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json

```

```

{
  "accounts": [
    {
      "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e80f",
      "iban": "ES1111111111111111111111",
      "currency": "EUR",
      "ownerName": "Heike Mustermann",
      "product": "Girokonto",
      "name": "Main Account"
    },
    {

```

```

    "resourceId": "3dc3d5b3-7023-4848-9853-f5400a64e81g",
    "iban": "ES22222222222222222222222222222222",
    "currency": "USD",
    "ownerName": "Heike Mustermann",
    "name": "US Dollar Account"
  }
]
}

```

### 3.3.2 Reading account details

This service allows the account details to be read with the balances if required.

As a requirement, it is assumed that the PSU has given its consent for this access and it 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	This type of access does not allow consumption of this service.
availableAccountsWithBalances	This type of access does not allow consumption of this service.
account	If the consent associated with the request has this type of access, the account may be queried.
balances	If the consent associated with the request has this type of access, the account may be queried and its balances may be obtained if the ASPSP supports it.
transactions	If the consent has accounts with this type of access, this account may be queried with the "account" access type. This type of access does not imply a "balances" type of access.
allPsd2	If the consent associated with the request has this type of access, the account may be queried and its balances may be obtained. Note: allPsd2 grants the three types of access.

#### 3.3.2.1 Request

##### Endpoint

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

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

### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>account-id</b>	Identifier of the account assigned by the ASPSP	String	MAN	^{1,100}\$ E.g. account-id=a1q5w

### Query parameters

Field	Description	Type	Man.	Format
<b>withBalance</b>	If it is included, this function includes the balances. This request will be rejected if access to balances does not include consent or the ASPSP does not support this parameter.	Boolean	OPT	E.g. true

### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>Consent-ID</b>	Identifier of the consent obtained in the transaction requesting consent.	String	MAN	^{1,36}\$ E.g. Consent-ID: 7890-asdf-4321

<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. Must be included if and only 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}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\d{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"><li>• POST</li><li>• GET</li><li>• PUT</li><li>• PATCH</li><li>• DELETE</li></ul>	String	OPT	E.g. PSU-Http-Method: GET
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device.	String	OPT	<b>UUID</b>



	The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.			$^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\$$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> $^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}\$$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
<b>Digest</b>	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	$^{.\{1,100\}}\$$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjh hNTc5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	$^{.\{1,5000\}}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQIt0UcwDQYJ.....KoZlhvcNAQELBQAwSTELMAkGA1UEBhM CVVMxEzARBgNVBA

**Body**

Data are not sent in the body in this request.

### 3.3.2.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^{\wedge}[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}\\$</math></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7</p>

#### Body

Field	Description	Type	Mand.	Format
<b>account</b>	Detailed information on the account	AccountDetails	MAN	E.g. "account": {...}
<b>psuMessage</b>	Text to show to the PSU	String	OPT	<p><math>^{\wedge}\{1,512\}\\$</math></p> <p>E.g.</p> <p>"psuMessage": "Information for PSU"</p>
<b>tppMessages</b>	Message for the TPP	List<TppMessage>	OPT	E.g.
				"tppMessages": [...]

### 3.3.2.3 Examples

#### Example of request

GET

<https://www.hub.com/aspsp-name/v1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e80f>

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 2YotnFZFEjrlzCsicMWpAA

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 when the response only has one currency

```
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",
    "product": "Girokonto",
    "name": "Main Account",
    "_links": {
      "balances": {
        "href":
"/v1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e80f/balances"
      },
      "transactions": {
        "href":
"/v1/accounts/3dc3d5b3-7023-4848-9853--5400a64e80f/transactions"
      }
    }
  }
}
```

### Example when the account and owner name

```

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",
    "name": "Main Account",
    "_links": {
      "balances": {
        "href":
"/v1/accounts/3dc3d5b3-7023-4848-9853-f5400a64e80f/bal
ances"
      },
      "transactions": {
        "href":
"/v1/accounts/3dc3d5b3-7023-4848-9853--5400a64e80f/tra
nsactions"
      }
    }
  }
}

```

### 3.3.3 Reading balances

This service allows balances of an account determined by its identifier to be obtained.

As a requirement, it is assumed that the PSU has given its consent for this access and it 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	This type of access does not allow consumption of this service.
availableAccountsWithBalances	This type of access does not allow consumption of this service.
account	This type of access does not allow consumption of this service.
balances	If the consent associated with the request has this type of access, the account balances may be queried.
transactions	This type of access does not allow consumption of this service.
allPsd2	If the consent associated with the request has this type of access, the account balances may be queried. Note: allPsd2 grants the three types of access.

### 3.3.3.1 Request

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>account-id</b>	Identifier of the account that will be used in the data reading. Obtained previously in the reading of the account list. Must be valid at least while the consent lasts. This id may be tokenised.	String	MAN	^{1,100}\$ E.g. account-id=a1q5 w

#### Query parameters

No additional fields are specified.

#### Header

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>Consent-ID</b>	Identifier of the consent obtained in the transaction requesting consent.	String	MAN	$^{\{1,36\}}\$$ E.g. Consent-ID: 7890-asdf-4321
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. Must be included if and only if this request was actively initiated by the PSU.	String	COND	$^{[0-9]\{1,3\}\. [0-9]\{1,3\}\. [0-9]\{1,3\}}\$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\d\{1,5\}}\$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}\$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}\$$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}\$$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}\$$ E.g. PSU-Accept-Language: es-ES

<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device.  The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b> ^[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}\$  E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> ^GEO:[\d]*.[\d]*[;][\d]*.[\d]*\$  E.g. PSU-Geo-Location: GEO:90.023856;25.345963
<b>Digest</b>	It is contained if it carries the Signature field.  See 6.1 Firma for more information.	String	MAN	^{1,100}\$  E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==

<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	$^{\{1,5000\}}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwI BAgIIzZvBQIt0Ucw DQYJ.....KoZI hvcNAQELBQAwST ELMAkGA1UEBhM CVVMxEzARBgNV BA

### Body

The data are not sent in the body in this request.

### 3.3.3.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7

### Body

Field	Description	Type	Mand.	Format
<b>account</b>	Identifier of the account that is being queried.  Note: its use is recommended as it could become a mandatory parameter in future versions.	AccountReference	OPT	E.g. "account": {...}
<b>balances</b>	A list of balances with respect to an account.	List<Balance>	MAN	E.g. "balances": {...}



<b>psuMessage</b>	Text to show to the PSU.	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for PSU"
<b>tppMessages</b>	Message for the TPP.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.3.3.3 Examples

#### Example of request

GET

<https://www.hub.com/aspsp-name/accounts/3dc3d5b3-7023-4848-9853-f5400a64e81q/balances>

Accept: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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 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": "ES111111111111111111111111"
  },
  "balances": [
    {
      "balanceType": "closingBooked",
      "balanceAmount": {
        "currency": "EUR",
        "amount": "500.00"
      }
    },
    {
      "balanceType": "expected",
      "balanceAmount": {
        "currency": "EUR",
        "amount": "900.00"
      }
    }
  ]
}

```

### 3.3.4 Reading of transactions

This service allows transactions to be obtained of an account determined by its identifier.

As a requirement, it is assumed that the PSU has given its consent for this access and it 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	This type of access does not allow consumption of this service.
availableAccountsWithBalances	This type of access does not allow consumption of this service.
account	This type of access does not allow consumption of this service.
balances	If the consent associated with the request has this type of access, the balances may be requested if the ASPSP supports it.

transactions	If the consent associated with the request has this type of access, the account activity may be queried.
allPsd2	If the consent associated with the request has this type of access, the account balances may be queried. Note: allPsd2 grants the three types of access.

### 3.3.4.1 Request

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>account-id</b>	Identifier of the account that will be used in the data reading. Obtained previously in the reading of the account list. Must be valid at least while the consent lasts. This id may be tokenised.	String	MAN	^{1,100}\$ E.g. account-id=a1q5w

#### Query parameters

Field	Description	Type	Man.	Format
<b>dateFrom</b>	Start date of query. It is included if the "deltaList" is not included.	String	COND	<b>ISODate</b> E.g. dateFrom=2017-10-25
<b>dateTo</b>	End date of query. Its default value is the current date, unless otherwise indicated.	String	OPT	<b>ISODate</b> E.g. dateTo=2017-11-05
<b>bookingStatus</b>	Status of the returned transactions. The status codes permitted are: • booked (OB)	String	MAN	E.g. bookingStatus=booked

	<ul style="list-style-type: none"> <li>pending (OP)</li> <li>both (OP)</li> </ul> <p><b>Note:</b> pending and both only if are supported by ASPSP.</p> <p>Additionally the state is supported:</p> <ul style="list-style-type: none"> <li>Information (OB)</li> </ul> <p>To return the list of recurring orders.</p>			
<b>withBalance</b>	<p>If it is included, this function includes the balances.</p> <p>This request will be rejected if access to balances does not include consent or the ASPSP does not support this parameter.</p>	Boolean	OPT	E.g. true

### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^{[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\}}\\$</math></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	<p>E.g.</p> <p>Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA</p>
<b>Consent-ID</b>	Identifier of the consent obtained in the transaction requesting consent.	String	MAN	<p><math>^{\{1,36\}}\\$</math></p> <p>E.g. Consent-ID: 7890-asdf-4321</p>
<b>Accept</b>	Formats supported by the ASPSP. The TPP may indicate the order and type. Supported values: application/json	String	OPT	<p><math>^{\{1,50\}}\\$</math></p> <p>E.g. Accept: application/json</p>

<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. Must be included if and only if this request was actively initiated by the PSU.	String	COND	$^{[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}}\$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\d{1,5}}\$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\.1,50}}\$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\.1,50}}\$$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\.1,50}}\$$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\.1,50}}\$$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device.	String	OPT	<b>UUID</b>

	The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.			$^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\$$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> $^{GEO:[\d]*.[\d]*;[\\d]*.[\d]*}\$$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
<b>Digest</b>	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	$^{.}\{1,100}\$$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjh hNTc5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	$^{.}\{1,5000}\$$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQIt0UcwDQYJ.....KoZlhvcNAQELBQAwSTELMAkGA1UEBhM CVVMxEzARBgNVBA

### Body

Data are not sent in the body in this request.

### 3.3.4.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>Content-Type</b>	Possible values: application/json	String	MAN	E.g. Content-Type: application/json
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}\\$</math></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7</p>

#### Body

Field	Description	Type	Man.	Format
<b>account</b>	Identifier of the account that is being queried.  Note: its use is recommended as it could become a mandatory parameter in future versions.	AccountReference	OPT	E.g. "account": {...}
<b>transactions</b>	Return of the data in JSON format, when the data returned have a small size.	AccountReport	OPT	E.g. "transactions": {...}
<b>balances</b>	A list of balances with respect to an account.	List<Balance>	OPT	E.g. "balances": [...]
<b>_links</b>	List of hyperlinks to be recognised by the TPP.	Links	OPT	E.g. "_links": {...}
<b>psuMessage</b>	Text to show to the PSU	String	OPT	$^{1,512}\$$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP	List<TppMessage>	OPT	E.g. "tppMessages": [...]





```
        "creditorAccount": {
            "iban": "ES11111111111111111111111111111111"
        },
        "transactionAmount": {
            "currency": "EUR",
            "amount": "256.67"
        },
        "bookingDate": "2017-10-25",
        "valueDate": "2017-10-26",
        "remittanceInformationUnstructured": "Example for
Remittance Information"
    },
    {
        "transactionId": "1234568",
        "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",
```

```

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

```

### Example of response with error

```

{
  "tppMessages": [{
    "category": "ERROR",
    "code": " ACCESS_EXCEEDED "
  }
]
}

```

### 3.4 FCS: Establish consent for the fund confirmation service

#### 3.4.1 Fund confirmation consent

Using this service a TPP can report a confirmation consent for ASPSP funds on the specified account.

Unlike the request to establish information consent on the account, this consent does not have secondary effects on other existing ones.

E.g. does not invalidate prior consent.

##### 3.4.1.1 Request

###### Endpoint

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

###### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name

###### Query parameters

No additional fields are specified.

###### Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^[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}\$</math></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	<p>E.g.</p> <p>Authorisation: Bearer 2YotnFZFEjr1zCsicMWpA A</p>

<b>PSU-IP-Addresses</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	$^{[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}}\$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\d{1,5}}\$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50}}\$$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: POST
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device.	String	OPT	<b>UUID</b> $^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}\$$

	The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.			E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP	String	OPT	<b>RFC 2426</b> ^GEO:[\d]*.[\d]*[;][\d]*.[\d]*\$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
<b>TPP-Redirect-Preferred</b>	<p>If "true", the TPP has communicated to the HUB that it prefers SCA via redirection.</p> <p>If "false", the TPP has communicated to the HUB that it prefers not to be redirected for SCA and that the procedure will be via decoupled flow.</p> <p>If the parameter is not used, the ASPSP will chose the SCA flow to be applied, depending on the SCA method chosen by the TPP/PSU.</p> <p><b>EMBEDDED NOT SUPPORTED IN THIS VERSION</b></p>	Boolean	OPT	E.g. TPP-Redirect-Preferred: true
<b>TPP-Redirect-URI</b>	<p>TPP URI, where the transaction flow must be redirected after one of the phases of the SCA.</p> <p>We recommend always using this header field.</p> <p>In the future, this field may become mandatory.</p> <p>Requires the domain of this URL to be the same as that of the content in the TPP website certificate.</p>	String	COND	^.{1,250}\$ E.g. TPP-Redirect-URI: "https://tpp.example.es/cb"

<b>TPP-Nok-Redirect-URI</b>	<p>If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.</p> <p>Requires the domain of this URL to be the same as that of the content in the TPP website certificate.</p>	String	OPT	<p>^{12,50}\$</p> <p>E.g. TPP-Nok-Redirect-URI": "https://tpp.example.es/cb/nok"</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p>^{1,100}\$</p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	<p>^{1,5000}\$</p> <p>E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQIt0UcwDQYJ.....KoZlhvcNAQELBQAwS TELMAkGA1UEBhMCMVV MxEzARBgNVBA</p>

### Body

Field	Description	Type	Man.	Format
<b>account</b>	Account on which the fund query will be carried out.	AccountReference	MAN	E.g. "access": {...}
<b>cardNumber</b>	Card number of the card issued by the PIISP. Must be sent if available.	String	OPT	^{1,35}\$
<b>cardExpiryDate</b>	Expiry date of the card issued by the PIISP.	String	OPT	<p><b>ISODate</b></p> <p>E.g. "validUntil": "2018-05-17"</p>

<b>cardInformation</b>	Additional product information.	String	OPT	^{1,140}\$
<b>registrationInformation</b>	Additional information about the registration process for the PSU. E.g. a reference to the agreement between the TPP and PSU	String	OPT	^{1,140}\$

### 3.4.1.2 Response

#### Response code

HTTP 201 response code if the resource is correctly created.

#### Header

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the hyperlink to the resource generated	String	MAN	<b>Max512Text</b> E.g. Location: /v2/consents/confirmation-of-funds/{consentId}
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>REDIRECT</li> </ul>	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

#### Body

Field	Description	Type	Man.	Format
<b>consentStatus</b>	Consent status. See values defined in 6.5 Estados de consentimiento	String	MAN	E.g. "consentStatus": "received"
<b>consentId</b>	Identifier of the resource that references the consent. It must be contained if a consent was generated.	String	MAN	^{1,36}\$ E.g. "consentId": "123-QW E-456"

<b>scaMethods</b>	<p>This element is contained if SCA is required and if PSU can choose between the different methods of authentication.</p> <p>If this data is contained the link "startAuthorisationWithAuthenticationMethodSelection" will also be informed.</p> <p>These methods must be presented to the PSU.</p> <p><b>Note:</b> Only if ASPSP supports selection of the SCA method</p>	List<AuthenticationObject>	COND	E.g. "scaMethods": [...]
<b>_links</b>	<p>List of hyperlinks to be recognised by the TPP. Types supported in this response:</p> <ul style="list-style-type: none"> <li>• scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP.</li> <li>• self: link to the resource created by this request.</li> <li>• status: link to recover the transaction status.</li> </ul>	Links	MAN	E.g. "_links": {...}
<b>psuMessage</b>	Text to show to the PSU.	String	OPT	$^{\{1,512\}}\$$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.4.1.3 Examples

#### Example of consent request

POST <https://www.hub.com/aspasp-name/v2/consents/confirmation-of-funds>

Content-Encoding: gzip



```
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aach1f6541
Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA
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."
}
```

### 3.4.2 Obtain consent status

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

#### 3.4.2.1 Request

##### Endpoint

GET {provider}/{aspsp}/v2/consents/confirmation-of-funds/{consent-id}/status

##### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>consentId</b>	Identifier of the resource that references the consent. Sent previously as a response to a request message for consent from the TPP.	String	MAN	^.{1,36}\$ E.g.123-qwerty-456

### Query parameters

No additional fields are specified.

### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	^[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\d{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^.{1,50}\$ E.g. PSU-Accept: application/json

<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device. The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b> $^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}^{\$}$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> $^{\text{GEO}:[\d]*.[\d]*[;][\d]*.[\d]*}^{\$}$ E.g.

				PSU-Geo-Location: GEO:90.023856;25. 345963
<b>Digest</b>	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	^.{1,100}\$  E.g. Digest: SHA-256=NzdmZjA 4YjY5M2M2NDYyM mVjOWFmMGNmY TZiNTU3MjVmNDI4 NTRIMzJkYzE3Zm NmMDE3ZGFmMjh hNTc5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}\$  E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwI BAglIZzZvBQIt0Ucw DQYJ.....KoZI hvcNAQELBQAwST ELMAkGA1UEBhM CVVMxEzARBgNV BA

**Body**

No additional data are sent.

**3.4.2.2 Response**

This message is returned to the TPP as a response to the request message for the consent status.

**Response code**

HTTP 200 response code.

**Header**

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> $^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
---------------------	-------------------------------------------------------	--------	-----	---------------------------------------------------------------------------------------------------------------------------------------------------

### Body

Field	Description	Type	Man.	Format
<b>consentStatus</b>	Consent authentication status. See values defined in 6.5 Estados de consentimiento	String	MAN	E.g. "consentStatus":"valid"
<b>psuMessage</b>	Text to show to the PSU	String	OPT	$^{\{1,512\}}\$$ E.g. "psuMessage":"Information for PSU"
<b>tppMessages</b>	Message for the TPP	List<Tpp Message >	OPT	E.g. "tppMessages":[...]

### 3.4.2.3 Examples

#### Example of request

GET

<https://www.hub.com/aspsp-name/v2/consents/confirmation-of-funds/123asdf456/status>

Accept: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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 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"
}
```

## 3.4.3 Recover consent information

### 3.4.3.1 Request

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

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
consentId	Identifier of the resource that references the consent. Sent previously as a response to a request message for consent from the TPP.	String	MAN	^{1,36}\$ E.g. 7890-asdf-4321

#### Query parameters

No additional fields are specified.

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	$^{[0-9]\{1,3\}.[0-9]\{1,3\}.[0-9]\{1,3\}.[0-9]\{1,3\}}$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\backslash d\{1,5\}}$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g.

				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)
<b>PSU-Http-Method</b>	<p>HTTP method used in the interface between the PSU and the TPP. Permitted values:</p> <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[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\}}\\$</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP.</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}\\$</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{.}\{1,100\}\\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZINTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	$^{.}\{1,5000\}\$$



				E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgII ZzZvBQIt0UcwDQYJ... .....KoZlhvcNAQELB QAwSTELMAkGA1UEBh MCVVMxEzARBgNVBA
--	--	--	--	--------------------------------------------------------------------------------------------------------------------------------------------------

**Body**

No additional data are sent.

**3.4.3.2 Response**

This message is returned to the TPP as a response to the message requesting recovery of the consent information.

**Response code**

HTTP 200 response code.

**Header**

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	UUID $^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7

**Body**

Field	Description	Type	Man.	Format
<b>account</b>	Account on which the fund query will be carried out.	AccountReference	MAN	E.g. "access": {...}
<b>cardNumber</b>	Card number of the card issued by the PIISP. Must be sent if available.	String	OPT	$^{\{1,35\}}\$$
<b>cardExpiryDate</b>	Expiry date of the card issued by the PIISP.	String	OPT	<b>ISODate</b> E.g. "validUntil":"2018-05-17"

<b>cardInformation</b>	Additional product information.	String	OPT	^{1,140}\$
<b>registrationInformation</b>	Additional information about the registration process for the PSU. E.g. a reference to the agreement between the TPP and PSU	String	OPT	^{1,140}\$
<b>consentStatus</b>	Consent status. Values defined in annexes.	String	MAN	E.g. "consentStatus": "valid"
<b>psuMessage</b>	Text sent to TPP to be shown to the PSU.	String	OPT	^{1,512}\$ E.g. "psuMessage": "Information for PSU"
<b>tppMessages</b>	Message for the TPP.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.4.3.3 Examples

#### Example of request

GET

<https://www.hub.com/aspsp-name/v2/consents/confirmation-of-funds/7890-asdf-4321/>

Accept: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMwPAA

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 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"
}
```

### 3.4.4 Revoke consent

#### 3.4.4.1 Request

This service allows a request for the removal of consent previously created in the ASPSP.

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
consentId	Identifier of the resource that references the consent. Sent previously as a response to a request message for consent from the TPP.	String	MAN	^{1,36}\$ E.g. 7890-asdf-4321

#### Query parameters

No additional fields are specified.

## Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p><math>^{[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\}}\\$</math></p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	<p>E.g.</p> <p>Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA</p>
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	<p><math>^{[0-9]\{1,3\}.[0-9]\{1,3\}.[0-9]\{1,3\}.[0-9]\{1,3\}}\\$</math></p> <p>E.g.</p> <p>PSU-IP-Address: 192.168.16.5</p>
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	<p><math>^{\dagger\{1,5\}}\\$</math></p> <p>E.g. PSU-IP-Port: 443</p>
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	<p><math>^{\{1,50\}}\\$</math></p> <p>E.g. PSU-Accept: application/json</p>
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	<p><math>^{\{1,50\}}\\$</math></p> <p>E.g.</p> <p>PSU-Accept-Charset: utf-8</p>
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	<p><math>^{\{1,50\}}\\$</math></p> <p>E.g.</p> <p>PSU-Accept-Encoding: gzip</p>
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	<p><math>^{\{1,50\}}\\$</math></p> <p>E.g.</p> <p>PSU-Accept-Language: es-ES</p>
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	<p>E.g.</p>

				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)
<b>PSU-Http-Method</b>	<p>HTTP method used in the interface between the PSU and the TPP. Permitted values:</p> <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: DELETE
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[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\}}\\$</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP.</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}\\$</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{.}\{1,100\}\\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZINTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	$^{.}\{1,5000\}\$$

				E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgII ZzZvBQIt0UcwDQYJ... .....KoZlhvcNAQELB QAwSTELMAkGA1UEBh MCVVMxEzARBgNVBA
--	--	--	--	--------------------------------------------------------------------------------------------------------------------------------------------------

**Body**

No additional data are sent.

**3.4.4.2 Response**

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

**Response code**

HTTP 204 response code for correct cancellation.

**Header**

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the request assigned by the TPP.	String	MAN	<p><b>UUID</b></p> <p>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$</p> <p>E.g.</p> <p>X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>

**Body**

No additional fields are specified.

**3.4.4.3 Examples**

**Example of request**

DELETE  
<https://www.hub.com/aspsp-name/v2/consents/confirmation-of-funds/7890-asdf-4321>

```
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA
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 of response

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

## 3.5 FCS: Fund Confirmation Service (v1)

### 3.5.1 Fund query

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

The HUB communicates with the ASPSP to ask whether it has funds or not, and after the query, returns the response to the TPP.

#### Rules that are applied to confirm funds in multi-currency accounts

- If the "cardNumber" is not shown, but the PSU account identifier is contained  
Check default account registered by the customer
- If the "cardNumber" is not shown, but the PSU account identifier together with the currency is contained  
Check the fund availability on the sub-account indicated by the id+currency
- If the "cardNumber" and the PSU account identifier is contained  
Check the fund availability on the sub-account represented by the "cardNumber"
- If the "cardNumber" is not registered for any of the sub-accounts, or if the "cardNumber" is registered for a different sub-account, the "cardNumber" could be ignored.

### 3.5.1.1 Request

#### Endpoint

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

#### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Digest</b>	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	^{1,100}\$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	^{1,512}\$ E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQlt0UcwDQYJ.....KoZlhvcNAQELBQAwSTELMAkGA1UEBhMCMVVMxEzARBgNVBA

#### Body

Field	Description	Type	Mand.	Format
-------	-------------	------	-------	--------



<b>cardNumber</b>	Numbering of the card issued by the PIISP. Must be sent if available.	String	OPT	E.g. "cardNumber": "1111-1111-1111-1111"
<b>account</b>	PSU account number.	AccountReference	MAN	E.g. "account": { "iban": "ES11111111111111111111111111111111" }
<b>payee</b>	Merchant where the card is accepted as information for the PSU.	String	OPT	^.{1,70}\$ E.g. "payee": "Merchant name"
<b>instructedAmount</b>	Contains the amount and currency to query.	Amount	MAN	E.g. "instructedAmount": { ... }

### 3.5.1.2 Response

This message is returned by the HUB to the TPP as a response to the fund confirmation message.

#### Header

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the link to the resource generated.	String	MAN	
<b>X-Request-ID</b>	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

#### Body

Field	Description	Type	Man.	Format
<b>fundsAvailable</b>	Takes the "true" value if there are sufficient funds available at the time of the request. otherwise "false".	Boolean	MAN	E.g. "fundsAvailable": true
<b>tppMessages</b>	Message for the TPP.	List<Tpmessage>	OPT	E.g. "tppMessages": [...]

### 3.5.1.3 Examples

#### Example of request

POST <https://www.hub.com/aspsp-name/v1/funds-confirmations>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Date: Sun, 17 Oct 2017 13:15:17 GMT

```
{
  "cardNumber": "87432569872156",
  "account": {
    "iban": "ES11111111111111111111111111111111"
  },
  "payee": "Nombrel23",
  "instructedAmount": {
    "currency": "EUR",
    "amount": "153.50"
  }
}
```

#### Example of 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
}
```

## 3.6 FCS: Fund Confirmation Service (v2)

### 3.6.1 Fund query

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

The HUB communicates with the ASPSP to ask whether it has funds or not, and after the query, returns the response to the TPP.

### Rules that are applied to confirm funds in multi-currency accounts

- If the "cardNumber" is not shown, but the PSU account identifier is contained  
Check default account registered by the customer
- If the "cardNumber" is not shown, but the PSU account identifier together with the currency is contained  
Check the fund availability on the sub-account indicated by the id+currency
- If the "cardNumber" and the PSU account identifier is contained  
Check the fund availability on the sub-account represented by the "cardNumber"
- If the "cardNumber" is not registered for any of the sub-accounts, or if the "cardNumber" is registered for a different sub-account, the "cardNumber" could be ignored.

#### 3.6.1.1 Request

##### Endpoint

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

##### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name

##### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> $^{\wedge}[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.  Only if the consent management has been carried out through the API.	String	COND	E.g.  Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>Consent-ID</b>	Identifier of the consent obtained in the transaction requesting consent.  Only if the consent management has been carried out through the API.	String	COND	^{1,36}\$  E.g. Consent-ID: 7890-asdf-4321
<b>Digest</b>	It is contained if it carries the Signature field.  See 6.1 Firma for more information.	String	MAN	^{1,100}\$  E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2N DYyMmVjOWFmMGNmYTZiNTU3 MjVmNDI4NTRIMzJkYzE3ZmNm MDE3ZGFmMjhhNTc5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP.  See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	^{1,512}\$  E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQlt 0UcwDQYJ.....KoZlhvcNAQ ELBQAwSTELMAkGA1UEBhMCMV VMxEzARBgNVBA

**Body**

Field	Description	Type	Mand.	Format
<b>cardNumber</b>	Numbering of the card issued by the PIISP. Must be sent if available.	String	OPT	E.g.  "cardNumber": "1111-1111-1111-1111"

<b>account</b>	PSU account number.	AccountReference	MAN	E.g. "account": { "iban": "ES11111111111111111111" }
<b>payee</b>	Merchant where the card is accepted as information for the PSU.	String	OPT	^{1,70}\$ E.g. "payee": "Merchant name"
<b>instructedAmount</b>	Contains the amount and currency to query.	Amount	MAN	E.g. "instructedAmount": { ... }

### 3.6.1.2 Response

This message is returned by the HUB to the TPP as a response to the fund confirmation message.

#### Header

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the link to the resource generated.	String	MAN	
<b>X-Request-ID</b>	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

#### Body

Field	Description	Type	Man.	Format
<b>fundsAvailable</b>	Takes the "true" value if there are sufficient funds available at the time of the request. otherwise "false".	Boolean	MAN	E.g. "fundsAvailable": true
<b>tppMessages</b>	Message for the TPP.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.6.1.3 Examples

#### Example of request

POST <https://www.hub.com/aspsp-name/v1/funds-confirmations>

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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"
  }
}
```

### Example of 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
}
```

## 3.7 OAuth2 as pre-step

### 3.7.1 Obtain authorisation

#### 3.7.1.1 Request

The TPP redirects the PSU's browser 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 authentication

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}
```

### Endpoint for biometric authentication by app-to-app redirection for personal

GET

```
/{aspsp}/biometric/app-to-app/personal/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}
```

### Endpoint for biometric authentication by app-to-app redirection for business

GET

```
/{aspsp}/biometric/app-to-app/business/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	Man.	Format
<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name

### Query parameters

Field	Description	Type	Man.	Format
<b>response_type</b>	Its value must be established at "code".	String	MAN	E.g. response_type=code

<b>client_id</b>	<p>organizationIdentifier" provided in the eIDAS certificate formed as:</p> <ul style="list-style-type: none"> <li>- PSD</li> <li>- 2 characters from the NCA country code (according to ISO 3166)</li> <li>- Carácter "-"</li> <li>- 2-8 characters for the NCA identifier (A-Z in upper case)</li> <li>- Carácter "-"</li> <li>- PSP identifier</li> </ul>	String	MAN	$^{\{1,70\}}\$$ E.g. client_id=PSDES-BDE-3DFD246
<b>scope</b>	<p>Possible scope:</p> <ul style="list-style-type: none"> <li>• PIS</li> <li>• AIS</li> <li>• FCS</li> <li>• SVA</li> </ul> <p>May indicate more than one, separated by a space (%20).</p>	String	MAN	$^{\{1,64\}}\$$ E.g. scope=PIS+AIS+SVA
<b>state</b>	<p>Opaque value generated by the TPP. Used to prevent "cross-site request forgery" XSRF attacks.</p>	String	MAN	$^{\{1,64\}}\$$ E.g. state=XYZ
<b>redirect_uri</b>	<p>URL returned to the HUB where it will report the authorisation "code" that will be used subsequently to obtain the access token.</p>	String	MAN	$^{\{1,250\}}\$$ E.g. redirect_uri=https%3A%2F%2Fwww%2Eetpp%2Ecom%2Fcb
<b>code_challenge</b>	<p>PKCE challenge used to prevent code injection attacks. According to RFC 7636.</p>	String	MAN	$^{\{1,128\}}\$$ E.g. code_challenge=E9Melhoa2OwvFrEMTJguCHaoeK1t8URWbuGJSstw-cM
<b>code_challenge_method</b>	<p>Method to verify the code that may be "plain" or "S256". S256 (SHA 256) preferred</p>	String	OPT	$^{\{1,120\}}\$$ E.g. code_challenge_method=S256



### Header

No additional fields are specified.

### Body

The data are not sent in the body in this response.

### 3.7.1.2 Response OK

Response if the request has been processed correctly. The result is the redirection initiated by the HUB from the PSU navigator to the URL of the environment provided by the TPP.

### Path

No additional fields are specified.

### Query Parameters

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the URL where the redirection is carried out to the TPP.	String	MAN	E.g. Location: https://www.tpp.com/ cb
<b>code</b>	One-time-only authorisation generated by the HUB. A life of not more than 10 minutes is recommended.	String	MAN	^. {1,64}\$ E.g. code=SplxIOBeZQ QYbYS6WxSbIA
<b>state</b>	Opaque value generated by the TPP. Used to maintain the status between request and response. The HUB will include it when it redirects the PSU's browser back to the TPP. Used to prevent "cross-site request forgery" attacks.	String	MAN	^. {1,64}\$ E.g. state=XYZ

### Body

Data are not sent in the body in this request.

### 3.7.1.3 Error response

Response if there has been any error in the request. The result is the redirection initiated by the HUB from the PSU navigator to the URL of the environment provided by the TPP.

**Path**

No additional fields are specified.

**Query Parameters**

Field	Description	Type	Man.	Format
Location	Contains the URL that is redirected to the TPP.	String	MAN	E.g. Location: <a href="https://www.tpp.com/cb">https://www.tpp.com/cb</a>
error	Code that indicates the error that has occurred.	String	MAN	E.g. error=invalid_request
state	Value generated by the TPP. Used to maintain the status between request and response. The HUB will return it in the response.	String	MAN	E.g. state=XYZ

**Body**

Data are not sent in the body in this request.

**3.7.1.4 Examples****Example of request**

GET

[https://www.hub.com/aspsp-name/authorize?response\\_type=code&client\\_id=PSDES-BDE-3DFD246&scope=PIS%20AIS%20SVA&state=xyz&redirect\\_uri=https%3A%2F%2Fwww%2Ehub%2Ecom%2Fcb&code\\_challenge=E9Melhoa2OwvFrEMTJguCHaoeK1t8URWbuGJSstw-cM&code\\_challenge\\_method=S256](https://www.hub.com/aspsp-name/authorize?response_type=code&client_id=PSDES-BDE-3DFD246&scope=PIS%20AIS%20SVA&state=xyz&redirect_uri=https%3A%2F%2Fwww%2Ehub%2Ecom%2Fcb&code_challenge=E9Melhoa2OwvFrEMTJguCHaoeK1t8URWbuGJSstw-cM&code_challenge_method=S256)

**Example of OK response**

HTTP/1.1 302 Found

Location: <https://www.tpp.com/cb?code=Sp1x10BeZ00YbYS6WxSbIA&state=xyz>

**Example of NOK response**

HTTP/1.1 302 Found

Location: [https://www.tpp.com/cb?error=access\\_denied&state=xyz](https://www.tpp.com/cb?error=access_denied&state=xyz)

### 3.7.2 Obtain access token

This message is sent by the HUB to ASPSP to exchange the authorisation code obtained in the prior step and obtain an access token and refresh token.

#### 3.7.2.1 Request

##### Endpoint

POST {provider}/{aspsp}/token

##### Path

Field	Description	Type	Mand.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name

##### Request Parameters

Field	Description	Type	Mand.	Format
grant_type	Must take the value of "authorisation_code"	String	MAN	E.g. grant_type=authorisation_code
client_id	<p>"organizationIdentifier" provided in the eIDAS certificate formed as:</p> <ul style="list-style-type: none"> <li>- PSD</li> <li>- 2 characters from the NCA country code (according to ISO 3166)</li> <li>- Carácter "-"</li> <li>- 2-8 characters for the NCA identifier (A-Z in upper case)</li> <li>- Carácter "-"</li> <li>- PSP identifier</li> </ul>	String	MAN	$^{\{1,70\}}\$$ E.g. client_id=PSDES-BDE-3DFD246

<b>code</b>	Authorisation code returned by the ASPSP in the previous application requesting an authorisation code	String	MAN	$^{\{1,64\}}$ E.g. code=SpIxIOBeZQQY bYS6WxSbIA
<b>redirect_uri</b>	URL is returned to the TPP where the authorisation "code" is entered. It must be the same as that entered in the authorisation code request.	String	MAN	$^{\{1,250\}}$ E.g. redirect_uri=https%3A%2F%2Fwww%2Etp%2Ecom%2Fcb
<b>code_verifier</b>	PKCE verification code used to prevent code injection attacks. Based on RFC 7636.	String	MAN	E.g. code_verifier=dBjftJeZ4CVP-mB92K27uhbUJU1p1r_wW1gFWFOEjXk

### Header

No additional fields are specified.

### Body

Fields are not sent in the body.

### 3.7.2.2 Response OK

Response if the request has been processed correctly. The result of the request is an access token sent by the HUB to the PSU.

### Body

Field	Description	Type	Man.	Format
<b>access_token</b>	Access token issued by the HUB and joined to the scope that was requested in the request and confirmed by the PSU.	String	MAN	$^{\{1,64\}}$ E.g. "access_token":"2YotnFZFEjr1zCsicMWpAA"
<b>token_type</b>	Type of token issued. Will take the value "Bearer".	String	MAN	E.g. "token_type":"Bearer"

<b>expires_in</b>	Life of the access token in seconds.	Integer	OPT	E.g. "expires_in":300
<b>refresh_token</b>	Refresh token. May be used to obtain a new access token if it has expired.	String	OPT	$\wedge.\{1,64\}\$$ E.g. "refresh_token": "tGzv3JOkF0XG5Qx2TIKWIA"

### 3.7.2.3 Error response

Response if there has been any error in the request. It is the result of the request for an access token made by the TPP to the HUB.

#### Body

Field	Description	Type	Man.	Format
<b>error</b>	Code that indicates the error that has occurred. For more return codes see the annexes.	String	MAN	E.g. "error": "invalid_request"

### 3.7.2.4 Examples

#### Example of request

POST /token HTTP/1.1

Host: <https://www.hub.com/aspsp-name>

Content-Type: application/x-www-form-urlencoded

grant\_type=authorization\_code&client\_id=PSDES-BDE-3DFD246&code=Splx10BeZQQYbYS6WxSbIA&redirect\_uri=https%3A%2F%2Fwww%2Etp%2Ecom%2Fcb&code\_verifier=dBjftJeZ4CVP-mB92K27uhbUJU1plr\_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": "2YotnFZFEjrlzCsicMwPAA",

  "token\_type": "Bearer",

  "expires\_in": 3600,

  "refresh\_token": "tGzv3JOkF0XG5Qx2TlKWIA"

}

**Example of NOK response**

HTTP/1.1 400 Bad Request

Content-Type: application/json;charset=UTF-8

Cache-Control: no-store

Pragma: no-cache

{

"error": "invalid\_request"

}

**3.8 Token renewal request**

This service is used when the HUB reports that the access\_token has expired. Using this request you can refresh the access\_token by sending the refresh\_token associated with the expired access\_token.

**3.8.1 Request****Endpoint**

POST {provider}/{aspsp}/token

**Path**

Field	Description	Type	Mand.	Format
<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>grant_type</b>	Must take the value of "refresh_token"	String	MAN	E.g. grant_type=refresh_token
<b>client_id</b>	organizationIdentifier" provided in the eIDAS certificate formed as: <ul style="list-style-type: none"> <li>- PSD</li> <li>- 2 characters from the NCA country code (according to ISO 3166)</li> <li>- Carácter "-"</li> </ul>	String	MAN	^.{1,70}\$ E.g. client_id=PSDES-BDE-3DFD246

	<ul style="list-style-type: none"> <li>- 2-8 characters for the NCA identifier (A-Z in upper case)</li> <li>- Carácter "-"</li> <li>- PSP identifier</li> </ul>			
<b>refresh_token</b>	The refresh token necessary to be able to obtain an unexpired access_token.	String	MAN	$^{\{1,64\}}\$$ E.g. refresh_token=tGzv3JOkF0XG5Qx2TIKWIA

### Header

No additional data are specified.

### Body

No additional data are specified.

## 3.8.2 Response

Field	Description	Type	Man.	Format
<b>access_token</b>	Access token issued by the HUB and joined to the scope that was requested in the request and confirmed by the PSU.	String	MAN	$^{\{1,64\}}\$$ E.g. "access_token":"83kdFZFEjr1zCsi cMWBB"
<b>token_type</b>	Type of token issued. Will take the value "Bearer".	String	MAN	E.g. "token_type":"Bearer"
<b>expires_in</b>	Life of the access token in seconds.	Integer	OPT	E.g. "expires_in":300
<b>refresh_token</b>	Refresh token. May be used to obtain a new access token if it has expired.	String	OPT	$^{\{1,64\}}\$$ E.g. "refresh_token":"28JD3JOkF0NM5Qx2TICCC"

## 3.8.3 Examples

POST /token HTTP/1.1

Host: <https://www.hub.com>

Content-Type: application/x-www-form-urlencoded

grant\_type=refresh\_token&client\_id=PSDES-BDE-3DFD246&refresh\_token=tGzv3JOkF0XG5Qx2TlKWIA

### 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": "83kdFZFEjrlzCsicMWBB",
  "token_type": "Bearer",
  "expires_in": 300,
  "access_token": "28JD3JOkF0NM5Qx2TlCCC"
}
```

## 3.9 Sessions: combination of AIS and PIS services

The session support allows you to combine the AIS and PIS services in the same session.

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

To ensure the session is supported, the access token must have been obtained for the PIS, AIS and TPP scope, and have the roles of PISP and AISP available in its eIDAS certificate.

## 3.10 Processes common to the services.

### 3.10.1 Initiation of the authorisation process (explicit)

#### Use

The process of initiating authorisation is a necessary process to create a new authorisation sub-resource (if it has not been created implicitly). Applied in the following scenarios:

- The ASPSP has indicated with a "startAuthorisation" link in the response to a payment initiation request that an explicit initiation of the authorisation process is not necessary because of the TPP.



- The ASPSP has indicated with a "startAuthorisation" link in the response to a payment cancellation request that an explicit initiation of the authorisation process is not necessary because of the TPP.
- The ASPSP has indicated with a "startAuthorisation" link in the response to an account information consent request that an explicit initiation of the authorisation process is not necessary because of the TPP.
- The ASPSP has indicated with a "startAuthorisation" link in the response to a fund confirmation consent request that an explicit initiation of the authorisation process is not necessary because of the TPP.

### 3.10.1.1 Request

#### Endpoint in the case of Fund Confirmation Consent

POST

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

#### Endpoint in the case of Payment Cancellation

POST

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

#### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. hub.example.es
aspsp	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
payment-service	Possible values are: <ul style="list-style-type: none"> <li>• periodic-payments</li> </ul>	String	COND	E.g. {provider}/v1/payments
payment-product	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>• sepa-credit-transfers</li> </ul>	String	COND	E.g. {provider}/v1/payments/sepa-credit-transfers/
paymentId, consentId	Identifier of the resource that references the payment initiation or consent.	String	MAN	^{1,36}\$ E.g. 123-qwe-456

#### Query parameters

No additional parameters are specified for this request.

#### Header

Field	Description	Type	Man.	Format
<b>Content-Type</b>	Value: application/json	String	MAN	Content-Type: application/json
<b>X-Request-ID</b>	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.  If it is not available, the TPP must use the IP address used by the TPP when it sends this request.	String	OPT	^[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\d{1,5}\$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	^{1,50}\$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)

<b>PSU-Http-Method</b>	<p>HTTP method used in the interface between the PSU and the TPP. Permitted values:</p> <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: POST
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}}\$</math></p> <p>E.g.</p> <p>PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;,:][\d]*.[\d]*}\$</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{.}{1,100}\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	<p><math>^{.}{1,5000}\$</math></p> <p>E.g.</p> <p>TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ.....KoZlhvcNAQELBQAWS TELMAkGA1UEBhMCVVMxEzARBgNVBA</p>

**Body**

No additional fields are specified.

**3.10.1.2 Response****Header**

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the link related to the resource generated.	String	MAN	E.g. Location: /v1/payments/{payment-product}/{paymentId}/authorisations/123qwerty/456
<b>X-Request-ID</b>	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>• REDIRECT</li> </ul>	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

**Body**

Field	Description	Type	Man.	Format
<b>scaStatus</b>	SCA status	String	MAN	E.g. "scaStatus": "received"
<b>authorisationId</b>	Identifier of the resource that references the authorisation of sub-resource created.	String	MAN	^{1,36}\$ E.g. "authorisationId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
<b>scaMethods</b>	This element is contained if SCA is required and if PSU can choose between the different methods of authentication. If this data is contained the link "selectAuthenticationMethod" will also be reported. These methods must be presented to the PSU.	List<AuthenticationObject>	COND	E.g. "scaMethods": [...]

	<b>Note:</b> Only if ASPSP supports selection of the SCA method			
<b>_links</b>	<p>List of hyperlinks to be recognised by the TPP. Types supported in this response:</p> <ul style="list-style-type: none"> <li>• <b>scaRedirect:</b> in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP.</li> <li>• <b>scaStatus:</b> link to query the SCA status corresponding to the authorisation sub-resource.</li> </ul>	Links	MAN	E.g. "_links": {...}
<b>psuMessage</b>	Text sent to TPP through the HUB to be shown to PSU.	String	OPT	$^{\{1,512\}}\$$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP sent through the HUB.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.10.1.3 Examples

#### Example of request on a Payment Cancellation

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

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacblf6541

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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 of response in the case of SCA via redirect

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/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/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations/123auth456"
    }
  }
}
```

### 3.10.2 Obtain the SCA status

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

#### 3.10.2.1 Request

#### Endpoint in the case of Fund Confirmation Consent

GET

```
{provider}/{aspsp}/v2/consents/confirmation-of-funds/{consentId}/authorisations/{authorisationId}
```

### Endpoint in the case of Payment Cancellation

GET

```
{provider}/{aspsp}/v1/{payment-service}/{payment-product}/{paymentId}/cancellation-authorisations/{cancellationId}
```

### Path

Field	Description	Type	Man.	Format
<b>provider</b>	URL of the HUB where the service is published.	String	MAN	E.g. hub.example.es
<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>payment-service</b>	Possible values are: <ul style="list-style-type: none"> <li>periodic-payments</li> </ul>	String	COND	E.g. {provider}/v1/payments
<b>payment-product</b>	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>sepa-credit-transfers</li> </ul>	String	COND	E.g. {provider}/v1/payments/sepa-credit-transfers/
<b>paymentId, consentId</b>	Identifier of the resource that references the payment initiation or consent	String	MAN	^{1,36}\$ E.g.123-qwe-456
<b>authorisationId</b>	Identifier of the sub-resource associated with the consent.	String	COND	^{1,36}\$
<b>cancellationId</b>	Identifier of the sub-resource associated with the payment cancellation.	String	COND	^{1,36}\$

### Query parameters

No additional fields are specified.

### Header

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>X-Request-ID</b>	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> $^{\wedge}[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP.	String	OPT	$^{\wedge}[0-9]\{1,3\}\.[0-9]\{1,3\}\.[0-9]\{1,3\}\.[0-9]\{1,3\}\$$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	$^{\wedge}\d\{1,5\}\$$ E.g. PSU-IP-Port: 443
<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\wedge}\{1,50\}\$$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\wedge}\{1,50\}\$$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\wedge}\{1,50\}\$$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\wedge}\{1,50\}\$$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>POST</li> </ul>	String	OPT	E.g. PSU-Http-Method: GET



	<ul style="list-style-type: none"> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>			
<b>PSU-Device-ID</b>	<p>UUID (Universally Unique Identifier) for the device.</p> <p>The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.</p>	String	OPT	<p><b>UUID</b></p> <p><math>^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\\$</math></p> <p>E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7</p>
<b>PSU-Geo-Location</b>	<p>Location corresponding to the HTTP request between the PSU and the TPP</p>	String	OPT	<p><b>RFC 2426</b></p> <p><math>^{GEO:[\d]*.[\d]*[;][\d]*.[\d]*}\\$</math></p> <p>E.g.</p> <p>PSU-Geo-Location: GEO:90.023856;25.345963</p>
<b>Digest</b>	<p>It is contained if it carries the Signature field.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	<p><math>^{\{1,100\}}\\$</math></p> <p>E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ= =</p>
<b>Signature</b>	<p>Signature of the request by the TPP.</p> <p>See 6.1 Firma for more information.</p>	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	<p>The TPP certificate used to sign the request, in base64.</p>	String	MAN	<p><math>^{\{1,5000\}}\\$</math></p> <p>E.g.</p> <p>TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ..... ....KoZlhcNAQELBQAwSTELMAkGA1UEBhMCMCVVMxZzARBgNVBA</p>

## Body

No additional data are specified.

### 3.10.2.2 Response

#### Header

Field	Description	Type	Man.	Format
<b>X-Request-ID</b>	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	<b>UUID</b> $^{[0-9a-fA-F]\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}\$$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

#### Body

Field	Description	Type	Man.	Format
<b>scaStatus</b>	SCA status	String	MAN	E.g. "scaStatus": "finalised"
<b>psuMessage</b>	Text sent to TPP through the HUB to be shown to PSU.	String	OPT	$^{\{1,512\}}\$$ E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP sent through the HUB.	List<TppMessage>	OPT	E.g. "tppMessages": [...]

### 3.10.2.3 Examples

#### Example of request

GET

<https://hub.example.es/aspmp-name/v1/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations/123asd456>

X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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 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"  
}
```

## 4. DESCRIPTION OF VALUE-ADDED SERVICES

### 4.1 Available ASPSPs service

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

#### 4.1.1 Version 1

##### 4.1.1.1 Request

###### Endpoint

GET {provider}/v1/sva/aspsps

###### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com

###### Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
Digest	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 6.1 Firma for more information.	String	MAN	See annexes

<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	<b>eIDAS</b> E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgIIzZvBQlt 0UcwDQYJ.....KoZlhvcNAQ ELBQAwSTELMAkGA1UEBhMCV VMxEzARBgNVBA
----------------------------------	----------------------------------------------------------	--------	-----	-------------------------------------------------------------------------------------------------------------------------------------------------------

**Body**

No additional fields are specified.

**4.1.1.2 Response**

Field	Description	Type	Man.	Format
<b>aspsps</b>	List of ASPSPs available in the system. The returned list will be made up of relevant information on the ASPSP.	List<Asp sp>	MAN	E.g. "aspsps":[]
<b>tppMessages</b>	Contains the type of message and the code associated with it	Tppmessage	MAN	E.g. "tppMessages":{}

**4.1.1.3 Examples**

**Example of request**

```
GET https://www.hub.com/v1/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 of response**

```
HTTP/1.1 200 Ok

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

```

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

```

### 4.1.2 Version 2

This version includes the name of the API for each ASPSP.

#### 4.1.2.1 Request

##### Endpoint

GET {provider}/v2/sva/aspsps

##### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com

##### Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
Digest	It is contained if it carries the Signature field. See 6.1 Firma for more information.	String	MAN	E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP.	String	MAN	See annexes

	See 6.1 Firma for more information.			
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	<p><b>eIDAS</b></p> <p>E.g. TPP-Signature-Certificate:                  MIIHgZCCBmugAwIBAgIIzZvBQIt                  0UcwDQYJ.....KoZlhvcNAQ                  ELBQAwSTELMAkGA1UEBhMCV                  VMxEzARBgNVBA</p>

**Body**

No additional fields are specified.

**4.1.2.2 Response**

Field	Description	Type	Man.	Format
<b>aspmps</b>	List of ASPSPs available in the system. The returned list will be made up of relevant information on the ASPSP.	List<Asp sp>	MAN	E.g. "aspmps":[]
<b>tpmMessages</b>	Contains the type of message and the code associated with it	Tppmessage	MAN	E.g. "tpmMessages":{}

**4.1.2.3 Examples**

**Example of request**

```
GET https://www.hub.com/v2/sva/aspmps
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 of response**

```
HTTP/1.1 200 Ok

{
  "aspmps": [
    {
```

```

        "bic": "XXXXESMMXXX",
        "name": "Bank name",
        "apiName": "nombreBanco1"
    },
    {
        "bic": "YYYYESMMXXX",
        "name": "Bank 2 name",
        "apiName": "nombreBanco2"
    }
]
}

```

## 4.2 SVA: initiation of payment with list of accounts available for PISP

This service allows the TPP to initiate a payment without entering information on the debtor's account "debtorAccount" and provides the list of accounts during the SCA flow so that the PSU can select one.

This value service complements the payment API payment and uses the CORE services to:

- Obtain payment status
- Recover payment initiation information

### 4.2.1 Initiate payment

This message is sent by the TPP to the HUB to initiate payment without entering information on the debtor's account.

#### 4.2.1.1 Request

##### Endpoint

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

##### Path

Field	Description	Type	Man.	Format
provider	URL of the HUB where the service is published.	String	MAN	E.g. www.hub.com



<b>aspsp</b>	Name of the ASPSP to which the request is made.	String	MAN	E.g. aspsp-name
<b>payment-product</b>	Payment product to be used. List of supported products: <ul style="list-style-type: none"> <li>• sepa-credit-transfers</li> <li>• instant-sepa-credit-transfers</li> </ul>	String	MAN	E.g. {provider}/{aspsp}/v1/payments/sepa-credit-transfers/

## Header

Field	Description	Type	Man.	Format
<b>Content-Type</b>	Value: application/json	String	MAN	Content-Type: application/json
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>Authorisation</b>	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
<b>Consent-ID</b>	This data is contained if the payment initiation transaction forms part of a session (combination of AIS/PIS). Will contain the consentId of the AIS consent that was arranged before the payment initiation.	String	OPT	^{1,36}\$ E.g. Consent-ID: 7890-asdf-4321
<b>PSU-IP-Address</b>	IP address of the HTTP request between the PSU and the TPP. If it is not available, the TPP must use the IP address used by the TPP when it sends this request.	String	MAN	^[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\$ E.g. PSU-IP-Address: 192.168.16.5
<b>PSU-IP-Port</b>	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPT	^\d{1,5}\$ E.g. PSU-IP-Port: 443

<b>PSU-Accept</b>	Accept header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept: application/json
<b>PSU-Accept-Charset</b>	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Charset: utf-8
<b>PSU-Accept-Encoding</b>	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Encoding: gzip
<b>PSU-Accept-Language</b>	Accept language header of the HTTP request between the PSU and the TPP.	String	OPT	$^{\{1,50\}}$ E.g. PSU-Accept-Language: es-ES
<b>PSU-User-Agent</b>	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPT	E.g. 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)
<b>PSU-Http-Method</b>	HTTP method used in the interface between the PSU and the TPP. Permitted values: <ul style="list-style-type: none"> <li>• POST</li> <li>• GET</li> <li>• PUT</li> <li>• PATCH</li> <li>• DELETE</li> </ul>	String	OPT	E.g. PSU-Http-Method: POST
<b>PSU-Device-ID</b>	UUID (Universally Unique Identifier) for the device. The UUID identifies the device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled.	String	OPT	<b>UUID</b> $^{\{0-9a-fA-F\}\{8\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{4\}-[0-9a-fA-F]\{12\}}$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
<b>PSU-Geo-Location</b>	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPT	<b>RFC 2426</b> $^{\text{GEO:}[\backslash\text{d}]^*.[\backslash\text{d}]^*[:][\backslash\text{d}]^*.[\backslash\text{d}]^*\$}$

				E.g. PSU-Geo-Location: GEO:90.023856;25.3459 63
<b>TPP-Redirect-URI</b>	TPP URI, where the transaction flow must be redirected after one of the phases of the SCA.  We recommend always using this header field.  In the future, this field may become mandatory.	String	COND	^{1,250}\$  E.g. TPP-Redirect-URI": "https://tpp.example.es/cb"
<b>TPP-Nok-Redirect-URI</b>	If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.	String	OPT	^{1,250}\$  E.g. TPP-Nok-Redirect-URI": "https://tpp.example.es/cb/nok"
<b>Digest</b>	It is contained if it carries the Signature field.  See 6.1 Firma for more information.	String	MAN	^{1,100}\$  E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRIMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
<b>Signature</b>	Signature of the request by the TPP.  See 6.1 Firma for more information.	String	MAN	See annexes
<b>TPP-Signature-Certificate</b>	The TPP certificate used to sign the request, in base64.	String	MAN	^{1,5000}\$  E.g. TPP-Signature-Certificate: MIIHgZCCBmugAwIBAgII ZzZvBQlt0UcwDQYJ... .....KoZihvcNAQELB QAwSTELMAkGA1UEBh MCVVMxEzARBgNVBA

### Body

Field	Description	Type	Man.	Format
<b>instructedAmount</b>	Information on the transfer carried out.	Amount	MAN	E.g. "instructedAmount": {...}

<b>creditorAccount</b>	Creditor account	AccountReference	MAN	E.g. "creditorAccount": { "iban": "ES11111111111111111111" }
<b>creditorName</b>	Creditor's name	String	MAN	^{1,70}\$ E.g. "creditorName": "Name"
<b>creditorAgent</b>	BIC of the creditor account.	String	OPT	^{1,12}\$ E.g. "creditorAgent": "XSXHXS MMXXX"
<b>creditorAddresses</b>	Creditor's address	Address	OPT	E.g. "creditorAddress": { ... }
<b>remittanceInformationUnstructured</b>	Additional information	String	OPT	^{1,140}\$ E.g. "remittanceInformationUnstructured": "Additional information"

#### 4.2.1.2 Response

##### Header

Field	Description	Type	Man.	Format
<b>Location</b>	Contains the link to the resource generated.	String	MAN	E.g. Location: /v1/payments/{payment-product}/ {payment-id}
<b>X-Request-ID</b>	Unique transaction identifier assigned by the TPP.	String	MAN	<b>UUID</b> ^[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}\$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d759 58b172e7
<b>ASPSP-SCA-Approach</b>	Value returned if the SCA method has been fixed. Possible values: <ul style="list-style-type: none"> <li>REDIRECT</li> </ul>	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

##### Body

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------

<b>transactionStatus</b>	Status of the transaction. Values defined in annexes in 6.4 Estados de transacción	String	MAN	<b>ISO 20022</b> E.g. "transactionStatus": "RCVD"
<b>paymentId</b>	Identifier of the resource that references the payment initiation.	String	MAN	^.{1,36}\$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
<b>transactionFees</b>	Fees associated with the payment.	Amount	OPT	E.g. "transactionFees": {...}
<b>transactionFeeIndicator</b>	If equal to "true", the transaction will involve a fee depending on the ASPSP or what has been agreed between the ASPSP and the PSU.  If equal to "false", the transaction will not involve any additional fee for the PSU.	Boolean		E.g. "transactionFeeIndicator": true
<b>_links</b>	List of hyperlinks to be recognised by the TPP. Types supported in this response: <ul style="list-style-type: none"> <li>• scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP.</li> <li>• self: link to the payment initiation resource created by this request.</li> <li>• status: link to recover the payment initiation transaction status.</li> </ul>	Links	MAN	E.g. "_links": {...}
<b>psuMessage</b>	Text to show to the PSU.	String	OPT	^.{1,512}\$

				E.g. "psuMessage": "Information for the PSU"
<b>tppMessages</b>	Message for the TPP	List<TppM essage>	OPT	E.g. "tppMessages": [...]

### 4.2.1.3 Examples

#### Example of request

POST <https://www.hub.com/aspsp-name/v1/sva/payments/sepa-credit-transfer>  
[s](#)

Content-Encoding: gzip

Content-Type: application/json

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541

Authorization: Bearer 2YotnFZFEjrlzCsicMWpAA

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": "ES22222222222222222222222222222222"
  },
  "creditorName": "Name123",
```

```

    "remittanceInformationUnstructured": "Additional information"
  }

```

### Example of response

HTTP/1.1 201 Created

X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aach1f6541

ASPSP-SCA-Approach: REDIRECT

Date: Sun, 26 Sep 2017 15:02:43 GMT

Location: </v1/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/payments/sepa-credit-transfers/123-qwe-456",
      "status": {
        "href":
          "/v1/payments/sepa-credit-transfers/123-qwe-456/status"
        }
      }
    }
  }
}

```

## 5. DEFINITION OF TYPES OF COMPOSITE DATA

The types of composite data used for the requests and responses in the system are defined below.

### 5.1 AccountAccess

Field	Description	Type	Man.	Format
<b>accounts</b>	Indicates the accounts on which to ask for detailed information.	List<AccountReference>	OPT	E.g. "accounts": [...]

	If the list is empty, the TPP requests all the accessible accounts and they will be queried in a dialogue between PSU-ASPSP. In addition, the list of balances and transactions must also be empty if they are used.			
<b>balances</b>	Indicates the accounts on which to ask for balances.  If the list is empty, the TPP requests all the accessible accounts and they will be queried in a dialogue between PSU-ASPSP. The list of accounts and transactions must also be empty if they are used.	List<AccountReference>	OPT	E.g. "balances": [...]
<b>transactions</b>	Indicates the accounts on which to ask for transactions.  If the list is empty, the TPP requests all the accessible accounts and they will be queried in a dialogue between PSU-ASPSP. In addition, the list of balances and accounts must also be empty if they are used.	List<AccountReference>	OPT	E.g. "transactions": [...]
<b>availableAccounts</b>	Only the value "allAccounts" is permitted	String	OPT	E.g. "availableAccounts": "allAccounts"
<b>availableAccountsWithBalances</b>	Only the value "allAccounts" is permitted	String	OPT	E.g. "availableAccountsWithBalances": "allAccounts"
<b>allPsd2</b>	Only the value "allAccounts" is permitted	String	OPT	E.g. "allPsd2": "allAccounts"

## 5.2 AccountDetails

Field	Description	Type	Man.	Format
-------	-------------	------	------	--------



<b>resourceId</b>	Identifier of the account to be used in the PATH when data are requested on a dedicated account.	String	COND	$^{\{1,100\}}\$$ E.g. "resourceId": "3dc3d5b3702348489853f5400a64e80f"
<b>iban</b>	IBAN of the account	String	OPT	E.g. "iban": "ES1111111111111111111111"
<b>bban</b>	BBAN of the account if it does not have an IBAN.  <b>NOT AVAILABLE</b>	String	OPT	E.g. "bban": "20385778983000760236"
<b>msisdn</b>	Alias to access a payment account through a registered mobile phone number.  <b>NOT AVAILABLE</b>	String	OPT	$^{\{1,35\}}\$$ E.g. "msisdn": "... "
<b>currency</b>	Account currency.	String	MAN	<b>ISO 4217</b> E.g. "currency": "EUR"
<b>OwnerName</b>	Name of the legal account owner. If there is more than one owner, then e.g. two names might be noted here.  For a corporate account, the corporate name is used for this attribute.	String	OPT	$^{\{1,140\}}\$$ E.g. "ownerName": "Heike Mustermann"
<b>name</b>	Name given by the bank or the PSU to the online bank account.	String	OPT	$^{\{1,35\}}\$$ E.g. "name": "Name"
<b>product</b>	Name of the product given by the ASPSP to this account.	String	OPT	$^{\{1,35\}}\$$ E.g. "product": "Main Account"
<b>cashAccountType</b>	Specifies the nature or use of the account.  <b>NOT AVAILABLE</b>	String	OPT	<b>ExternalCashAccountType1Code de ISO 20022</b> E.g. "cashAccountType": "CACC"
<b>status</b>	Account status. The value is one of the following:	String	OPT	E.g. "status": "enabled"

	<ul style="list-style-type: none"> <li>enabled: the account is available</li> <li>deleted: account closed</li> <li>blocked: account blocked</li> </ul> <p><b>NOT AVAILABLE</b></p>			
<b>bic</b>	BIC of the account. <b>NOT AVAILABLE</b>	String	OPT	$^{\{1,12\}}$ E.g. "bic": "XSXHXSMXXX"
<b>linkedAccounts</b>	In this field the ASPSP may name an account associated with the pending card transactions.	String	OPT	$^{\{1,70\}}$
<b>usage</b>	Specifies the use of the account. Possible values: <ul style="list-style-type: none"> <li>PRIV: private personal account</li> <li>ORGA: business account</li> </ul> <p><b>NOT AVAILABLE</b></p>	String	OPT	$^{\{1,4\}}$ E.g. "usage": "PRIV"
<b>details</b>	Specifications that must be provided by the ASPSP. <ul style="list-style-type: none"> <li>Account characteristics</li> <li>Card characteristics</li> </ul> <p><b>NOT AVAILABLE</b></p>	String	OPT	$^{\{1,140\}}$
<b>balances</b>	Account balances.	List<Balance>	COND	"balances": [...]
<b>_links</b>	Links to the account to recover information on balances and/or activity in the account.  Links supported only when the corresponding consent has been granted for the account.	Links	OPT	E.g. "links": {...}

### 5.3 AccountReference

Field	Description	Type	Man.	Format
<b>iban</b>	IBAN of the account	String	COND	E.g. "iban":"ES111111111111111111111111"
<b>bban</b>	BBAN of the account if it does not have an IBAN.	String	COND	E.g. "bban":"20385778983000760236"
<b>pan</b>	Primary Account Number of the card. May be tokenised by the ASPSP to comply with the PCI DSS requirements.	String	COND	^.{1,35}\$ E.g. "pan":"1234567891234567"
<b>maskedPan</b>	Primary Account Number of the card in masked form. <b>NOT AVAILABLE</b>	String	COND	^.{1,35}\$ E.g. "maskedPan":"123456*****4567"
<b>msisdn</b>	Alias to access a payment account through a registered mobile phone number. <b>NOT AVAILABLE</b>	String	COND	^.{1,35}\$ E.g. "msisdn":"..."
<b>currency</b>	Currency.	String	OPT	<b>ISO 4217</b> E.g. "currency":"EUR"

### 5.4 AccountReport

Field	Description	Type	Man.	Format
<b>booked</b>	Latest known transactions (notes) in the account  Must be included if the bookingStatus parameter is established as "booked" or "both".	List<Transactions>	COND	E.g. "booked":[{}]
<b>pending</b>	Transactions pending in the account.	List<Transactions>	OPT	E.g. "pending":[{}]

	Not contained if the bookingStatus parameter is established as "booked". <b>NOT AVAILABLE</b>			
<b>_links</b>	The following links are accepted in this object: <ul style="list-style-type: none"> <li>• account (MAN)</li> <li>• first (OPT)</li> <li>• next (OPT)</li> <li>• previous (OPT)</li> <li>• last (OPT) <b>NOT AVAILABLE</b></li> </ul>	Links	MAN	E.g. "_links":[{}]

## 5.5 Address

Field	Description	Type	Mand.	Format
<b>street</b>	Street	String	OPT	^.{1,70}\$ E.g. "street":"Example of street"
<b>buildingNumber</b>	Number	String	OPT	E.g. "buildingNumber":"5"
<b>city</b>	City	String	OPT	E.g. "city":"Córdoba"
<b>postalCode</b>	Postcode	String	OPT	E.g. "postalCode":"14100"
<b>country</b>	Country code	String	MAN	<b>ISO 3166</b> E.g. "country":"ES"

## 5.6 Amount

Field	Description	Type	Mand.	Format
<b>currency</b>	Currency of amount.	String	MAN	<b>ISO 4217</b> E.g. "currency":"EUR"
<b>amount</b>	Amount The decimal separator is a point.	String	MAN	<b>ISO 4217</b> E.g. "amount":"500.00"

## 5.7 AuthenticationObject

Field	Description	Type	Mand.	Format
<b>authenticationType</b>	Type of authentication method. Possible values: <ul style="list-style-type: none"> <li>SMS_OTP</li> </ul> See annex 6.6 Tipos de autenticación for more information.	String	MAN	E.g. "authenticationType": "SMS_OTP"
<b>authenticationVersion</b>	Version of the tool associated with the authenticationType.	String	COND	E.g. "authenticationVersion": "1.0"
<b>authenticationMethodId</b>	Id of the authentication method provided by the ASPSP.	String	MAN	^{1,35}\$
<b>name</b>	Name of the authentication method defined by the PSU in the ASPSP online banking. It may also be a description provided by the ASPSP. If the TPP has it available, it must present it to the PSU.	String	MAN	E.g. "name": "SMS OTP to phone 666777888"
<b>explanation</b>	Detailed information about the SCA method for the PSU	String	OPT	

## 5.8 Aspsp

Field	Description	Type	Man.	Format
<b>bic</b>	BIC code of the ASPSP.	String	MAN	E.g. "bic": "XXXXXXXXXX"
<b>name</b>	Name of the ASPSP	String	OPT	E.g. "name": "ASPSP Name"
<b>apiName</b>	Name of the ASPSP used in the request PATH. <b>Note:</b> Only available for V2 of the list of available ASPSPs.	String	COND	E.g. "apiName": "nombreBanco"

## 5.9 Balance

Field	Description	Type	Man.	Format
<b>balanceAmount</b>	Amount and currency of the balance	Amount	MAN	E.g. "balanceAmount": {...}
<b>balanceType</b>	Type of balance. Values supported in the annex 6.7 Tipos de balances	String	MAN	E.g. "balanceType": "closingBooked"
<b>creditLimitIncluded</b>	Flag indicating whether the credit limit of the corresponding account is included in the balance calculation, when applicable.	Boolean	OPT	E.g. "creditLimitIncluded":true
<b>lastChangedateTime</b>	Date of the last action carried out on the account. <b>NOT AVAILABLE</b>	String	OPT	<b>ISODateTime</b> E.g. "lastChangeDateTime": "2017-10-25T15:30:35.035Z"
<b>referenceDate</b>	Reference date of the balance <b>NOT AVAILABLE</b>	String	OPT	<b>ISODate</b> E.g. "referenceDate": "2017-10-25"
<b>lastCommittedTransaction</b>	entryReference of the last transaction to assist the TPP in identifying whether all the PSU transactions are already known. <b>NOT AVAILABLE</b>	String	OPT	<b>Max35Text</b> E.g. "lastCommittedTransaction": "1234-asd-567"

## 5.10 ExchangeRate

Field	Description	Type	Man.	Format
<b>currencyFrom</b>	Source currency	String	MAN	E.g. "currencyFrom": "USD"
<b>rate</b>	Defines the exchange rate. E.g. currencyFrom=USD, currencyTo=EUR: 1USD =0.8 EUR and 0.8 is the fee.	String	MAN	E.g. "rate": "0.8"
<b>currencyTo</b>	Destination currency	String	MAN	E.g. "currencyTo": "EUR"

<b>rateDate</b>	Date of fee	String	MAN	<b>ISODateTame</b>
<b>rateContract</b>	Reference to the fee contract	String	OPT	

## 5.11 Href

Field	Description	Type	Man.	Format
<b>href</b>	Contains a link to a resource	String	OPT	E.g. "href": "/v1/payments/sepa-credit-transfers/asd-1234-jkl"

## 5.12 Links

Field	Description	Type	Man.	Format
<b>scaRedirect</b>	URL used to carry out the SCA, through redirecting the PSU navigator.	Href	OPT	E.g. "scaRedirect": {...}
<b>startAuthorisation</b>	Link to the endpoint where the authorisation of the transaction or the authorisation of the cancellation transaction must be initiated.	Href	OPT	E.g. "startAuthorisation": {...}
<b>startAuthorisationWithAuthenticationMethodSelection</b>	Link to the endpoint where the authorisation of a transaction or cancellation transaction must be initiated, where the SCA method must be informed with the corresponding call.	Href	OPT	E.g. " startAuthorisationWithAuthenticationMethodSelection": {...}
<b>selectAuthenticationMethod</b>	Link where the TPP may select the 2-factor authentication method applicable for the PSU, if there is more than one.	Href	OPT	E.g. "selectAuthenticationMethod": {...}
<b>self</b>	The link to the resource created for the request. This link may be used subsequently to recover the transaction status.	Href	OPT	E.g. "self": {...}

<b>status</b>	The link to recover the transaction status. For example, payment initiation status.	Href	OPT	E.g. "status": {...}
<b>account</b>	Link to the resource that provides the information on an account.	Href	OPT	E.g. "account": {...}
<b>balances</b>	Link to the resource that provides the account balances.	Href	OPT	E.g. "balances": {...}
<b>transactions</b>	Link to the resource that provides the account activity.	Href	OPT	E.g. "transactions": {...}
<b>first</b>	Navigation link for reports on paginated accounts.	Href	OPT	E.g. "first": {...}
<b>next</b>	Navigation link for reports on paginated accounts.	Href	OPT	E.g. "next": {...}
<b>previous</b>	Navigation link for reports on paginated accounts.	Href	OPT	E.g. "previous": {...}
<b>last</b>	Navigation link for reports on paginated accounts. <b>NOT AVAILABLE</b>	Href	OPT	E.g. "last": {...}
<b>download</b>	Download link for large AIS data packages. Only for camt-data. <b>NOT AVAILABLE</b>	Href	OPT	E.g. "download": {...}

### 5.13 PaymentExchangeRate

Field	Description	Type	Man.	Format
<b>unitCurrency</b>	Currency in which the exchange rate is expressed in foreign currency. In the following example EUR 1 = CUR xxx, the monetary unit is the EUR.	String	OPT	<b>ISO 4217</b> E.g. "unitCurrency": "EUR"
<b>exchangeRate</b>	Factor used to convert an amount in one currency to another. Reflects the price in which a currency was purchased with another currency.	String	OPT	E.g. "exchangeRate": "1.3"



<b>contractIdentification</b>	Unique identification to identify the currency exchange contract	String	OPT	E.g. "contractIdentification": "1234-qeru-23"
<b>rateType</b>	<p>Specifies the rate used to complete the currency exchange.</p> <p>Permitted values:</p> <ul style="list-style-type: none"> <li>• SPOT</li> <li>• SALE</li> <li>• AGRD</li> </ul>	String	OPT	E.g. "rateType": "SPOT"

### 5.14 ReportExchangeRate

Field	Description	Type	Man.	Format
<b>sourceCurrency</b>	Currency from which an amount will be converted in a currency conversion	String	MAN	<b>ISO 4217</b> E.g. "sourceCurrency": "EUR"
<b>exchangeRate</b>	Factor used to convert an amount in one currency to another. Reflects the price in which a currency was purchased with another currency.	String	MAN	E.g. "exchangeRate": "1.3"
<b>unitCurrency</b>	Currency in which the exchange rate is expressed in foreign currency. In the following example EUR 1 = CUR xxx, the monetary unit is the EUR.	String	MAN	<b>ISO 4217</b> E.g. "unitCurrency": "EUR"
<b>targetCurrency</b>	Currency into which an amount will be converted in a currency conversion.	String	MAN	<b>ISO 4217</b> E.g. "targetCurrency": "USD"
<b>quotationDate</b>	Date on which an exchange rate is quoted.	String	MAN	<b>ISODate</b> E.g. "quotationDate": "2019-01-24"
<b>contractIdentification</b>	Unique identification to identify the currency exchange contract	String	OPT	E.g. "contractIdentification": "1234-qeru-23"

### 5.15 SinglePayment

Field	Description	Type	Man.	Format
<b>instructedAmount</b>	Information on the transfer carried out.	Amount	MAN	E.g. "instructedAmount": {...}
<b>debtorAccount</b>	The debtor's account. <b>Note:</b> this field may be optional in some services such as bulk payments	AccountReference	MAN	E.g. "debtorAccount": {"iban": "ES11111111111111111111111111111111"}
<b>creditorAccount</b>	Creditor account	AccountReference	MAN	E.g. "creditorAccount": {"iban": "ES11111111111111111111111111111111"}
<b>creditorName</b>	Creditor's name	String	MAN	^{1,70}\$ E.g. "creditorName": "Name"
<b>creditorAgent</b>	BIC of the creditor account.	String	OPT	E.g. "creditorAgent": "XSXHXSM MXXX"
<b>creditorAddress</b>	Creditor's address	Address	OPT	E.g. "creditorAddress": {...}
<b>remittanceInformationUnstructured</b>	Additional information. See annex 6.9 Guía de buenas prácticas Campo remittanceInformationUnstructured for recommendations on use.	String	OPT	^{1,140}\$ E.g. "remittanceInformationUnstructured": "Additional information"
<b>requestedExecutionDate</b>	Execution date requested for future payments. <b>Note:</b> only if supported by the ASPSP	String	COND	<b>ISODate</b>
<b>requestedExecutionTime</b>	Requested time of execution. <b>Note:</b> only if supported by the ASPSP	String	COND	<b>ISODateTime</b>

## 5.16 TppMessage

Field	Description	Type	Man.	Format
<b>category</b>	Category of type of message received. Possible values: ERROR or WARNING	String	MAN	E.g. "category": "ERROR"

<b>code</b>	Response code. All the return codes for the service are listed in annex 6.3 Códigos de retorno.	String	MAN	E.g. "code": "CONSENT_INVALID"
<b>path</b>	Path to the field with a reference to the error.	String	COND	E.g. "path": "..."
<b>text</b>	Additional explanatory text.	String	OPT	E.g. "text": "Example of text"

## 5.17 Transactions

Field	Description	Type	Man.	Format
<b>transactionId</b>	May be used as access-ID in the API, where more details on the transaction may be offered. If this data is provided there may be access to the request for transaction details.	String	OPT	E.g. "transactionId": "123-asdf-456"
<b>entryReference</b>	Identification of the transaction that may be used, for example, in delta queries. <b>NOT AVAILABLE</b>	String	OPT	^{1,35}\$ E.g. "entryReference": "1234-asdf-456"
<b>endToEndId</b>	Unique end-to-end identifier. <b>NOT AVAILABLE</b>	String	OPT	^{1,35}\$ E.g. "endToEnd": "..."
<b>mandateId</b>	Identification of the mandate. For example, an ID of a SEPA mandate.	String	OPT	^{1,35}\$ E.g. "mandateId": "..."
<b>checkId</b>	Cheque identifier <b>NOT AVAILABLE</b>	String	OPT	^{1,35}\$ E.g. "checkId": "..."
<b>creditorId</b>	Identification of the beneficiary. For example, an ID of a SEPA beneficiary. <b>NOT AVAILABLE</b>	String	OPT	^{1,35}\$ E.g. "creditorId": "..."

<b>bookingDate</b>	Transaction annotation date	String	OPT	<b>ISODate</b> "bookingDate": "2017-10-23"
<b>valueDate</b>	Date on which the entry becomes available for the account holder in case of a loan.	String	OPT	<b>ISODate</b> E.g. "valueDate": "2017-10-23"
<b>transactionAmount</b>	Transaction amount	Amount	MAN	E.g. "transactionAmount": {...}
<b>currencyExchange</b>	Exchange rate <b>NOT AVAILABLE</b>	List<Report ExchangeRate>	OPT	E.g. "currencyExchange": {...}
<b>creditorName</b>	Creditor name if the transaction is a debit.	String	OPT	^{1,70}\$ E.g. "creditor": "Nombre"
<b>creditorAccount</b>	Creditor's account.	AccountReference	COND	E.g. "creditorAccount": {...}
<b>ultimateCreditor</b>	Ultimate creditor.	String	OPT	^{1,70}\$ E.g. "ultimateCreditor": "Nombre"
<b>debtorName</b>	Debtor's name if the transaction is a credit.	String	OPT	^{1,70}\$ E.g. "debtor": "Nombre"
<b>debtorAccount</b>	The debtor's account.	AccountReference	COND	E.g. "debtorAccount": {...}
<b>ultimateDebtor</b>	Name of ultimate debtor.	String	OPT	^{1,70}\$ E.g. "ultimateDebtor": "Nombre"
<b>remittanceInformationUnstructured</b>	Field to include additional information on the remittance.	String	OPT	^{1,140}\$ E.g. "remittanceInformationUnstructured": "Additional information"
<b>remittanceInformationStructured</b>	Field to include a reference to the remittance. <b>NOT AVAILABLE</b>	String	OPT	^{1,140}\$ E.g. "remittanceInformationStructured": "Ref. 12344567"
<b>purposeCode</b>	ExternalPurpose1Code ISO 20022 <b>NOT AVAILABLE</b>	String	OPT	<b>ExternalPurpose1Code ISO 20022</b>
<b>bankTransactionCode</b>	Bank transaction codes used by the ASPSP and using the sub-elements of the structured codes defined in ISO 20022.	String	OPT	<b>ExternalBankTransaction Domain1Code</b>

	<p>For standing orders the following codes apply:</p> <ul style="list-style-type: none"> <li>• "PMNT-ICDT-STDO" for credit transfers,</li> <li>• "PMNT-IRCT-STDO" for instant credit transfers</li> </ul> <p>"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.</p> <p>This field is formed by concatenating the three ISO20022 codes:</p> <ul style="list-style-type: none"> <li>• Domain</li> <li>• Family</li> <li>• Sub-family</li> </ul> <p>Separated by "-"</p> <p>Example:</p> <p>PMNT-RCTD-ESCT defines a transaction assigned to the PayMeNT domain (PMNT), ReceivedCreDitTransfer family (RCDT) and EuropeanSEPACreditTransfer (ESCT).</p>			<ul style="list-style-type: none"> <li>• Ej.g. "bankTransactionCode": "PMNT-ICDT-STDO"</li> </ul>
<b>proprietaryBankTransactionCode</b>	<p>Proprietary bank transaction code</p> <p><b>NOT AVAILABLE</b></p>	String	OPT	^.{1,35}\$
<b>_links</b>	<p>Possible values:</p> <ul style="list-style-type: none"> <li>• TransactionDetails</li> </ul> <p><b>NOT AVAILABLE</b></p>	Links	OPT	E.g. "_links": {...}

## 6. ANNEXES

### 6.1 Signature

#### 6.1.1 Mandatory "Digest" header

The Digest field is mandatory in all requests.

This field contains a hash of the message body. If the message does not contain a body, the "Digest" field must contain a hash of an empty "bytelist". The hash algorithms that may be used to calculate the "Digest" in the context of this specification are SHA-256 and SHA-512.

#### 6.1.2 Signature requirements

The structure of the "Signature" field of the request header must be presented with the following structure.

Element	Type	Man.	Requirements	Additional requirements
<b>keyId</b>	String	MAN	It is a chain that can be used by the HUB to find a component needed to validate the signature.	Serial number of the TPP certificate included in "TPP-Signature-Certificate". Must be formatted as follows: KeyId="SN=XXX,CA=YYYYYYYYYYYYYYYY" Where "XXX" is the serial number of the certificate in hexadecimal code and "YYYYYYYYYYYYYYYY" is the full "Distinguished Name" of the certification authority.
<b>Algorithm-ID</b>	String	MAN	It is used to specify the algorithm used to generate the signature.	The algorithm must identify the same algorithm for the signature as that presented in the request certificate. Must identify SHA-256 or SHA-512.
<b>Headers</b>	String	OPT	Is used to specify the list of HTTP headers included when the signature is generated for the message.	The required fields to be signed are: <ul style="list-style-type: none"> <li>• digest</li> <li>• x-request-id</li> </ul> Conditionally, if they travel and are supported, they must include: <ul style="list-style-type: none"> <li>• psu-id</li> <li>• psu-corporate-id</li> </ul>

			<p>If specified, it must be a list between inverted commas and in lower case, separated by a blank space. If not specified, it must be understood that only one value has been specified. This specified value is the "Date" attribute of the request header.</p> <p>The order of the attributes is important and must be the same as the order specified on the list of HTTP headers specified in this field.</p>	<ul style="list-style-type: none"> <li>• tpp-redirect-uri</li> </ul>
<b>Signature</b>	String	MAN	<p>The "signature" parameter must be in Base64 according to RFC 4648.</p> <p>The TPP uses the algorithm and the parameters of the header to form the chain to be signed. The chain to sign is signed with the keyId and the corresponding algorithm. The content must be in Base64.</p>	There are no additional requirements.

### 6.1.3 Example

You want 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" : "Example of street",
    "buildingNumber" : "15",
    "city" : "Cordoba",
    "postalCode" : "14100",
    "country" : "ES"
  },
  "remittanceInformationUnstructured" : "Payment",
  "chargeBearer" : "CRED"
}

```

And you must also add the following headers

- X-Request-ID=a13cbf11-b053-4908-bd06-517dfa3a1861

You must make the following transactions.

### 6.1.3.1 Generation of the "Digest" header

To do so you must perform the hash of the message body that will be sent. It is vital to do so on the final content once serialised, as the following serialisation processes may introduce changes in the body of the message finally sent, making the signature invalid.

It is possible to use the SHA-256 and SHA-512 algorithms following the RFC 5843. In our example you will use SHA-256 on the body of the message, obtaining the following result:

- Hexadecimal:  
A5F1CF405B28E44ED29507E0F64495859BA877893D2A714512D16CE3BD8  
BE562
- Base64: pfHPQFso5E7SIQfg9kSVhZuod4k9KnFFEtFs472L5WI=

Thus the value of the "Digest" header to generate will be:

SHA256=pfHPQFso5E7SIQfg9kSVhZuod4k9KnFFEtFs472L5WI=

The headers you have so far are:

X-Request-ID=a13cbf11-b053-4908-bd06-517dfa3a1861f]

Digest=SHA256=pfHPQFso5E7SIQfg9kSVhZuod4k9KnFFEtFs472L5WI=



### 6.1.3.2 Generation of the "Signature" header

The "Signature" header is the multi-value type, i.e. it contains within it various pairs of sub-headers of the attribute-value type

#### Establishment of the "keyId" value

This field is obtained based on a serial number of the certificate in hexadecimal and the DN of the certification authority that generates the certificate.

In our example you obtain the following result:

```
keyId="SN=-5d803f65,CA=CN=REDSYS-AC-EIDAST-C1,OU=PKI,O=REDSYS,C=ES"
```

#### Establishment of the "headers" attribute

You should note that this attribute and some others are shown in the Berlin Group document with the first character in upper case, but in the RFC used by the entity its content is always established in lower case, so we assume that it is an error.

This establishes the fields that will be taken into account signing.

```
headers="digest x-request-id"
```

#### Establishment of the "algorithm" attribute

```
algorithm="SHA-256"
```

#### Construction of the chain to be signed

The chain to be signed according to point 2.2.3 is as follows:

```
Digest: SHA256=pfHPQFso5E7SIQfg9kSVhZuod4k9KnFFEtFs472L5WI=
```

```
X-Request-ID: a13cbf11-b053-4908-bd06-517dfa3a1861f
```

#### Generation of the signature

We sign the chain obtained in the above point with the private key of our certificate and pass the result to Base64, obtaining in our specific case the following result:

```
la8LV3Fny2so4c40OkYFtZvr1mOkOVY1n87iKfIggEkXQjZNcyjp9fFkNtQc+5ZVNESdiq
KG8xrawYa5gAm46CvcKChNTPaakiEJHcXM5RZPWN0Ns5HjV5mUY2QzD+g5mwqcWv
XtBr1vg0bZKN8Zt3+uJMN37NQg9tJNE2yKIJEPIAYOjC2PA/yzGSLOdADnXQut9yRvx
w8gMCjDtRaKdYWmwG6/crX293hGvBUeff1xvTluWhQzyfx4J6WG0v1ZmpnWdZ1LF6
8sToeDGTdu65aVKV2q6qcZzcm5aPV6+mVHX+21Vr6acxiLZdeYUHYJHzErUN3KJrmt
3w2AL7Dw==
```

### 6.1.3.3 Generation of the "TPP-Signature-Certificate" header

This header contains the certificate we have used in Base64. For reasons of space only a part is established in the example:

```
TPP-Signature-Certificate="MIIIEWTCCA0GgAwIBAgI...."
```

### 6.1.3.4 Definitive headers to send

As seen in the above points the headers that must be sent in the request are:

X-Request-ID=a13cbf11-b053-4908-bd06-517dfa3a1861f

Digest=SHA256=pfHPQFso5E7SIQfg9kSVhZuod4k9KnFFEtFs472L5WI=

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+5ZVNESdiqKG8xrawYa5gAm46CvcKChNTPaakiEJHcXM5RZPWN0Ns5HjV5mUY2QzD+g5mwqcWvXtBr1vg0bZKN8Zt3+uJMN37NQg9tJNE2yKIJIPIAYOjC2PA/yzGSLodADnXQut9yRvxw8gMCjDtRaKdyWmwG6/crX293hGvBUeff1xvTluWhQzyfx4J6WG0v1ZmpnWdZ1LF68sToeDGTdu65aVKV2q6qcZzcm5aPV6+mVHX+21Vr6acxiLZdeYUHYJHrzErUN3KJrmt3w2AL7Dw=="

TPP-Signature-Certificate=MIIEWTCCA0GgAwIBAgIEon/...

## 6.2 HTTP response codes

The HTTP codes followed by this specification and their uses are the following:

HTTP code	Description
<b>200 OK</b>	<ul style="list-style-type: none"> <li>Response code for PUT and GET requests</li> <li>This code is permitted if the request was repeated due to a time-out. The response may be a 200 or 201, depending on the implementation of the ASPSP</li> <li>The FCS POST request also allows 200 to be returned given that a new resource is not created.</li> <li>Response code for DELETE requests when the request has been carried out correctly and no authorisation is required.</li> </ul>
<b>201 Created</b>	Response code for POST requests where a new resource has been correctly created.
<b>202 Accepted</b>	Response code for DELETE requests when a payment resource may be cancelled but that requires authorisation for cancellation by PSU.
<b>204 No Content</b>	Response code for DELETE requests where the consent resource has been correctly deleted. The code indicates that the response was carried out, but no content has been returned.  Also used in DELETE requests of a payment initiation where authentication is not needed.
<b>400 Bad Request</b>	A validation error has occurred. This code covers errors in syntax in incorrect requests or data in the payload.
<b>401 Unauthorised</b>	The TPP or the PSU is not correctly authorised to make the request. Retry the request with the correct authentication information.

<b>403 Forbidden</b>	Returned if the resource that was referenced in the path exists but may not be accessed by the TPP or the PSU. This code must only be used for identifiers that are not sensitive, as this may reveal that the resource exists but that it may not be accessed.
<b>404 Not found</b>	Returned if the resource or endpoint that was referenced in the path exists but may not be accessed by the TPP or the PSU. In case of doubt whether a specific ID in the path is sensitive or not, use this code instead of 403.
<b>405 Method Not Allowed</b>	This code is sent only when the method (POST, PUT, GET...) is not supported in a specific endpoint. Response code for DELETE in case of payment cancellation, where a payment initiation may not be cancelled due to legal or other operational reasons.
<b>406 Not Acceptable</b>	The ASPSP cannot generate the content that the TPP specifies in the Accept header field
<b>408 Request Timeout</b>	The server is still working correctly, but the request has timed out.
<b>409 Conflict</b>	The request may not be completed due to a conflict with the current status of the referenced use.
<b>415 Unsupported Media Type</b>	The TPP has requested a "media type" that the ASPSP does not support.
<b>429 Too Many Requests</b>	The TPP has exceeded the maximum number of requests permitted by the consent or by the RTS
<b>500 Internal Server Error</b>	An internal server error has occurred.
<b>503 Service Unavailable</b>	The ASPSP server is temporarily unavailable. Generally it is a temporary state.

### 6.3 Return codes

Permitted return codes and associated HTTP response codes.

	HTTP code	Code	Description
<b>SIGNATURE CERTIFICATE</b>	401	CERTIFICATE_INVALID	The content of the signature certificate is not valid.
	401	CERTIFICATE_EXPIRED	The signature certificate has expired.
	401	CERTIFICATE_BLOCKED	The signature certificate has been blocked by the ASPSP.
	401	CERTIFICATE_REVOKED	The signature certificate has been revoked by the QTSP.
	401	CERTIFICATE_MISSING	The signature certificate was not present in the request.

<b>SIGNATURE</b>	401	SIGNATURE_INVALID	The signature is incorrect.
	401	SIGNATURE_MISSING	The signature is not in the message when this is required.
<b>GENERAL</b>	400	FORMAT_ERROR	<p>The format of certain request fields is wrong. The fields will be indicated.</p> <p>This applies to the body and header fields. It also applies to cases where these entries refer to instances of inexistent or erroneous data.</p>
	400	PARAMETER_NOT_CONSISTENT	<p>Parameters sent by the TPP are not consistent.</p> <p>Only applies to query parameters.</p>
	400	PARAMETER_NOT_SUPPORTED	The parameter is not supported by the ASPSP. This will only be used by parameters whose support is optional for the ASPSP.
	401	PSU_CREDENTIALS_INVALID	The PSU-ID is not related to the ASPSP or is blocked, or the password or OTP was incorrect.
	400 (payload) 405 (HTTP method)	SERVICE_INVALID	The service requested is not valid for the resource indicated, or for the data sent.
	403	SERVICE_BLOCKED	The service is not available for the PSU, due to a block on the channel by the ASPSP.
	401	CORPORATE_ID_INVALID	The PSU-Corporate-ID has not been related in the ASPSP systems.
	403 (if resource on path) 400 (if resource in payload)	CONSENT_UNKNOWN	The Consent-ID does not coincide for the TPP and ASPSP that was requested.
	401	CONSENT_INVALID	<p>The consent was created by the TPP, but it is not valid for the recourse/service requested.</p> <p>Or, the definition of the consent is not complete, or is invalid.</p>
	401	CONSENT_EXPIRED	The consent was created by the TPP, but it has expired and needs to be renewed.

	401	TOKEN_UNKNOWN	The token received is not known by the TPP.
	401	TOKEN_INVALID	The token is associated with the TPP, but is invalid for the service/resource which is being accessed.
	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) 403 (if other resource in path) 400 (if goes in payload)	RESOURCE_UNKNOWN	The resource requested is not known by the TPP.
	403 (if resource on path) 400 (if resource in payload)	RESOURCE_EXPIRED	The resource requested is associated with the TPP, but has expired and will not be available again.
	400	RESOURCE_BLOCKED	The directed resource cannot be directed by the request. The request may be blocked, for example, for a grouping in the "signing basket".
	400	TIMESTAMP_INVALID	Timestamp not in period of accepted time.
	400	PERIOD_INVALID	The period of time requested is outside the range.
	400	SCA_METHOD_UNKNOWN	The SCA method selected in the request for selecting the authentication method is unknown or may not be related by the ASPSP with the PSU.
	409	STATUS_INVALID	The resource directed does not permit additional authorisation.
OAuth2	302	invalid_request	The request is not well formed because there are parameters missing, value not supported, or parameters repeated.
	302	unauthorized_client	The authenticated client is not authorised to use this type of authorisation.
	302	access_denied	The owner of the resources or the authorised server rejects the request.

	302	unsupported_response_type	The authorisation server does not support the method used to obtain the authorisation code.
	302	invalid_scope	The scope requested is invalid, unknown or badly formed.
	302	server_error	Error 500 that may not be returned in a redirect. It is returned with this code.
	302	temporarily_unavailable	The authorisation server is temporarily unable to process the request, due to a temporary overload or due to maintenance.
	400	invalid_request	The request is not well formed because parameters are missing, the value is not supported, parameters are repeated, it includes multiple credentials or uses more than one of the client's authentication mechanisms.
	401	invalid_client	Client authentication failure.
	400	invalid_grant	The authorisation provided or the refresh token is invalid, expired, revoked, does not coincide with the redirect URL, or was issued by another client.
	400	unauthorized_client	The authenticated client is not authorised to use this type of authorisation.
	400	unsupported_grant_type	The type of authorisation requested is not supported by the authorisation server.
	400	invalid_scope	The scope requested is invalid, unknown, badly formed or exceeds what is permitted.
<b>PIS</b>	403	PRODUCT_INVALID	The payment product requested is not available for the PSU.
	404	PRODUCT_UNKNOWN	The payment product requested is not supported by the ASPSP
	400	PAYMENT_FAILED	Payment failed. This may be for risk management reasons.
	400	EXECUTION_DATE_INVALID	The requested execution date is not a valid execution date for the ASPSP.

	405	CANCELLATION_INVALID	The directed payment cannot be cancelled. For example, too much time has passed, or there are legal restrictions.
AIS	401	CONSENT_INVALID	The consent was created by the TPP, but it is not valid for the recourse/service requested. Or, the definition of the consent is not complete, or is invalid.
	400	SESSIONS_NOT_SUPPORTED	The combined service indicator does not support the ASPSP to which the request is directed.
	429	ACCESS_EXCEEDED	The accesses to the account have exceeded the accesses allowed per day without a PSU present.
	406	REQUESTED_FORMATS_INVALID	The format requested in the Accept field does not correspond to the formats offered by the ASPSP.
FCS	400	CARD_INVALID	The numbering of the card is unknown by the ASPSP, or is not associated with the PSU.
	400	NO_PIIS_ACTIVATION	The PSU has not activated the account for which it is used by the PIIS associated with the TPP.

## 6.4 Status of the transaction

Code	Name	Description
ACCC	AcceptedSettlementCompleted	The entry in the creditor's account has been completed.
ACCP	AcceptedCustomerProfile	The prior check of the technical validation was correct. The check of the client profile was also correct.
ACFC	AcceptedFundsChecked	As well as the client profile, the availability of funds has been positively checked. Note: needs ISO 20022 approval
ACSC	AcceptedSettlementCompleted	The entry in the debtor's account has been completed. Use: it is used by the first agent (the ASPSP of the ordering party through the HUB) to inform the ordering party that the transaction has been completed.

		Important: the reason for this status is to provide the transaction status, not for financial information. It can only be used after a bilateral agreement.
<b>ACSP</b>	AcceptedSettlementInProgress	The previous controls such as technical validations and the profile of the client were correct, and thus the payment initiation has been accepted for its execution.
<b>ACTC</b>	AcceptedTechnicalValidation	Syntactic and semantic authentication and validation are correct.
<b>ACWC</b>	AcceptedWithChange	The instruction has been accepted, but needs a change; for example, the date or other data has not been sent.  Also to inform that a change has been applied, for example, on the payment initiation, and that the execution date has been changed.
<b>ACWP</b>	AcceptedWithoutPosting	The payment instruction included in the credit transfer has been accepted without being sent to the account of the creditor client.
<b>RCVD</b>	Received	The payment initiation has been received by the agent (the ASPSP through the HUB)
<b>PATC</b>	PartiallyAcceptedTechnicalCorrect	These are payment initiations that have been authorised at least by one PSU, but that have not been finally authorised yet by all the applicable PSUs. (SCA multilevel)  Note: needs ISO 20022 approval
<b>PDNG</b>	Pending	The payment initiation or the individual transaction included in the payment indication is pending. Additional verifications and updates in the status will be carried out.
<b>RJCT</b>	Rejected	The payment initiation or the individual transaction included in the payment initiation has been rejected.
<b>CANC</b>	Cancelled	The start of payment has been cancelled before its execution.  Note: needs ISO 20022 approval
<b>PART</b>		A number of transactions were accepted, while the other number of transactions have not yet reached the "accepted" status.  Note: this code must be used only in the case of bulk payments. It is only used in situations where all the authorisations requested have been applied, but some payments have been rejected.



## 6.5 Consent statuses

Code	Description
<b>received</b>	The consent has been received and is technically correct. The data have not yet been authorised.
<b>rejected</b>	The consent has been rejected.
<b>partiallyAuthorised</b>	Due to a multi-level SCA, some but not all the authorisations needed have been carried out.
<b>valid</b>	The consent is accepted and valid for data read requests and specified in the consent.
<b>revokedByPsu</b>	The consent has been revoked by the PSU to the ASPSP.
<b>expired</b>	The consent has expired.
<b>terminatedByTpp</b>	The corresponding TPP has terminated the consent using the DELETE request on the recourse of the consent created.

## 6.6 Types of authentication

Code	Description
<b>SMS_OTP</b>	SCA method where an OTP associated with the transaction to be authorised is sent to the PSU via an SMS channel.
<b>CHIP_OTP</b>	SCA method where an OTP is generated by an electronic card. Normally the PSU needs a device to use it. After completing the challenge, the device derives an OTP and is shown to the PSU.
<b>PHOTO_OTP</b>	SCA method where the challenge is a QR or visual data codified in a similar way, which can be read by a client device or a specific mobile app. The device or app creates a visual challenge OTP and displays it to the PSU.
<b>PUSH_OTP</b>	The OTP is sent via PUSH to a dedicated authentication APP and displayed to the PSU.

## 6.7 Types of balances

Code	Description
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<b>closingBooked</b>	Account balance at the end of the agreed period for the report. This is the sum of the "openingBooked" balances at the start of the period and all the entries entered into the account during the pre-agreed period for the report.
<b>expected</b> <b>(NOT AVAILABLE)</b>	Transactions composed of annotated entries and the entries pending at the request time.
<b>openingBooked</b> <b>(NOT AVAILABLE)</b>	Account balance at the start of the report period. It is always equal to the "closingBooked" balance of the report for the previous period.
<b>interimAvailable</b>	Balance provisionally available. Calculation based on the entries of credit and debit items during the specified period of time.
<b>interimBooked</b> <b>(NOT AVAILABLE)</b>	Balance calculated during the working day, at the time specified and subject to changes during the day. This balance is calculated based on the credit and debit items entered during the specified time/period.
<b>forwardAvailable</b>	Advance of the cash balance available to the account holder at the specified date.

## 6.8 Types of charge sharing

Code	Description
<b>DEBT</b>	All the transaction charges are payable by the debtor
<b>CRED</b>	All the transaction charges are payable by the creditor
<b>SHAR</b>	Shared charges. The creditor and debtor are responsible for their corresponding charges.
<b>SLEV</b> <b>(NOT AVAILABLE)</b>	The charges applicable follow the rules agreed at the service and/or scheme level

## 6.9 Good practice guide

### 5.21.1 remittanceInformationUnstructured field

This field may be used following the EACT "Association of European Treasurers" standard adopted in BG in the "Mobile P2P Interoperability Framework – Implementation Guidelines v1.0"

The format is as follows:

Field	Description
/DNR/	Debtor's alias
/CNR/	Creditor's alias. (we recommend sending the merchant's FUC)
/DOC/	Reference data for the corresponding request. (The Hub mobilises X-Request-Id of the TPP)
/TXT/	Additional text/item

### Example

"remittanceInformationUnstructured":

"/DOC/db617660-d60d-11e8-9f8b-f2801f1b9fd1/TXT/Purchase in merchant xxx"

## 5.21.2 Life of the scaRedirect link

The Berlin Group recommends a duration of 5 minutes for this type of link.

## 5.22 Mecanismo de fallback

### 5.22.1 Introducción

De cara a un no cumplimiento de lo que marca la normativa, y de las revisiones periódicas del banco de España sobre el rendimiento de los APIs propios de PSD2, en comparación con la misma funcionalidad en nuestros canales, se plantea esta iniciativa cuyo objetivo consiste en disponibilizar un mecanismo de fallback, que básicamente consiste en permitir el acceso directo a nuestra banca distancia a los TPPs, pero identificando a los mismos, es decir, dichos TPPs, tendrían que propagar su certificado eIDAS en alguna cabecera para poder validar que es un certificado válido y permitirles el acceso.

El objetivo es que los TPPs realicen sus llamadas a los ASPSP pudiendo ser identificados y autorizados por éstos últimos mediante su certificado eIDAS, además de verificar la integridad del mensaje.

La propuesta del mecanismo de fallback, debe cubrir los requisitos que ya ha comentado la EBA con respecto a la integridad de los mensajes y no repudio de los mismos, y esto, sobre cada una de las peticiones que se reciban sobre los servicios regulados en el propio canal.

La propuesta de BBVA es que desde el punto de vista del TPP se genere un Hash (resume) con los datos relativos al Path Param (datos de la URL), más los datos del cuerpo del mensaje (body) y posteriormente esta información sea firmada con la clave privada del certificado eIDAS, e incluir los datos correspondientes en diversas cabeceras en las peticiones correspondientes a los servicios regulados por PSD2 al acceder a nuestra banca distancia

Para ello, nos hemos basado en el siguiente estándar:

<https://www.ietf.org/id/draft-cavage-http-signatures-12.txt>

## 5.22.2 TPP

### 5.22.2.1 Inicio de pago y/o agregación de información

El TPP realizará una llamada al ASPSP indicando una consulta de datos, el ASPSP deberá ser capaz de identificar y autorizar

Por parte del TPP se recogen los datos del mensaje y se realiza un HASH del mismo, que posteriormente debe ser firmado con la parte privada del certificado eIDAS e incluido como cabecera en la petición HTTP al ASPSP.

Las cabeceras a usar son las definidas en el estándar de referencia:

- o **request-target**. Con el método y la URI solicitada.
- o **date**. Con el valor de la fecha en la que se firma en formato ISO.
- o **digest**. Un resumen SHA-256 del cuerpo del mensaje si este existe, para el body de las peticiones POST
- o **req-uuid**. UUID con un valor nonce que permite buscar los mensajes y sirve de protección criptográfica.
- o **signature**. Con el cálculo de la firma, y con el formato basado en cavege-11 en base64

## 5.22.3 ASPSP

Para que el TPP pueda consumir un servicio se validan distintos parámetros que proporcionan "No repudio" e "Integridad"

### 5.22.3.1 Integridad

Se realiza un hash del mensaje recibido con el mismo algoritmo que el TPP y se compara con el hash proporcionado por éste.

### 5.22.3.2 No repudio

Puesto que el mensaje viene firmado, se debería validar adicionalmente:

- Que el mensaje ha sido firmado por el emisor, parte pública del certificado
- Que la parte pública del certificado es correcta, es decir que:
  - o El certificado se encuentra en una fecha, superior o igual al periodo de inicio de validez, o inferior o igual al periodo de fin de validez
  - o Que ha sido emitido por una autoridad supervisada a nivel nacional o europeo (QTSPs - Qualified Trusted Service Providers)
  - o Que el certificado no ha sido revocado (CRL/OCSP)

Por último se debería validar que el ROL propio del TPP y obtenido del certificado eIDAS coincide con el rol necesario para consumir ese servicio

Con esta serie de validaciones se garantiza que el mensaje no ha sido modificado por ningún intermediario y la que el emisor del mensaje es verdaderamente quien dice ser, además se comprueba mediante la información del certificado eIDAS que el TPP posee un rol que le permite acceder a la información que está solicitando en la llamada.

#### 5.22.4 Diagrama

