PSD2-TPP Technical Design

Version: 1.9.0

September 2022

Authorisations and version control

Version	Date	Affects	Brief description of the change
1.6.0	February 2019	EVERYTHING	Initial Version
1.6.1	March 2019	EVERYTHING	Messaging changes
1.6.2	June 2019	EVERYTHING	New Brand
1.7.0	September 2019	DESCRIPTION OF CORE SERVICES	New API 3.4 FCS support: Establish consent for the fund confirmation service
1.8.0	December 2020	EVERYTHING	Inclusion of new multi-banking payment APIs
1.8.5	July 2021	INFO ACCOUNT OWNER NEW PRODUCT PAYMENT	Inclusion of the account name owner Inclusion of instant-sepa-credit-transfers
1.9.0	September 2022	NEW PAYMENT PRODUCT	Inclusion of no SEPA payments with exchange forex for Companies only

CONTENTS

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

Acronym	Definition
	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

Service		Functionality
CORE	PIS	Initiate simple single signature payment
		Initiate recurring payments
		Initiate future payments
		Check payment status
		Recover payment initiation information
		Cancel payment
	AIS	Request 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
	FCS	Establish consent
		Recover consent information
		Check consent status
		Remove consent
		Fund confirmation
	SCA	SCA by redirected flow
	OAUTH	Obtain access token
		Renew access token

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

Table 1: Value-added services

Service		Functionality
MP	PIS	Initiate multi-bank payments
		Check multi-bank payment status
		Recover multi-bank payment initiation information
		Cancel multi-bank payment
		Multi-bank payment catalogues
		Check the value to be paid to Social Security

Table 3: Multi-bank payment 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: • sepa-credit-transfers • target-2-payments (companies only) • instant-sepa-credit-transfers (companies only) • cross-border-credit-transfers (companies only)	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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID	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	OPN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^.{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request	String	OPN	^.{1,50}$ E.g. PSU-

	between the PSU and the TPP.			Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP. NOTE: Mandatory if instant-sepa-credit-transfers	String	OPN/MAN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	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. NOTE: Mandatory if instant-sepa-credit-transfers	String	OPN/MAN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$

				E.g. PSU-Geo-Location: GEO:90.023856;25.345963
TPP-Redirect-URI	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"
TPP-Nok-Redirect-URI	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	OPN	^.{1,250}$ E.g. TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok"
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ== =
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTEL

				MAkGA1UEBhMCVVMxEzARBgNVBA

Body

3.2 The content of the Body is that defined in 6.22 ServicePaymentEntity

Set of generic parameters of the payment service to be taken into account in the definition of the TPP interface.

Field	Description	Type	Man.	Format
servicePaymentName	Payment service name	String	MAN	E.g. "servicePaymentName" : "Myrtie Munoz"
minimumAmount	Indicates the minimum Payment Service amount. The minimum amount accepted is 0.01	Amount	MAN	E.g. "minimumAmount": {…}
maximumAmount	Indicates the maximum Payment Service amount. The maximum amount accepted is 99999.99	Amount	MAN	E.g. "maximumAmount": {…}
entityCode	Entity code	Integer	MAN	E.g. "entityCode": 12345
paymentType	Payment type. It will have a value of 1.	Integer	MAN	^.{1,1}$ E.g. "paymentType": 1

SinglePayment.

3.2.1.1 Response

Header

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

				-id}
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • REDIRECT	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
transactionStatus	Status of the transaction. Values defined in annexes in 7.4 Status of the transaction	String	MAN	**ISO 20022** E.g. "transactionStatus": "RCVD"
paymentId	Identifier of the resource that references the payment initiation.	String	MAN	^.{1,36}$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
transactionFees	Fees associated with the payment.	Amount	OPN	E.g. "transactionFees": {…}
transactionFeeIndicator	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	OPN	E.g. "transactionFeeIndicator": true
_links	List of hyperlinks to be recognised by the TPP. Types supported in	Links	MAN	E.g. "_links": {…}

	this response: • scaRedirect: in case of SCA by redirection, Link where the PSU navigator must be redirected by the TPP. • self: link to the resource created by this request. • status: link to recover the transaction status.			
psuMessage	Text to show to the PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.2.1.2 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
```

```
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount":"153.50"
      },
      "debtorAccount": {
            "iban": "ES1111111111111111111111"
      },
      "creditorAccount": {
            "iban":"ES2222222222222222222222"
      },
      "creditorName": "Name 123",
      "remittanceInformationUnstructured": "Additional information"
}
```

3.2.2 Initiation of future payment

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

3.2.2.1 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. 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 • target-2-payments	String	MAN	E.g. {provider}/{aspsp}/v1/payments/sepa-credit-transfers/

	(companies only) • instant-sepa-credit-transfers (companies only) • cross-border-credit-transfers (companies only)			

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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID	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	OPN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP. If it is not available, the	String	MAN	^[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}$

	TPP must use the IP address used by the TPP when it sends this request.			E.g. PSU-IP-Address: 192.168.16.5
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^.{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP. NOTE: Mandatory if instant-sepa-credit-transfers	String	OPN/MAN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	UUID (Universally Unique Identifier) for the device. The UUID identifies the	String	OPN/MAN	**UUID** ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-

	device or an installation of an application in a device. This ID must not be modified until the device application is uninstalled. NOTA: Mandatory if instant-sepa-credit-transfers			F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$ E.g. PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
TPP-Redirect-URI	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"
TPP-Nok-Redirect-URI	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	OPN	^.{1,250}$ E.g. TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok"
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU

				3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

3.3 The content of the Body is defined in 6.22 ServicePaymentEntity

Set of generic parameters of the payment service to be taken into account in the definition of the TPP interface.

Field	Description	Type	Man.	Format
servicePaymentName	Payment service name	String	MAN	E.g. "servicePaymentName" : "Myrtie Munoz"
minimumAmount	Indicates the minimum Payment Service amount. The minimum amount accepted is 0.01	Amount	MAN	E.g. "minimumAmount": {…}
maximumAmount	Indicates the maximum Payment Service amount. The maximum amount accepted is 99999.99	Amount	MAN	E.g. "maximumAmount": {…}
entityCode	Entity code	Integer	MAN	E.g. "entityCode": 12345
paymentType	Payment type. It will have a value of 1.	Integer	MAN	^.{1,1}$ E.g. "paymentType": 1

SinglePayment and the following parameter must also be entered:

Field	Description	Type	Man.	Format
requestedExecutionDate	The payment will be executed on the reported date. **Note**: this field must be entered.	String	OPN	**ISODate** E.g. "requestedExecutionDate":" 2019-01-12"

3.3.1.1 Response

Header

Field	Description	Type	Man.	Format
Location	Contains the link to the resource generated.	String	MAN	**Max512Text** E.g. Location: /v1/payments/{payment-product}/{payment-id}
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • REDIRECT	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
transactionStatus	Status of the transaction. Values defined in annexes in 7.4 Status of the transaction	String	MAN	**ISO 20022** E.g. "transactionStatus": "RCVD"
paymentId	Identifier of the resource that references the	String	MAN	^.{1,36}$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-

	payment initiation.			946e-d75958b172e7"
transactionFees	Fees associated with the payment.	Amount	OPN	E.g. "transactionFees": {…}
transactionFeeIndicator	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	OPN	E.g. "transactionFeeIndicator": true
_links	List of hyperlinks to be recognised by the HUB. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the Hub. • self: link to the resource created by this request. • status: link to recover the transaction status.	Links	MAN	E.g. "_links": {…}
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.3.1.2 Examples

Example of redirection for SCA via redirection

```
POST https://hub.example.es/aspsp-name/v1/payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
```

```
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://tpp.example.es/cb
TPP-Nok-Redirect-URI: https://tpp.example.es/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount":"153.50"
      },
      "debtorAccount": {
            "iban":"ES1111111111111111111111"
      },
      "creditorAccount": {
            "iban":"ES2222222222222222222222"
      },
      "creditorName": "Name 123",
      "remittanceInformationUnstructured": "Additional information",
      "requestedExecutionDate":"2019-01-12"
}
```

3.3.2 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

3.3.2.1 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	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
Content-Type	Value: application/json	String	MAN	Content-Type: application/json
X-Request-ID	Unique transaction identifier 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]{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 2YotnFZFEjr1zCsicMWpAA
Consent-ID	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	OPN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^.{1,5}$ E.g. PSU-IP-Port: 443

PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	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	OPN	**UUID** ^[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

PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856; 25.345963
TPP-Redirect-URI	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"
TPP-Nok-Redirect-URI	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	OPN	^.{1,250}$ E.g. TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok"
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugA

				wIBAgIIZzZvBQlt 0UcwDQYJ…… .KoZIhvcNAQELB QAwSTELMAkGA 1UEBhMCVVMxEz ARBgNVBA

Body

3.4 The content of the body is defined in 6.22 ServicePaymentEntity

Set of generic parameters of the payment service to be taken into account in the definition of the TPP interface.

Field	Description	Type	Man.	Format
servicePaymentName	Payment service name	String	MAN	E.g. "servicePaymentName" : "Myrtie Munoz"
minimumAmount	Indicates the minimum Payment Service amount. The minimum amount accepted is 0.01	Amount	MAN	E.g. "minimumAmount": {…}
maximumAmount	Indicates the maximum Payment Service amount. The maximum amount accepted is 99999.99	Amount	MAN	E.g. "maximumAmount": {…}
entityCode	Entity code	Integer	MAN	E.g. "entityCode": 12345
paymentType	Payment type. It will have a value of 1.	Integer	MAN	^.{1,1}$ E.g. "paymentType": 1

SinglePayment together with the following definitions:

Field	Description	Type	Man.	Format
startDate	The first execution date applicable after this date is the first payment	String	MAN	**ISODate** E.g. "startDate":"2018-12-20"
executionRule	Supported values: • following	String	OPN	E.g. "executionRule":"follow

	• preceding Defines the behaviour when the recurring payment dates are at the weekend or on a bank holiday. The payment is then executed on the preceding or following business day. The ASPSP may reject the request due to the notified value if the Online Banking rules do not support this execution rule.			ing"
endDate	The last applicable execution day. If there is none it is a permanent order without an end date.	String	OPN	**ISODate** E.g. "endDate":"2019-01-20"
frequency	The frequency of the recurring payment resulting from this permanent order. Permitted values: • Daily • Weekly • EveryTwoWeeks • Monthly • EveryTwoMonths • Quarterly • Annual	String	MAN	**ISO 20022 EventFrequency7Code** E.g. "frequency":"Monthly"

3.4.1.1 Response

Header

Field	Description	Type	Man.	Format
Location	Contains the link to the resource generated.	String	MAN	^.{1,512}$ E.g. Location: /v1/periodic-payments/{payment-product}/{payment-id}
X-Request-	Unique transaction identifier assigned by	String	MAN	**UUID**

ID	the TPP.			^[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
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • REDIRECT	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
transactionStatus	Status of the transaction. Values defined in annexes in 7.4 Status of the transaction	String	MAN	**ISO 20022** E.g. "transactionStatus": "RCVD"
paymentId	Identifier of the resource that references the bulk payment initiation.	String	MAN	^.{1,36}$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
transactionFees	Fees associated with the payment.	Amount	OPN	E.g. "transactionFees": {…}
transactionFeeIndicator	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	OPN	E.g. "transactionFeeIndicator": true
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be	Links	MAN	E.g. "_links": {…}

	redirected by the TPP. • self: link to the resource created by this request. • status: link to recover the transaction status.			
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.4.1.2 Examples

Example of redirection for SCA via redirection

```
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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://tpp.example.es/cb
TPP-Nok-Redirect-URI: https://tpp.example.es/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
      "currency": "EUR",
            "amount":"153.50"
      },
      "creditorAccount": {
            "iban":"ES2222222222222222222"
      },
      "creditorName": "Name 123",
      "remittanceInformationUnstructured":"Additional information",
      "startDate": "2018-03-01",
      "executionRule": "preceeding",
```

```
      "frequency": "Monthly",
      "dayOfExecution":"01"
}
```

3.4.2 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.

3.4.2.1 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: • periodic-payments	String	MAN	E.g. {provider}/{aspsp}/v1/payments
payment-product	Payment product to be used. List of supported products: • sepa-credit-transfers • target-2-payments (only payments) • instant-sepa-credit-transfers (companies only) • cross-border-credit-transfers (companies only)	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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Accept	Response format supported. Supported values: • application/json	String	OPN	^.{1,50}$ E.g. Accept: application/json
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES

PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP.	String	MAN	See annexes

	See 7.1 Signature for more information.			
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

3.4.2.2 Response

Header

Field	Description	Type	Man.	Format
X-Request-ID	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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

Field	Description	Type	Man.	Format
transactionStatus	Status of the payment transaction. Values defined in 7.4 Transaction statuses	String	MAN	**ISO20022** E.g. "transactionStatus": "ACCP"
fundsAvailable	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: • ATCT • ACWC	Boolean	COND	E.g. "fundsAvailable": true

	• ACCP			
psuMessage	Text to show to the PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP.	List<TppMessage>	OPN	E.g. "tppMessages":[…]

3.4.2.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example 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
}
```

3.4.3 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.

3.4.3.1 Request

Endpoint

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

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: • payments • periodic-payments	String	MAN	E.g. {provider}/{aspsp}/v1/payments
payment-product	Payment product to be used. List of supported products: • sepa-credit-transfers • target-2-payments (companies only) • instant-sepa-credit-transfers (companies only) • cross-border-credit-transfers (companies only)	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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate:

				MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……..KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

3.4.3.2 Response

Header

Field	Description	Type	Man.	Format
X-Request-ID	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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

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

- 3.1.1 Payment initiation
- 3.2.2 Future payment initiation
- 3.1.3 Initiation of permanent orders for recurring/periodic payments

Plus the following:

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

3.4.3.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example 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":"ES1111111111111111111111"
      },
      "creditorAccount": {
            "iban":"ES2222222222222222222222"
      },
      "creditorName": "Name 123",
```

```
    "remittanceInformationUnstructured": "Additional information",
    "transactionStatus": " ACCP"
}
```

3.4.4 Cancel payment initiation

This request is send 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.

3.4.4.1 Request

Endpoint

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

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP 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: • periodic-payments	String	MAN	E.g. {provider}/v1/payments
paymentId	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
X-Request-ID	Unique identifier of the request assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP. NOTE: Mandatory if instant-sepa-credit-	String	OPN/MAN	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

	transfers			3.5.30729)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: DELETE
PSU-Device-ID	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. NOTE: Mandatory if instant-sepa-credit-transfers	String	OPN/MAN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-	The TPP certificate used to sign the	String	MAN	^.{1,5000}$

Certificate	request, in base64.			E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

3.4.4.2 Response

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP.	String	MAN	**UUID** ^[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
transactionStatus	Status of the transaction. Values defined in annexes in 7.4 Status of the transaction	String	MAN	**ISO 20022** E.g. "transactionStatus": "CANC"
scaMethods	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 "startAuthorisationWithAuthenticationMethodSelection" will also be informed. These methods must	List<AuthenticationObject>	COND	E.g. "scaMethods": […]

	be presented to the PSU. **Note:** Only if ASPSP supports selection of the SCA method			
_links	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. • startAuthorisation: if an explicit initiation of the transaction authorisation is necessary (there is no selection of the SCA method)	Links	COND	E.g. "_links": {…}
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.4.4.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
```

```
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
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"
            }
      }
}
```

3.5 AIS: Service to establish consent for account information

3.5.1 Characteristics of the consent

3.5.1.1 Consent model

Model	Description

Detailed consent	**Request consent for the accounts indicated** Create a consent, which the ASPSP must store, requesting access for the accounts indicated and with the requested access. If there was already consent, this consent will expire and the new agreement will enter into force when authorised by the PSU. The accounts for which consent is requested to access the "balances" and/or "transactions" are also assumed to have the "accounts" access type.
Global consent	**Request consent for the list of available accounts** 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". 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". It is a once-time-only consent to obtain the list of available accounts. It will not give details of the accounts. **Request consent to obtain access to all the accounts for all the PSD2 AIS services** Request access for all the PSU accounts available on all the PSD2 AIS services. The accounts are not indicated by the TPP. 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". Through the HUB, the TPP may recover this information managed between ASPSP and PSU, making a request to recover consent information.

Bank-offered consent	**Request consent without indicating the accounts** 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. 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. 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. Through the HUB, the TPP may recover this information managed between ASPSP and PSU, making a request to recover consent information.

3.5.1.2 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")

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.

3.5.2 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.

3.5.2.1 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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP	String	OPN	^\\d{1,5}$

	request between the PSU and the TPP, if available.			E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	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	OPN	**UUID** ^[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

PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
TPP-Redirect-URI	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"
TPP-Nok-Redirect-URI	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	OPN	^.{12,50}$ E.g. TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok"
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……..KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVB

				A

Body

Field	Description	Type	Man.	Format
access	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":{…}
recurringIndicator	Possible values: • true: recurring access to the account. • false: once-only access.	Boolean	MAN	E.g. "recurringIndicator":true
validUntil	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	**ISODate** E.g. "validUntil":"2018-05-17"
frequencyPerDay	Indicates the frequency of access to the account every day. 1 if it is one-use only.	Integer	MAN	E.g. "frequencyPerDay":4
combinedServiceIndicator	Indicator that a payment initiation will be carried out in the same session.	Boolean	MAN	E.g. "combinedServiceIndicator": false

3.5.2.2 Response

Header

Field	Description	Type	Man.	Format
Location	Contains the hyperlink to the resource generated	String	MAN	**Max512Text** E.g. Location: /v1/consents/{consentId}
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • REDIRECT	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
consentStatus	Consent authentication status. See values defined in 7.5 Consent statuses	String	MAN	E.g. "consentStatus": "received"
consentId	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"
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the	Links	MAN	E.g. "_links": {…}

	TPP. • self: link to the resource created by this request. • status: link to recover the transaction status.			
psuMessage	Text to show to the PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.5.2.3 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-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "access": {
```

```
            "balances": [
            {
                  "iban": "ES1111111111111111111111"
            },
            {
                  "iban": "ES2222222222222222222222",
                  "currency":"USD"
            },
            {
                  "iban": "ES3333333333333333333333"
            }
            ],
            "transactions": [
            {
                  "iban": "ES1111111111111111111111"
            }
            ]
      },
      "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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
```

```
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "access": {
            "availableAccounts": "allAccounts"
      },
      "recurringIndicator": false,
      "validUntil": "2018-05-17",
      "frequencyPerDay":1
}
```

3.5.3 Obtain consent status

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

3.5.3.1 Request

Endpoint

GET {provider}/{aspsp}/v1/consents/{consent-id}/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
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.123-qwerty-456

Query parameters

No additional fields are specified.

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the request assigned by the	String	MAN	**UUID**

	TPP.			^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856; 25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==

Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……..KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are sent.

3.5.3.2 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
X-Request-ID	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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

Field	Description	Type	Man.	Format
consentStatus	Consent authentication status. See values defined in 7.5 Consent statuses	String	MAN	E.g. "consentStatus":" valid"
psuMessage	Text to show to the PSU	String	OPN	^.{1,512}$ E.g.

				"psuMessage": "Information for PSU"
tppMessages	Message for the TPP	List<TppMessage>	OPN	E.g. "tppMessages":[…]

3.5.3.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example 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"
}
```

3.5.4 Recover consent information

3.5.4.1 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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	String	OPN	**UUID** ^[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.

	device application is uninstalled.			PSU-Device-ID: 5b3ab8e8-0fd5-43d2-946e-d75958b172e7
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……..KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are sent.

3.5.4.2 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
X-Request-	Unique	String	MAN	**UUID**

ID	identifier of the request assigned by the TPP.			^[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
access	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": {…}
recurringIndicator	Possible values: • true: recurring access to the account. • false: once-only access.	Boolean	MAN	E.g. "recurringIndicator": true
validUntil	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	**ISODate** E.g. "validUntil":"2018-05-17"
frequencyPe	Indicates the frequency of access to	Integer	MAN	E.g.

rDay	the account every day. 1 if it is one-time-only access.			"frequencyPerDay":4
lastActionDate	Date of the last modification made to the consent.	String	MAN	**ISODate** E.g. "lastActionDate":"2018-01-01"
consentStatus	Consent authentication status. Values defined in annexes.	String	MAN	E.g. "consentStatus":"valid"
psuMessage	Text to show to the PSU	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP	List<TppMessage>	OPN	E.g. "tppMessages":[…]

3.5.4.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example 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": "ES1111111111111111111111"
            },
            {
                  "iban": "ES2222222222222222222222",
                  "currency":"USD"
            },
            {
                  "iban": "ES3333333333333333333333"
            }
            ],
            "transactions": [
            {
                  "iban": "ES1111111111111111111111"
            }
            ]
      },
      "recurringIndicator": true,
      "validUntil": "2018-05-17",
      "frequencyPerDay": 4,
      "lastActionDate": "2018-01-17",
      "consentStatus": "valid"
}
```

Example 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"
}
```

3.5.5 Remove consent

3.5.5.1 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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication	String	MAN	E.g. Authorisation: Bearer

	on OAuth2.			2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: DELETE
PSU-Device-	UUID (Universally	String	OPN	**UUID**

ID	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.			^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are sent.

3.5.5.2 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
X-Request-ID	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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

No additional fields are specified.

3.5.5.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: DELETE
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example of response

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

3.6 AIS: Account data reading service

3.6.1 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	This type of access is associated with once-only consents. If the consent associated with the request has this type of access, it will be a once-only consent and may be obtained: • List of all the available PSU accounts. The following may not be obtained: • Account balances (unless supported by the ASPSP) • Links to the endpoint of balances or transactions
availableAccountsWithBalances	This type of access is associated with once-only consents. If the consent associated with the request has this type of access, it will be a once-only consent and may be obtained: • List of all the available PSU accounts. • Account balances (unless supported by the ASPSP) The following may not be obtained: • Links to the endpoint of balances or transactions
account	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.
balances	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.
transactions	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.
allPsd2	If the consent associated with the request has this type of access, the accounts included in the consent may be listed and their balances may be obtained. Note: allPsd2 grants the three types of access.

3.6.1.1 Request

Endpoint

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

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

Field	Description	Type	Man.	Format
withBalance	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	OPN	E.g. true

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{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 2YotnFZFEjr1zCsicMWpAA
Consent-ID	Identifier of the consent obtained in the transaction requesting	String	MAN	^.{1,36}$ E.g. Consent-ID:

	consent.			7890-asdf-4321
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH	String	OPN	E.g. PSU-Http-Method: GET

	• DELETE			
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ.....KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEz

				ARBgNVBA

Body

Data are not sent in the body in this request.

3.6.1.2 Response

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

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

3.6.1.3 Examples

Example of request to obtain list of accessible PSU accounts

```
GET https://www.hub.com/aspsp-name/v1/accounts
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
```

```
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example of 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",
            "cashAccountType": "CACC",
            "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",
            "cashAccountType": "CACC",
            "name": "US Dollar Account",
            "_links": {
                  "balances": {
                        "href":  "/v1/accounts/3dc3d5b3-7023-4848-9853-
                  f5400a64e81g/balances"
                  }
            }
      }
      ]
}
```


3.6.2 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.

3.6.2.1 Request

Endpoint

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

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
account-id	Identifier of the account assigned by the ASPSP	String	MAN	^.{1,100}$ E.g. account-id=a1q5w

Query parameters

Field	Description	Type	Man.	Format
withBalance	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	OPN	E.g. true

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
Authorisation	Bearer Token. Obtained in a prior authentication	String	MAN	E.g. Authorisation:

	on OAuth2.			Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID	Identifier of the consent obtained in the transaction requesting consent.	String	MAN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP.	String	OPN	E.g. PSU-Http-Method: GET

	Permitted values: • POST • GET • PUT • PATCH • DELETE			
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856; 25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate:

				MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Data are not sent in the body in this request.

3.6.2.2 Response

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

Field	Description	Type	Mand.	Format
account	Detailed information on the account	Account Details	MAN	E.g. "account": {…}
psuMessage	Text to show to the PSU	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.6.2.3 Examples

Example of request

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

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

Example the response

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

```
                        }
                    }
                }
            }
```

3.6.3 Reading balances

Este servicio permite obtener los balances de una cuenta determinada por su identificador.

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.

3.6.3.1 Request

Endpoint

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

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

account-id	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

No additional fields are specified.

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{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 2YotnFZFEjr1zCsicMWpAA
Consent-ID	Identifier of the consent obtained in the transaction requesting consent.	String	MAN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port:

	available.			443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856; 25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……..KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Data are not sent in the body in this request.

3.6.3.2 Response

Header

Field	Description	Type	Man.	Format
X-Request-	Unique transaction	String	MAN	**UUID**

ID	identifier assigned by the TPP.			^[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	Mand.	Format
account	Identifier of the account that is being queried. Note: its use is recommended, as it could become a mandatory parameter in future versions.	AccountReference	OPN	E.g. "account": {…}
balances	A list of balances with respect to an account.	List<Balance>	MAN	E.g. "balances": {…}
psuMessage	Text to show to the PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP.	List<TppMessage>	OPN	E.g. "tppMessages" :[…]

3.6.3.3 Examples

Example of request

```
GET https://www.hub.com/aspsp-name/accounts/3dc3d5b3-7023-4848-9853-f5400a64e81g/balances
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
```

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

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

3.6.4 Read 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.

3.6.4.1 Request

Endpoint

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

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
account-id	Identifier of the account that will be used in the data reading. Obtained previously in	String	MAN	^.{1,100}$ E.g. account-id=a1q5w

	the reading of the account list. Must be valid at least while the consent lasts. This id may be tokenised.			

Query parameters

Field	Description	Type	Man.	Format
dateFrom	Start date of query. It is included if the "deltaList" is not included.	String	COND	**ISODate** E.g. dateFrom=2017-10-25
dateTo	End date of query. Its default value is the current date, unless otherwise indicated.	String	OPN	**ISODate** E.g. dateTo=2017-11-05
bookingStatus	Status of the returned transactions. The status codes permitted are "booked", "pending" and "both". Those mandatory for the ASPSPs are "booked".	String	MAN	E.g. bookingStatus=booked
withBalance	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	OPN	E.g. true

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{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 2YotnFZFEjr1zCsicMWpAA
Consent-ID	Identifier of the consent obtained in the transaction requesting consent.	String	MAN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321
Accept	Formats supported by the ASPSP. The TPP may indicate the order and type. Supported values: application/json	String	OPN	^.{1,50}$ E.g. Accept: application/json
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856; 25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU

				3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……..KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Data are not sent in the body in this request.

3.6.4.2 Response

Header

Field	Description	Type	Man.	Format
Content-Type	Possible values: application/json	String	MAN	E.g. Content-Type: application/json
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

Field	Description	Type	Man.	Format
account	Identifier of the account that is being	AccountReference	OPN	E.g. "account": {…}

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

3.6.4.3 Examples

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

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

```
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example of response with pagination

```
HTTP/1.1 200 Ok
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:50 GMT
Content-Type: application/json
{
      "account": {
            "iban": "ES1111111111111111111111"
      },
      "transactions": {
            "booked": [
            {
                  "transactionId": "1234567",
                  "creditorName": "John Miles",
                  "creditorAccount": {
                        "iban": "ES1111111111111111111111"
                  },
                  "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[siz
      e]=15
      },
      "previous": {
            "href":                          "/v1/accounts/
      qwer3456tzui7890/transactions?page[number]=2&page[siz
      e]=15"
      },
      "next": {
            "href":                          "/v1/accounts/
      qwer3456tzui7890/transactions?page[number]=4&page[siz
      e]=15"
```

```
                    },
                    "last": {
                          "href":                          "/v1/accounts/
                    qwer3456tzui7890/transactions?page[number]=10&page[si
                    ze]=15"
                    }
              }
        }
}
```


Example of response with error


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


3.7 FCS: Establish consent for the fund confirmation service

3.7.1 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.

NOTE: This consent applies to the V2 version of funds confirmation to be defined in section 3.6

3.7.1.1 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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8

PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
TPP-Redirect-Preferred	If "true", the TPP has communicated to the HUB that it prefers SCA via redirection.	Boolean	OPN	E.g. TPP-Redirect-Preferred: true

	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. If the parameter is not used, the ASPSP will choose the SCA flow to be applied, depending on the SCA method chosen by the TPP/PSU. **EMBEDDED NOT SUPPORTED IN THIS VERSION**			
TPP-Redirect-URI	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. Requires the domain of this URL to be the same as that of the content in the TPP website certificate.	String	COND	^.{1,250}$ E.g. TPP-Redirect-URI":"https://tpp.example.es/cb"
TPP-Nok-Redirect-URI	If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection. Requires the domain of this URL to be the same as that of the content in the TPP website certificate.	String	OPN	^.{12,50}$ E.g. TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok"
Digest	It is contained if it carries the Signature	String	MAN	^.{1,100}$ E.g. Digest: SHA-

	field. See 7.1 Signature for more information.			256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……..KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Field	Description	Type	Man.	Format
account	Account on which the fund query will be carried out.	Account Reference	MAN	E.g. "access": {…}
cardNumber	Card number of the card issued by the PIISP. Must be sent if available.	String	OPN	^.{1,35}$
cardExpiryDate	Expiry date of the card issued by the PIISP.	String	OPN	**ISODate** E.g. "validUntil":"2018-05-17"
cardInformation	Additional product information.	String	OPN	^.{1,140}$
registrationInformation	Additional information about the registration process for the PSU. E.g. a reference to the agreement between the TPP and PSU	String	OPN	^.{1,140}$

3.7.1.2 Response

Response code

HTPP 201 response code if the resource is correctly created.

Header

Field	Description	Type	Man.	Format
Location	Contains the hyperlink to the resource generated	String	MAN	**Max512Text** E.g. Location: /v2/consents/confirmation-of-funds/{consentId}
X-Request-ID	Unique transaction identifier assigned by the TPP.	String	OB	**UUID** ^[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
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • REDIRECT The SCA based on OAuth will be taken as REDIRECT.	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
consentStatus	Consent status. See values defined in 7.5 Consent statuses	String	MAN	E.g. "consentStatus": "received"
consentId	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"
scaMethods	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 "startAuthorisationWith	List<AuthenticationObject>	COND	E.g. "scaMethods": […]

	AuthenticationMethodSelection" will also be informed. These methods must be presented to the PSU. **Note:** Only if ASPSP supports selection of the SCA method			
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP. • self: link to the resource created by this request. • status: link to recover the transaction status.	Links	MAN	E.g. "_links": {…}
psuMessage	Text to show to the PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.7.1.3 Examples

Example of consent request

```
POST https://www.hub.com/aspsp-name/v2/consents/confirmation-of-funds
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
```

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

3.7.2 Obtain consent status

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

3.7.2.1 Request

Endpoint

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

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.123-qwerty-456

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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json

PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d

	the TPP.			]*$ E.g. PSU-Geo-Location: GEO:90.023856; 25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are sent.

3.7.2.2 Response

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

Response code

HTPP 200 response code.

Header

Field	Description	Type	Man.	Format
X-Request-ID	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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

Field	Description	Type	Man.	Format
consentStatus	Consent authentication status. See values defined in 7.5 Consent statuses	String	MAN	E.g. "consentStatus":" valid"
psuMessage	Text to show to the PSU	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP	List<TppMessage>	OPN	E.g. "tppMessages":[…]

3.7.2.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
```

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

Example 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"
}
```

3.7.3 Recover consent information

3.7.3.1 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
X-Request-ID	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]{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 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request	String	OPN	^.{1,50}$ E.g. PSU-Accept-

	between the PSU and the TPP.			Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==

Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are sent.

3.7.3.2 Response

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

Response code

HTPP 200 response code.

Header

Field	Description	Type	Man.	Format
X-Request-ID	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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

Field	Description	Type	Man.	Format
account	Account on which the fund query will be carried out.	Account Reference	MAN	E.g. "access": {…}

cardNumber	Card number of the card issued by the PIISP. Must be sent if available.	String	OPN	^.{1,35}$
cardExpiryDate	Expiry date of the card issued by the PIISP.	String	OPN	**ISODate** E.g. "validUntil":"2018-05-17"
cardInformation	Additional product information.	String	OPN	^.{1,140}$
registrationInformation	Additional information about the registration process for the PSU. E.g. a reference to the agreement between the TPP and PSU	String	OPN	^.{1,140}$
consentStatus	Consent status. Values defined in annexes.	String	MAN	E.g. "consentStatus":"valid"
psuMessage	Text sent to TPP to be shown to the PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP.	List<TppMessage>	OPN	E.g. "tppMessages":[…]

3.7.3.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
```

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

Example 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 contract Number 1234 with MyMerchant is completed with the registration with your bank."
      "consentStatus": "valid"
}
```

3.7.4 Revoke consent

3.7.4.1 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
X-Request-ID	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]{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 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request	String	OPN	^.{1,50}$ E.g. PSU-Accept-

	between the PSU and the TPP.			Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: DELETE
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==

Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are sent.

3.7.4.2 Response

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

Response code

HTPP 204 response code for correct cancellation.

Header

Field	Description	Type	Man.	Format
X-Request-ID	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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

No additional fields are specified.

3.7.4.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: DELETE
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example of response

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

3.8 FCS: Fund Confirmation Service (v1)

3.8.1 Fund query

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.

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.

3.8.1.1 Request

Endpoint

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

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

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{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 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for	String	MAN	See annexes

	more information.			
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,512}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Field	Description	Type	Mand.	Format
cardNumber	Numbering of the card issued by the PIISP. Must be sent if available.	String	OPN	E.g. "cardNumber": "1111-1111-1111-1111"
account	PSU account number.	AccountReference	MAN	E.g. "account": {"iban":"ES1111111111111111111"}
payee	Merchant where the card is accepted as information for the PSU.	String	OPN	^.{1,70}$ E.g. "payee":"Merchant name"
instructedAmount	Contains the amount and currency to query.	Amount	MAN	E.g. "instructedAmount": {…}

3.8.1.2 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
Location	Contains the link to the resource generated.	String	MAN	
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the	String	MAN	**UUID** ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-

	HUB to the ASPSP.			[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

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

3.8.1.3 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":"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
}
```

3.9 FCS: Fund Confirmation Service (v2)

3.9.1 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.

3.9.1.1 Request

Endpoint

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

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

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique transaction identifier 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]{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. Only if the consent management has been carried out through the API.	String	COND	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID	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
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==

	information.			
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,512}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Field	Description	Type	Mand.	Format
cardNumber	Numbering of the card issued by the PIISP. Must be sent if available.	String	OPN	E.g. "cardNumber": "1111-1111-1111-1111"
account	PSU account number.	AccountReference	MAN	E.g. "account": {"iban":"ES1111111111111111111"}
payee	Merchant where the card is accepted as information for the PSU.	String	OPN	^.{1,70}$ E.g. "payee":"Merchant name"
instructedAmount	Contains the amount and currency to query.	Amount	MAN	E.g. "instructedAmount": {…}

3.9.1.2 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
Location	Contains the link to the resource generated.	String	MAN	

X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP.	String	MAN	**UUID** ^[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
fundsAvailable	Takes the "true" value if there are sufficient funds available at the time of the request. otherwise "false".	Boolean	MAN	E.g. "fundsAvailable": true
tppMessages	Message for the TPP.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.9.1.3 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
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID: 7890-asdf-4321
Date: Sun, 17 Oct 2017 13:15:17 GMT
{
      "cardNumber": "87432569872156",
      "account": {
            "iban":"ES1111111111111111111111"
      },
      "payee": "Name123",
      "instructedAmount": {
            "currency": "EUR",
            "amount":"153.50"
      }
```

```
}
```

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
}
```

3.10 OAuth2 as pre-step

3.10.1 Obtain authorisation

3.10.1.1 Request

The TPP redirects the PSU's browser so that it carries out the following request (redirection) to the HUB:

Endpoint

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

Path

Field	Description	Type	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

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

client_id	organizationIdentifier" provided in the eIDAS certificate formed as: - PSD - 2 characters from the NCA country code (according to ISO 3166) - Character "-" - 2-8 characters for the NCA identifier (A-Z in upper case) - Character "-" - PSP identifier	String	MAN	^.{1,70}$ E.g. client_id=PSDES-BDE-3DFD246
scope	Possible scope: • PIS • AIS • SVA May indicate more than one, separated by a space (%20).	String	MAN	^.{1,64}$ E.g. scope=PIS%20AIS%20SVA
state	Opaque value generated by the TPP. Used to prevent "cross-site request forgery" XSRF attacks.	String	MAN	^.{1,64}$ E.g. state=XYZ
redirect_uri	URL returned to the HUB where it will report the authorisation "code" that will be used subsequently to obtain the access token.	String	MAN	^.{1,250}$ E.g. redirect_uri=https%3A%2F%2Fwww%2Etpp%2Ecom%2Fcb
code_challenge	PKCE challenge used to prevent code injection attacks. According to RFC 7636.	String	MAN	^.{1,128}$ E.g. code_challenge=E9Melhoa2OwvFrEMTJguCHaoeK1t8URWbuGJSstw-cM
code_challenge_method	Method to verify the code that may be "plain" or "S256". S256 (SHA 256) preferred	String	OPN	^.{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.

3.10.1.2 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
Location	Contains the URL where the redirection is carried out to the TPP.	String	MAN	E.g. Location: https://www.tpp.com/cb
code	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=SplxlOBeZQQYbYS6WxSbIA
state	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.

3.10.1.3 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: https://www.tpp.com/cb
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.

3.10.1.4 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
```

Example of OK response

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

Example of NOK response

```
HTTP/1.1 302 Found
Location: https://www.tpp.com/cb?error=access_denied&state=xyz
```

3.10.2 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.

3.10.2.1 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=authorization_code
client_id	"organizationIdentifier" provided in the eIDAS certificate formed as: - PSD - 2 characters from the NCA country code (according to ISO 3166) - Character "-" - 2-8 characters for the NCA identifier (A-Z in upper case)	String	MAN	^.{1,70}$ E.g. client_id=PSDES-BDE-3DFD246

	- Character "-" - PSP identifier			
code	Authorisation code returned by the ASPSP in the previous application requesting an authorisation code	String	MAN	^.{1,64}$ E.g. code=SplxlOBeZQQY bYS6WxSbIA
redirect_uri	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%2Etpp%2Ecom%2Fcb
code_verifier	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.

3.10.2.2 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
access_token	Access token issued by the HUB and joined to the scope that was requested in the request and confirmed	String	MAN	^.{1,64}$ E.g. "access_token":"2YotnFZFEjr1zCsicMWpAA"

	by the PSU.			
token_type	Type of token issued. Will take the value "Bearer".	String	MAN	E.g. "token_type":"Bearer"
expires_in	Life of the access token in seconds.	Integer	OPN	E.g. "expires_in":300
refresh_token	Refresh token. May be used to obtain a new access token if it has expired.	String	OPN	^.{1,64}$ E.g. "refresh_token":"tGzv3JOkF0XG5Qx2TlKWIA"

3.10.2.3 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
error	Code that indicates the error that has occurred. For more return codes see the annexes.	String	MAN	E.g. "error":"invalid_request"

3.10.2.4 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=SplxlOBeZQQYbYS6WxSbIA&redirect_uri=https%3A%2F%2Fwww%2Ettpp%2Ecom%2Fcb&code_verifier=dBjftJeZ4CVP-mB92K27uhbUJU1p1r_wW1gFWFOEjXk
```

Example of OK response

```
HTTP/1.1 200 OK
Content-Type: application/json;charset=UTF-8
Cache-Control: no-store
Pragma: no-cache
```

```
{
      "access_token": "2YotnFZFEjr1zCsicMWpAA",
      "token_type": "Bearer",
      "expires_in": 3600,
      "refresh_token": "tGzv3JOkF0XG5Qx2TlKWIA"
}
```

Example of NOK response

```
HTTP/1.1 400 Bad Request
Content-Type: application/json;charset=UTF-8
Cache-Control: no-store
Pragma: no-cache
{
      "error": "invalid_request"
}
```

3.11 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.

3.11.1 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
grant_type	Must take the value of "refresh_token"	String	MAN	E.g. grant_type=refresh_token
client_id	organizationIdentifier" provided in the eIDAS certificate formed as: - PSD	String	MAN	^.{1,70}$ E.g. client_id=PSDES-BDE-3DFD246

	- 2 characters from the NCA country code (according to ISO 3166) - Character "-" - 2-8 characters for the NCA identifier (A-Z in upper case) - Character "-" - PSP identifier			
refresh_token	The refresh token necessary to be able to obtain an unexpired access_token.	String	MAN	^.{1,64}$ E.g. refresh_token=tGzv3JOkF0XG5Qx2TlKWIA

Header

No additional data are specified.

Body

No additional data are specified.

3.11.2 Response

Field	Description	Type	Man.	Format
access_token	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":"83kdFZFEjr1zCsicMWBB"
token_type	Type of token issued. Will take the value "Bearer".	String	MAN	E.g. "token_type":"Bearer"
expires_in	Life of the access token in seconds.	Integer	OPN	E.g. "expires_in":300

refresh_token	Refresh token. May be used to obtain a new access token if it has expired.	String	OPN	^.{1,64}$ E.g. "refresh_token":"28JD3JOkF0NM5Qx2TlCCC"

3.11.3 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": "83kdFZFEjr1zCsicMWBB",
      "token_type": "Bearer",
      "expires_in": 300,
      "access_token": "28JD3JOkF0NM5Qx2TlCCC"
}
```

3.12 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.

3.13 Processes common to the services.

3.13.1 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 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 a fund confirmation consent request, that an explicit initiation of the authorisation process is not necessary because of the TPP.

3.13.1.1 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: • periodic-payments	String	COND	E.g. {provider}/v1/payments
payment-product	Payment product to be used. List of supported products: • sepa-credit-transfers	String	COND	E.g. {provider}/v1/payments/sepa-credit-transfers/
paymentId, consentId	Identifier of the resource that references the payment initiation.	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

Content-Type	Value: application/json	String	MAN	Content-Type: application/json
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP 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	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAg

				IIZzZvBQlt0UcwDQYJ… …….KoZIhvcNAQELBQ AwSTELMAkGA1UEBhM CVVMxEzARBgNVBA

Body

No additional fields are specified.

3.13.1.2 Response

Header

Field	Description	Type	Man.	Format
Location	Contains the link related to the resource generated.	String	MAN	E.g. Location: /v1/payments/{payment-product}/{paymentId}/authorisations/123qwert/456
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • REDIRECT	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
scaStatus	SCA status	String	MAN	E.g. "scaStatus": "received"
authorisationId	Identifier of the resource that references the authorisation of sub-resource created.	String	MAN	^.{1,36}$ E.g. "authorisationId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
scaMethods	This element is contained if SCA is required and if PSU can choose between the	List<AuthenticationObject>	COND	E.g. "scaMethods": […]

	different methods of authentication. If this data is contained the link "selectAuthenticationMethod" will also be reported. These methods must be presented to the PSU. **Note:** Only if ASPSP supports selection of the SCA method			
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP. • scaStatus: link to query the SCA status corresponding to the authorisation sub-resource.	Links	MAN	E.g. "_links": {…}
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.13.1.3 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-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:37 GMT
```

Example 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"
            }
      }
}
```

3.13.2 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.

3.13.2.1 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
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: • periodic-payments	String	COND	E.g. {provider}/v1/payments
payment-product	Payment product to be used. List of supported products: • sepa-credit-transfers • target-2-payments (companies only) • instant-sepa-credit-transfers (companies only) • cross-border-credit-transfers (only companies)	String	COND	E.g. {provider}/v1/payments/sepa-credit-transfers/
paymentId	Identifier of the resource that references the payment initiation.	String	MAN	^.{1,36}$ E.g.123-qwe-456
cancellationId	Identifier of the sub-resource associated	String	COND	^.{1,36}$

	with the payment cancellation.			

Query parameters

No additional fields are specified.

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-	Accept language header of the HTTP	String	OPN	^.{1,50}$ E.g. PSU-Accept-

Language	request between the PSU and the TPP.			Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the	String	MAN	See annexes

	request by the TPP. See 7.1 Signature for more information.			
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

3.13.2.2 Response

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
scaStatus	SCA status	String	MAN	E.g. "scaStatus": "finalised"
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

3.13.2.3 Examples

Example of request

```
GET https://hub.example.es/aspsp-name/v1/payments/sepa-credit-transfers/123-qwe-456/cancellation-authorisations/123asd456
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example 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 TTP 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	**UUID** ^[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 7.1 Signature for more information.	String	MAN	E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes

TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	**eIDAS** E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional fields are specified.

4.1.1.2 Response

Field	Description	Type	Man.	Format
aspsps	List of ASPSPs available in the system. The returned list will be made up of relevant information on the ASPSP.	List<Aspsp>	MAN	E.g. "aspsps":[]
tppMessages	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	**UUID** ^[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 7.1 Signature for more information.	String	MAN	E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==

Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	**eIDAS** E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional fields are specified.

4.1.2.2 Response

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

4.1.2.3 Examples

Example of request

```
GET https://www.hub.com/v2/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": "Bank name",
                  "apiName": "Bankname1"
            },
            {
                  "bic": "YYYYESMMXXX",
                  "name": "Bank name 2",
                  "apiName": "Bankname2"
            }
      ]
}
```

4.2 SVA: payment initiation 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
- Cancel payment initiation

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
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 • target-2-payments (companies only) • instant-sepa-credit-transfers (companies only) • cross-border-credit-transfers (companies only)	String	MAN	E.g. {provider}/{aspsp}/v1/payments/sepa-credit-transfers/

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	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Consent-ID	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	String	OPN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321

	consent that was arranged before the payment initiation.			
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP. NOTA: Mandatory if instant-sepa-credit-transfers	String	OPN/MAN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH	String	OPN	E.g. PSU-Http-Method:

	• DELETE			
PSU-Device-ID	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. NOTE: Mandatory if instant-sepa-credit-transfers	String	OPN/MAN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP.	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
TPP-Redirect-URI	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"
TPP-Nok-Redirect-URI	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	OPN	^.{1,250}$ E.g. TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok"
Digest	It is contained if it carries the Signature field. See 7.1 Signature for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE

				3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See 7.1 Signature for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request, in base64.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ……KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Field	Description	Type	Man.	Format
instructedAmount	Information on the transfer carried out.	Amount	MAN	E.g. "instructedAmount": {…}
creditorAccount	Creditor account	AccountReference	MAN	E.g. "creditorAccount": {"iban":"ES1111111111111111111"}
creditorName	Creditor's name	String	MAN	^.{1,70}$ E.g. "creditorName":"Name"
creditorAgent	BIC of the creditor account. NOTE: Mandatory if cross-border-credit-transfers	String	OPN/MAN	^.{1,12}$ E.g. "creditorAgent":"XSXHXSMMXXX"
creditorAddress	Creditor's address NOTE: Mandatory if cross-border-credit-transfers	Address	OPN/MAN	E.g. "creditorAddress":{…}
remittanceInformationU	Additional information	String	OPN	^.{1,140}$ E.g.

nstructured				"remittanceInformationUnstructured":"Additional information"

4.2.1.2 Response

Header

Field	Description	Type	Man.	Format
Location	Contains the link to the resource generated.	String	MAN	E.g. Location: /v1/payments/{payment-product}/{payment-id}
X-Request-ID	Unique transaction identifier 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]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • REDIRECT	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
transactionStatus	Status of the transaction. Values defined in annexes in 7.4 Status of the transaction	String	MAN	**ISO 20022** E.g. "transactionStatus": "RCVD"
paymentId	Identifier of the resource that references the payment initiation.	String	MAN	^.{1,36}$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
transactionFees	Fees associated with the payment.	Amount	OPN	E.g. "transactionFees":

				{…}
transactionFeeIndicator	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
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP. • self: link to the payment initiation resource created by this request. • status: link to recover the payment initiation transaction status.	Links	MAN	E.g. "_links": {…}
psuMessage	Text to show to the PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP	List<TppMessage>	OPN	E.g. "tppMessages": […]

4.2.1.3 Examples

Example of request

```
POST https://www.hub.com/aspsp-name/v1/sva/payments/sepa-credit-transfers
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://www.tpp.com/cb
TPP-Nok-Redirect-URI: https://www.tpp.com/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount":"153.50"
      },
      "creditorAccount": {
            "iban":"ES2222222222222222222"
      },
      "creditorName": "Name 123",
      "remittanceInformationUnstructured": "Additional information"
}
```

Example of response

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

```
Date: Sun, 26 Sep 2017 15:02:43 GMT
Location: /v1/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. DESCRIPTION OF MULTI-BANK PAYMENT SERVICES

5.1 Multi-bank payment initiation service

5.1.1 Initiate multi-bank payments

Message sent by the TPP to the ASPSP through the Hub to initiate a MULTI-BANK payment.

5.1.1.1 Payment flows

According to whether the PSU type is individual or corporate, the flows to make the different payments change, and it is necessary to invoke certain previous endpoints to obtain the value of some of the fields in the call to payment initiation.

Purchase/services payments

This type of payment applies to both individual and corporate PSUs, and the flow of invocations to arrive at making the payment is the same.

- Individuals
    - Multi-bank catalogue request (/v1/multibanco/catalogue/service-payments)

      Get the list of service/purchase payments that can be made from the TPP

- Multi-bank payment initiation (/v1/multibanco/payments/service-payments)

  Make the service/purchase payment

- Companies
  - Multi-bank catalogue request (/v1/multibanco/catalogue/service-payments)

    Get the list of service/purchase payments that can be made from the TPP
  - Multi-bank payment initiation (/v1/multibanco/catalogue/service-payments)

    Make the service/purchase payment

Special payments

This payment is only available for PSUs logged in as individuals.

- Individuals
  - Multi-bank catalogue request (/v1/multibanco/catalogue/special-service-payments)

    Get the list of special payments that can be made from the TPP
  - Multi-bank payment initiation (/v1/multibanco/payments/special-service-payments)

    Make the special payment

Social Security payments

This type of payment applies to both individual and corporate PSUs, but they do not share the same flow of invocations.

- Individuals
  - Multi-bank catalogue request (/v1/multibanco/catalogue/social-security-payments)

    Get the list of social security payments that can be made from the TPP
  - Check the value to be paid to social security (v1/multibanco/social-security/withholding)

    Perform a simulation of the social security payment selected in the previous step to obtain the exact amount to be paid before making the actual payment
  - Multi-bank payment initiation (/v1/multibanco/payments/social-security-payments)

    Make the payment to social security
- Companies
  - Multi-bank catalogue request (/v1/multibanco/catalogue/social-security-payments)

    Get the list of social security payments that can be made from the TPP
  - Multi-bank payment initiation (/v1/multibanco/payments/social-security-payments)

    Make the payment to social security

Payments to the public sector

This type of payment applies to both individual and corporate PSUs, but they do not share the same flow of invocations.

- Individuals
  - Multi-bank payment initiation (/v1/multibanco/payments/public-sector-payments)

    Make the payment to the public sector
- Companies
  - Multi-bank catalogue request (/v1/multibanco/catalogue/public-sector-payment-types)

    Get the list of payments to the public sector that can be made from the TPP
  - Multi-bank payment initiation (/v1/multibanco/payments/public-sector-payments)

    Make the payment to the public sector

5.1.1.2 Request

Endpoint

POST {provider}/{asp-name}/v1/multibanco/payments/{multibanco-payment-type}

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	MAN	E.g. {provider}/v1/multibanco-payments/service-payments

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 identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
PSU-ID	The identifier that the PSU uses to identify itself in its ASPSP. It is not content if an authentication based on OAuth2 was performed in a previous step or an SCA based on OAuth2 was performed in a previous AIS service in the same session. **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-ID: 12345678W
PSU-ID-Type	Type of PSU-ID. Required in scenarios where the PSU has multiple PSU-IDs as access options. **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-ID-Type: NIF
PSU-Corporate-ID	"Corporate" identifier in online channels. **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-Corporate-ID: user@corporate.com
PSU-Corporate-ID-Type	The type of the PSU-Corporate-ID required by the ASPSP to identify its content. **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-Corporate-ID-Type: email
Authorisation	Bearer Token. Obtained in a prior authentication on	String	MAN	E.g. Authorisation: Bearer

	OAuth2.			2YotnFZFEjr1zCsicMWpAA
Consent-ID	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	OPN	^.{1,36}$ E.g. Consent-ID: 7890-asdf-4321
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^.{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-	HTTP method used in the interface between	String	OPN	E.g. PSU-Http-Method:

Method	the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE			
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
TPP-Redirect-Preferred	If "true", the TPP has communicated to the HUB that it prefers SCA via redirection. 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. If the parameter is not used, the ASPSP will choose the SCA flow to be applied, depending on the SCA method chosen by the TPP/PSU. **EMBEDDED NOT SUPPORTED IN THIS VERSION**	Boolean	OPN	E.g. TPP-Redirect-Preferred: true
TPP-Redirect-	TPP URI, where the transaction flow must	String	COND	^.{1,250}$

URI	be redirected after ending the SCA by redirect. We recommend always using this header field. In the future, this field may become mandatory.			E.g. TPP-Redirect-URI":"https://tpp.example.es/cb"
TPP-Nok-Redirect-URI	If this URI is contained, the TPP is requesting to redirect the transaction flow to this address instead of to TPP-Redirect-URI in case of a negative result with the SCA method using redirection.	String	OPN	^.{1,250}$ E.g. TPP-Nok-Redirect-URI":"https://tpp.example.es/cb/nok"
TPP-Explicit-Authorisation-Preferred	If equal to "true", the TPP prefers to initiate the authorisation process separately, e.g. due to the need for authorisation of a set of simultaneous transactions. If "false" or the parameter is not used, the TPP has no preference. The TPP assumes a direct authorisation for the transaction in the next step.	Boolean	OPN	E.g. TPP-Explicit-Authorisation-Preferred: false
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	See annexes

TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

	service-payments		**special-service-payments**		**public-sector-payments**		**social-security-payments**	
	Individuals	Corporations	Individuals	Corporations	Individuals	Corporations	Individuals	Corporations
instructedAmount	MAN	MAN	MAN	N/A	MAN	MAN	MAN	MAN
debtorAccount	MAN	MAN	MAN	N/A	MAN	MAN	MAN	MAN
paymentReference	MAN	MAN	MAN	N/A	MAN	MAN	N/A	N/A
operationReference	N/A	N/A	N/A	N/A	N/A	N/A	MAN	MAN
paymentType	MAN	MAN	MAN	N/A	N/A	OPN	N/A	N/A
entityCode	MAN	MAN	MAN	N/A	N/A	N/A	N/A	N/A
parameterCode	N/A	N/A	MAN	N/A	N/A	N/A	N/A	N/A
taxpayerIdentificationNumber	N/A	N/A	OPN	N/A	N/A	OPN	OPN	MAN
paymentPeriod	N/A	N/A	N/A	N/A	N/A	OPN	N/A	MAN
tsuCenterCode	N/A	N/A	N/A	N/A	N/A	N/A	N/A	MAN

requestedExecutionDate	OPN	OPN	OPN	N/A	OPN	OPN	N/A	OPN
paymentTypeCode	N/A	N/A	N/A	N/A	N/A	OPN	N/A	N/A

Field	Description	Type	Format
instructedAmount	Transfer amount	Amount	E.g. "instructedAmount": {…}
debtorAccount	Debtor account	AccountReference	E.g. "debtorAccount": {…}
paymentReference	MULTI-BANK payment reference	String	^.{1,36}$ E.g. "paymentReference": "123456789"
operationReference	Reference obtained when checking the value to be paid to social security	String	^.{1,36}$ E.g. "operationReference": "1501ab4e-6904-11ea-bc55-0242ac130003"
paymentType	Possible values for service-payments: 1- Services 2 – Purchases Possible values for special-service-payments: - Returned in catalogue	Integer	^.{1,1}$ E.g. "paymentType": 1
entityCode	MULTI-BANK payment institution	Integer	^.{1,5}$ E.g. "entityCode": 10003
parameterCode	The parameter code associated with the amount. Obtained in the special-service-payments catalogue query	Integer	^.{1,2}$ E.g. "parameterCode": 3
taxpayerIdentificationNumber	Taxpayer identification number	Integer	^.{1,9}$ E.g. "taxpayerIdentificationNumber": 6244688226942976

paymentPeriod	Period for which payment is made	PaymentPeriodic	E.g. "paymetPeriodic":{…}
tsuCenterCode	TSU centre code	Integer	E.g. "tsuCenterCode":2698
requestedExecutionDate	Future execution date	String	**ISODate** E.g. "requestedExecutionDate":"2018-05-17"
paymentTypeCode	Payment type code. Returned in the catalogue of types of payment to the public sector.	String	E.g. paymentTypeCode="05"

5.1.1.3 Response

Http code

201 Created if everything has gone well

Header

Field	Description	Type	Man.	Format
Location	Contains the link related to the resource generated.	String	MAN	E.g. Location: /v1/multibanco-payments/{multibanco-payment-type}/{paymentId}
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • EMBEDDED • DECOUPLED • REDIRECT	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

	service-payments	special-service-payments	public-sector-payments	social-security-payments
transactionStatus	MAN	MAN	MAN	MAN
paymentId	MAN	MAN	MAN	MAN
transactionFees	OPN	OPN	OPN	OPN
transactionFeeIndicator	OPN	OPN	OPN	OPN
invoiceNumber	N/A	OPN	N/A	OPN
scaMethods	OPN	OPN	OPN	OPN
chosenScaMethod	N/A	N/A	N/A	N/A
challengeData	N/A	N/A	N/A	N/A
_links	OPN	OPN	OPN	OPN
psuMessage	OPN	OPN	OPN	OPN
tppMessage	OPN	OPN	OPN	OPN

Field	Description	Type	Format
transactionStatus	Status of the transaction. Values defined in annexes in **Error! Reference source not found. Error! Reference source not found.**	String	**ISO 20022** E.g. "transactionStatus": "RCVD"
paymentId	Identifier of the resource that references the payment initiation.	String	^.{1,36}$ E.g. "paymentId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
transactionFees	Fees associated with the payment.	Amount	E.g. "transactionFees": {…}
transactionFeeIndicator	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	Boolean	E.g. "transactionFeeIndicator": true

	involve any additional fee for the PSU.		
invoiceNumber	Invoice/receipt number. Used to issue an invoice in the payment to social security.	String	^.{1,30}$ E.g. "invoiceNumber": "123456789012345 67890"
scaMethods	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 "startAuthorisationWithAut henticationMethodSelectio n" will also be given a value. These methods must be presented to the PSU. **Note:** Only if ASPSP supports selection of the SCA method	List<Aut henticati onObject >	E.g. "scaMethods": […]
chosenScaMethod	**NOT SUPPORTED IN THIS VERSION. ONLY EMBEDDED**	Authenti cationOb ject	
challengeData	**NOT SUPPORTED IN THIS VERSION. ONLY EMBEDDED**	Challeng e	
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP. • scaOAuth: in case of SCA and execution of a payment being required. • startAuthorisation: if an explicit initiation of the transaction authorisation is necessary (there is no	Links	E.g. "_links": {…}

	selection of the SCA method) • 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 the "scaMethods" field • self: link to the payment initiation resource created by this request. • status: link to recover the payment initiation transaction status. • scaStatus: link to query the SCA status corresponding to the authorisation sub-resource. This link is only contained if an authorisation sub-resource has been created. (If there is no explicit authorisation, this link must be provided)		
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	E.g. "tppMessages": […]

5.1.1.4 Examples

Example of redirection for SCA via redirection

```
POST https://hub.example.es/asp-name/v1/multibanco/payments/service-payments
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: true
TPP-Redirect-URI: https://tpp.example.es/cb
TPP-Nok-Redirect-URI: https://tpp.example.es/cb/nok
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
      "instructedAmount": {
            "currency": "EUR",
            "amount":"153.50"
      },
      "debtorAccount": {
            "iban":"DE89370400440532013000"
      },
      "entityCode": 12345,
      "requestedExecutionDate": "2020-01-24"
}
```

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:                htpps://hub.example.es/asp-name/v1/multibanco-payments/service-payments/123-qwe-456
Content-Type: application/json
{
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "scaRedirect": {
                  "href": "https://hub.example.es/asp-name/authorize "
            },
            "self": {
                  "href": "/v1/multibanco-payments/service-payments/123-qwe-456",
            "status": {
                  "href": "/v1/multibanco-payments/service-payments/sepa-credit-transfers/123-qwe-456/status"
            },
            "scaStatus": {
                  "href": "/v1/multibanco-payments/service-payments/123-qwe-456/authorisations/123auth456"
            }
      }
}
```

Example of response when an explicit initiation of authorisation is required

```
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:                                    https://hub.example.es/asp-name/v1/multibanco/payments/service-payments/123-qwe-456
Content-Type: application/json
{
      "transactionStatus": "RCVD",
      "paymentId": "123-qwe-456",
      "_links": {
            "self": {
                  "href": "/v1/multibanco-payments/service-payments/123-qwe-456",
            "status": {
```

```
            "href": "/v1/multibanco-payments/service-
        payments/123-qwe-456/status"
        },
        "startAuthorisation": {
            "href": "/v1/multibanco-payments/service-
        payments/123-qwe-456/authorisations"
        }
    }
}
```

Example of decoupled request for SCA

```
POST https://hub.example.es/asp-name/v1/multibanco/payments/service-payments
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0)
Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
TPP-Redirect-Preferred: false
Date: Sun, 26 Sep 2017 15:02:37 GMT
{
    "instructedAmount": {
        "currency": "EUR",
        "amount":"153.50"
    },
    "debtorAccount": {
        "iban":"DE89370400440532013000"
    },
    "paymentReference": "123456789",
    "paymentType": 1,
```

```
      "debtorAccount": {
      "requestedExecutionDate": "2020-01-24"
}
```


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


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

      },
      "psuMessage": "Please use your XXX Bank app to authorise the payment"
}
```


5.1.2 Get multi-bank payment status

Message sent by the TPP to the ASPSP through the Hub to request the status of a multi-bank payment initiation.

5.1.2.1 Request

Endpoint

GET {provider}/{asp-name}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/status

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	MAN	E.g. {provider}/v1/multibanco-payments/service-payments
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.123-qwe-456

Query parameters

No additional fields are specified.

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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

Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Accept	Response format supported. Supported values: Application/json	String	OPN	^.{1,50}$ E.g. Accept: application/json
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST	String	OPN	E.g. PSU-Http-Method: GET

	• GET • PUT • PATCH • DELETE			
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

5.1.2.2 Response

Htpp code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
transactionStatus	Status of the transaction. Values defined in **Error! Reference source not found. Error! Reference source not found.**	String	MAN	**ISO 20022** E.g. "transactionStatus": "ACCP"
fundsAvailable	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: • ACTC • ACWC • ACCP	Boolean	COND	E.g. "fundsAvailable": true
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<Tpp Message>	OPN	E.g. "tppMessages": […]

5.1.2.3 Examples

Example of request

```
GET https://hub.example.es/asp-name/v1/multibanco-payments/service-payments/123-qwe-456/status
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example 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
}
```

5.1.3 Recover multi-bank payment initiation information

This message is sent by the TPP to the ASPSP through the HUB to retrieve the information on a MULTI-BANK payment initiation.

5.1.3.1 Request

Endpoint

GET {provider}/{asp-name}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is	String	MAN	E.g. aspsp.example.es

	published.			
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	MAN	E.g. {provider}/v1/multibanco-payments/service-payments
paymentId	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
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	String	OPN	**UUID** ^[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

	uninstalled.			
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

5.1.3.2 Response

Htpp code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the	String	MAN	**UUID** ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-

	HUB to the ASPSP			F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}$ E.g. X-Request-ID: 1b3ab8e8-0fd5-43d2-946e-d75958b172e7

Body

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

	service-payments		**special-service-payments**		**public-sector-payments**		**social-security-payments**	
	Individuals	Companies	Individuals	Companies	Individuals	Companies	Individuals	Companies
instructedAmount	MAN	MAN	MAN	N/A	MAN	MAN	MAN	MAN
debtorAccount	MAN	MAN	MAN	N/A	MAN	MAN	MAN	MAN
paymentReference	MAN	MAN	MAN	N/A	MAN	MAN	N/A	N/A
operationReference	N/A	N/A	N/A	N/A	MAN	MAN	MAN	MAN
paymentType	MAN	MAN	MAN	N/A	N/A	OPN	N/A	N/A
entityCode	MAN	MAN	MAN	N/A	N/A	N/A	N/A	N/A
parameterCode	N/A	N/A	MAN	N/A	N/A	N/A	N/A	N/A
taxpayerIdentificationNumber	N/A	N/A	OPN	N/A	N/A	OPN	OPN	MAN
paymentPeriod	N/A	N/A	N/A	N/A	N/A	OPN	N/A	MAN
tsuCenterCode	N/A	N/A	N/A	N/A	N/A	N/A	N/A	MAN

requestedExecutionDate	OPN	OPN	OPN	N/A	MAN	MAN	N/A	OPN
paymentTypeCode	N/A	N/A	N/A	N/A	N/A	OPN	N/A	N/A

Field	Description	Type	Format
instructedAmount	Transfer amount	Amount	E.g. "instructedAmount": {…}
debtorAccount	Debtor account	AccountReference	E.g. "debtorAccount": {…}
paymentReference	MULTI-BANK payment reference	String	^.{1,36}$ E.g. "paymentReference": "123456789"
operationReference	Reference obtained when checking the value to be paid to social security	String	^.{1,36}$ E.g. "operationReference": "1501ab4e-6904-11ea-bc55-0242ac130003"
paymentType	Possible values for service-payments: 1- Services 2 – Purchases Possible values for special-service-payments: - Returned in catalogue	Integer	^.{1,1}$ E.g. "paymentType": 1
entityCode	MULTI-BANK payment institution	Integer	^.{1,5}$ E.g. "entityCode": 10003
parameterCode	The parameter code associated with the amount. Obtained in the special-service-payments catalogue query	Integer	^.{1,2}$ E.g. "parameterCode": 3
taxpayerIdentificationNumber	Taxpayer identification number	Integer	^.{1,9}$ E.g. "taxpayerIdentificationNumber": 6244688226942976

paymentPeriod	Period for which payment is made	PaymentPeriodic	E.g. "paymetPeriodic":{…}
tsuCenterCode	TSU centre code	Integer	E.g. "tsuCenterCode":2698
requestedExecutionDate	Future execution date	String	**ISODate** E.g. "requestedExecutionDate":"2018-05-17"
paymentTypeCode	Payment type code. Returned in the catalogue of types of payment to the public sector.	String	E.g. paymentTypeCode="05"
transactionStatus	Status of the transaction. Values defined in annexes. Short code.	String	**ISO 20022** E.g. "transactionStatus": "ACCP"
invoiceNumber	Invoice/receipt number. Used to issue an invoice in the payment to social security.	String	^.{1,20}$ E.g. "invoiceNumber": "12345678901234567890"
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	E.g. "tppMessage": […]

5.1.3.3 Examples

Example of a MULTI-BANK payment initiation request

```
GET https://hub.example.es/asp-name/v1/multibanco-payments/service-payments/123-qwe-456
Accept: application/json
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
```

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

Example of a MULTI-BANK payment initiation 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":"DE89370400440532013000"
      },
      "paymentType": 1,
      "entityCode": 12345,
      "requestedExecutionDate":"2020-01-24"
}
```

5.1.4 Cancel multi-bank payment initiation

This request allows cancellation of a payment 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. If authorisation of a payment cancellation is required by the ASPSP, the relevant link will be contained in the response message.

5.1.4.1 Request

Endpoint

DELETE {provider}/{asp-name}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}

Path

Field	Description	Type	Man.	Format

provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	MAN	E.g. {provider}/v1/multibanco-payments/service-payments
paymentId	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
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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

PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: DELETE
PSU-Device-ID	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	OPN	**UUID** ^[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

PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

5.1.4.2 Response

Htpp code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
transactionStatus	Status of the transaction. Values defined in annexes in **Error! Reference source not found. Error! Reference source not found.**	String	MAN	**ISO 20022** E.g. "transactionStatus": "RCVD"
scaMethods	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 "startAuthorisationWithAuthenticationMethodSelection" will also be informed. These methods must be presented to the PSU. **Note:** Only if ASPSP supports selection of the SCA method	List<AuthenticationObject>	COND	E.g. "scaMethods": […]
chosenScaMethod	**NOT SUPPORTED IN THIS VERSION**	AuthenticationObject	COND	
challengeData	**NOT SUPPORTED IN THIS VERSION**	Challenge	COND	
_links	List of hyperlinks to be recognised by the HUB. Depend on the decision taken by the ASPSP dynamically when evaluating the transaction. Types supported in this response:	Links	COND	E.g. "_links": {…}

	• startAuthorisation: if an explicit initiation of the transaction authorisation is necessary (there is no selection of the SCA method) • 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 the "scaMethods" field			
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

5.1.4.3 Examples

Example of request

```
DELETE https://aspsp.example.es/v1/multibanco-payments/service-payments/123-qwe-456
HUB-Transaction-ID: 3dc3d5b3-7023-4848-9853-f5400a64e80f
HUB-Request-ID: 870b8698-6ff9-11e8-adc0-fa7ae01bbebc
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
TPP-HUB-ID: PSDES-BDE-3DFD21
TPP-HUB-Name: TPP Name
TPP-HUB-Rol: PSP_PI
TPP-HUB-National-Competent-Authority: BDE
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
```

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

Example of PSU payment cancellation response

```
HTTP/1.1 204 No content
HUB-Transaction-ID: 3dc3d5b3-7023-4848-9853-f5400a64e80f
HUB-Request-ID: ff564b32-6ff0-11e8-adc0-fa7ae01bbebc
X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:47 GMT
```

Example of response when it is not possible to cancel payment by the PSU

```
HTTP/1.1 405
HUB-Transaction-ID: 1b6bb9-7023-4848-9853-f5400a64e80f
HUB-Request-ID: f5400a64-6ff0-11e8-adc0-fa7ae01bbebc
X-Request-ID: e01bbebc-6ff1-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:47 GMT
{
      "tppMessages":{
            "category":"ERROR",
            "code":"CANCELATION_INVALID"
      }
}
```

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

```
HTTP/1.1 200 Ok
HUB-Transaction-ID: 3dc3d5b3-7023-4848-9853-f5400a64e80f
HUB-Request-ID: ff564b32-6ff0-11e8-adc0-fa7ae01bbebc
X-Request-ID: 0ee25bf4-6ff1-11e8-adc0-fa7ae01bbebc
Date: Sun, 26 Sep 2017 15:02:47 GMT
```

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

5.1.5 Multilevel SCA for payments

For the multilevel SCA, the ASPSP must allow the PSU that initiates the transaction to apply SCA through the API. Additionally, the ASPSP will use the psuMessage field to inform the PSU that the transaction requires SCA to be applied from other PSUs.

In the case of the SCA flow by redirection, the TPP may redirect to PSU, which initiates the transaction to the scaRedirect link for applying SCA.

In the case of SCA decoupled flow, the TPP will receive in the psuMessage field the message it must show to the PSU and direct to the PSU's bank app.

5.2 Multi-bank payment catalogues

5.2.1 Multi-bank payment catalogues request

A request initiated by the TPP to get the multi-bank payment catalogue.

5.2.1.1 Request

Endpoint

GET {provider}/{asp-name}/v1/multibanco/catalogue/{multibanco-payment-type}?paymentReference=111111

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-	Possible values are:	String	MAN	E.g. {provider}/v1/multibanco/catalogue/service-payments

type	• service-payments • special-service-payments • public-sector-payments • social-security-payments • public-sector-payment-types			

Query parameters

Field	Description	Type	Man.	Format
payment Reference	Transaction reference	String	OPN	E.g. paymentReference=111111
instructed Amount	Payment amount. Included in public-sector-payment	String	OPN	**ISO 4217** E.g. "instructedAmount":"500.00"
requested Execution Date	Payment execution date. Included in public-sector-payment	String	OPN	**ISODate** E.g. "requestedExecutionDate":"2018-05-17"

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,512}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional parameters are specified

5.2.1.2 Response

The ASPSP returns this message to the TPP in response to the MULTI-BANK catalogue request.

Htpp code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and	String	MAN	**UUID** ^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-

	submitted through the HUB to the ASPSP			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
servicePaymentEntities	A set of generic payment service parameters to be taken into account in the TPP interface definition	List<ServicePaymentEntity>	OPN	E.g. "servicePaymentEntities": [{…}]
specialServicePaymentEntities	Includes all relevant payment data for special services	List<SpecialServicePaymentEntity>	OPN	E.g. "specialServicePaymentEntities"[{…}]
publicSectorPaymentEntities	Includes all relevant public sector payments data	List<PublicSectorPaymentEntity>	OPN	E.g. "publicSectorPaymentEntities":[{…}]
socialSecurityPaymentEntities	Includes all relevant data on social security payment services	List<SocialSecurityPaymentParameters>	OPN	E.g. "socialSecurityPaymentEntities": [{…}]
publicSectorPaymentTypes	Includes the types of payment to the public sector.	List<PublicSectorPaymentType>	OPN	E.g. ”publicSectorPaymentType=[{…}]”
_links	Contains links to page the items, if necessary: - first - previous - next - last	Links	OPN	E.g. "_links": {…}
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the	List<TppMessage>	OPN	E.g. "tppMessages":[…]

	HUB.			

5.2.1.3 Examples

Example of request

```
GET https://hub.example.es/asp-name/v1/multibanco/catalogue/special-service-payments
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Date: Sun, 17 Oct 2017 13:15:17 GMT
```

Example of response

```
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
{
   "specialServicePaymentEntities":[
      {
         "servicePaymentName":"LYCAMOBILE GT MOBILE",
         "entityCode":12345,
         "paymentType": 1,
         "chargeType":001,
         "productName":"Carregamento Lycamobile",
         "specialServicePaymentParameters":[
            {
               "code":1,
               "amount":{
                  "currency": "EUR",
                  "amount":"10.00"
               }
            },
            {
               "code":2,
               "amount":{
                  "currency":"EUR",
                  "amount":"20.00"
               }
            },
```

```
            {
               "code":3,
               "amount":{
                  "currency": "EUR",
                  "amount":"00.00"
               }
            }
         ],
         "minimumAmount":{
            "currency": "EUR",
            "amount":"5.00"
         },
         "maximumAmount":{
            "currency": "EUR",
            "amount":"5.00"
         },
         "entitiesCorporateData":[
            {
               "fiscalName":"Diez",
               "fiscalNumber":"3488143487533056",
               "fiscalAddress":"1163 Bemniz Parkway",
               "fiscalRegister":"ewulizca",
               "corporateCapital":{
                  "currency": "EUR",
                  "amount":"5.00"
               },
               "reference":"Telemóvel",
               "vat":{
                  "currency": "EUR",
                  "amount":"230.00"
               },
               "message":"OBRIGADO POR PREFERIR A LYCAMOBILE. CASO
NECESSITE"
            }
         ]
      }
   ]
}
```


5.3 Check the value to be paid to Social Security

5.3.1 Check the value to be paid to Social Security

Message sent through the Hub by the TPP to the ASPSP to get the value of the amount to be paid in social security.

5.3.1.1 Request

Endpoint

POST {provider}/{asp-name}/v1/multibanco/social-security/withholding

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	

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 identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
PSU-ID	The identifier that the PSU uses to identify itself in its ASPSP. It is not content if an authentication based on OAuth2 was performed in a previous step or an	String	COND	E.g. PSU-ID: 12345678W

	SCA based on OAuth2 was performed in a previous AIS service in the same session. **NOT SUPPORTED IN THIS VERSION**			
PSU-ID-Type	Type of PSU-ID. Required in scenarios where the PSU has multiple PSU-IDs as access options. **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-ID-Type: NIF
PSU-Corporate-ID	"Corporate" identifier in online channels. **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-Corporate-ID: user@corporate.com
PSU-Corporate-ID-Type	The type of the PSU-Corporate-ID required by the ASPSP to identify its content. **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-Corporate-ID-Type: email
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP 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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^.{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8

PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference**	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMG

	source not found. Error! Reference source not found. for more information.			NmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

Field	Description	Type	Man.	Format
debtorAccount	The debtor's account.	Account Reference	MAN	E.g. "debtorAccount": {…}
paymentNature	Identifies the worker's professional category. Here are some examples: 03 – Trabalhadores do Serviço Doméstico 04 – Trabalhadores Independentes 05 – Seguro Social Voluntário 06 – Produtores Agrícolas dos Açores	Integer	MAN	^.{1,2}$ E.g. "paymentNature": 4613978645
number	Social security number.	Integer	MAN	^.{1,11}$ E.g. "number": 10000000003
remunerationCode	Identifies the worker's remuneration type. Examples: 1 - Monthly - Full month	Integer	MAN	^.{1,1}$ E.g. "remunerationCode": 1

	2 - Monthly - Incomplete month 3 - Working hours			
paymentUnit	Unit of payment depending on type of remuneration. Here are the possible values: • If remunerationCode = 1, the value will always be 1 (months indicator) • If remunerationCode = 2, the value will be in days worked and can only be between the values '1' and '29' (inclusive) • If remunerationCode = 3, the value will be in hours worked and can only be between the values '30' and '172' (inclusive)	Integer	MAN	^.{1,3}$ E.g. "paymentUnit": 1
remunerationAmount	Salary generated in that payment unit. (month, hours, days).	Amount	MAN	E.g. "remunerationAmount" : {…}
niss	Identifier of the employing company. It is optional and will only have a value when paymentNature is 3. For all other cases it does not exist.	Integer	OPN	^.{1,11}$ E.g. "niss": 65136589331
paymentDate	Date payment made	Date	MAN	**ISODate** E.g. "paymentDate": "2020-03-04"

5.3.1.2 Response

Http code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
paymentState	Current payment status. Values: '1' - Not paid; '2' - paid in full; '3' - partly paid; '4' - Paid, but a new payment can be accepted with the same data (entities without validation of duplicates).	Integer	MAN	^.{1,1}$ E.g. "paymentState": 1
invoiceNumber	Invoice/receipt number. Only has a value if paymentState is 4	String	OPN	{1,30} E.g. "invoiceNumber":"1234"
entityName	Name of the entity	String	MAN	E.g. "entityName":"Lycamobile Portugal"
withholding	Amount to be paid	Amount	MAN	E.g. "withholding": {…}
operationReference	Unique transaction ID	String	MAN	**UUID** ^[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.

				”operationReference”: “5c3ac8e8-0fd5-43d2-946e-d75958b172e7”
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages":[…]

5.3.1.3 Examples

Example of request

```
POST https://hub.example.es/asp-name/v1/multibanco/social-security/withholding
Content-Encoding: gzip
Content-Type: application/json
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: POST
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 29 Jan 2020 15:02:37 GMT
{
   "debtorAccount":{
      "iban":"PT50001900010020123456789"
   },
   "paymentNature":03,
   "number":10056565603,
   "remunerationCode":1,
   "paymentUnit":38,
   "remunerationAmount":{
      "amount":"1000.00",
```

```
      "currency":"EUR"
   },
   "niss":"13245648978",
   "paymentDate":"2020-03-04"
}
```

Example of response

```
HTTP/1.1 200 Ok
X-Request-ID: 10391c7e-ad88-49ec-a2ad-00aacb1f6541
Date: Sun, 26 Sep 2017 15:02:43 GMT
Content-Type: application/json
{
   "paymentState": 1,
   "invoiceNumber": "59871c7e-ad88-49ec-a2ad-00aacb1f6541",
   "entityName": "Lycamobile Portugal",
   "withholding":{
      "amount":"45.00",
      "currency":"EUR"
   },
   "operationReference":" 66539a3b-ba37-49ec-a2ad-99ddcb1f7721"
}
```

5.4 Service processes in common

5.4.1 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 MULTI-BANK 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 MULTI-BANK payment cancellation request that an explicit initiation of the authorisation process is not necessary because of the TPP.

5.4.1.1 Request

Endpoint in the case of a MULTI-BANK payment initiation

POST {provider}/{asp-name}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/authorisations

Endpoint in the case of a MULTI-BANK payment cancellation

POST {provider}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/cancellation-authorisations

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	MAN	E.g. {provider}/v1/multibanco-payments/service-payments
paymentId	Identifier of the resource that references the multi-bank payment initiation.	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
Content-Type	Value: application/json	String	MAN	Content-Type: application/json
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
PSU-ID	The identifier that the PSU uses to identify itself in its ASPSP It is not content if an authentication based on OAuth2 was performed in a previous step or an SCA based on OAuth2 was performed in a previous AIS service in the same session. NOT SUPPORTED IN THIS VERSION	String	COND	E.g. PSU-ID: 12345678W
PSU-ID-Type	Type of PSU-ID. Required in scenarios where the PSU has multiple PSU-IDs as access options **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-ID-Type: NIF
PSU-Corporate-ID	"Corporate" identifier in online channels **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-Corporate-ID: user@corporate.com
PSU-Corporate-ID-Type	The type of the PSU-Corporate-ID required by the ASPSP to identify its content **NOT SUPPORTED IN THIS VERSION**	String	COND	E.g. PSU-Corporate-ID-Type: email
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP 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	OPN	^[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

PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method:
PSU-Device-ID	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	OPN	**UUID** ^[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

PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional fields are specified.

5.4.1.2 Response

Http code

201 Created if everything has gone well

Header

Field	Description	Type	Man.	Format
Location	Contains the link related to the resource generated.	String	MAN	E.g. Location: /v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/au

				thorisations/123qwert456
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	UUID ^[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
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • EMBEDDED • DECOUPLED • REDIRECT The SCA based on OAuth2 will be taken as REDIRECT.	String	COND	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
scaStatus	SCA status	String	MAN	E.g. "scaStatus": "received"
authorisationId	Identifier of the resource that references the authorisation of sub-resource created.	String	MAN	^.{1,36}$ E.g. "authorisationId": "1b3ab8e8-0fd5-43d2-946e-d75958b172e7"
scaMethods	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. **Note:** Only if ASPSP supports selection of	List<AuthenticationObject>	COND	E.g. "scaMethods": […]

	the SCA method			
chosenScaMethod	**NOT SUPPORTED IN THIS VERSION. ONLY EMBEDDED**	AuthenticationObject	COND	
challengeData	**NOT SUPPORTED IN THIS VERSION. ONLY EMBEDDED**	Challenge	COND	
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP. • selectAuthenticationMethod: link to the authorisation sub-resource that has the value of the selected SCA method. • scaStatus: link to query the SCA status corresponding to the authorisation sub-resource.	Links	MAN	E.g. "_links": {…}
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

5.4.1.3 Examples

Example of a MULTI-BANK payment initiation request

```
POST https://hub.example.es/asp-name/v1/multibanco-payments/service-payments/qwert1234tzui7890/authorisations
Content-Encoding: gzip
Content-Type: application/json
```

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

Example 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: https://hub.example.es/asp-name/v1/multibanco-payments/service-payments/123-qwe-456/authorisations/123auth456
Content-Type: application/json
{
      "scaStatus": "received",
      "authorisationId": "123auth456",
      "_links": {
            "scaRedirect": {
                  "href": "https://hub.example.es/asp-name/authorize "
            },
            "scaStatus": {
                  "href": "/v1/multibanco-payment/service-payment/123-qwe-456/authorisations/123auth456"
            }
      }
}
```

5.4.2 Update data of the PSU (select SCA method)

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

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

5.4.2.1 Request

Endpoint in the case of a MULTI-BANK payment initiation

PUT {provider}/{asp-name}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/authorisations/{authorisationId}

Endpoint in the case of a MULTI-BANK payment cancellation

PUT {provider}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/cancellation-authorisations/{cancellationId}

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	MAN	E.g. {provider}/v1/multibanco-payments/service-payments
paymentId	Identifier of the resource that references the multi-bank payment initiation.	String	MAN	^.{1,36}$ E.g.123-qwe-456
authorisationId	Identifier of the sub-resource associated with the MULTI-BANK payment initiation	String	COND	^.{1,36}$

Query parameters

No additional fields are specified.

Header

Field	Description	Type	Man.	Format
X-Request-	Unique identifier of the transaction assigned by the TPP and	String	MAN	**UUID** ^[0-9a-fA-F]{8}-[0-

ID	submitted through the HUB to the ASPSP			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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP.	String	OPN	E.g. PSU-Http-Method: GET

	Permitted values: • POST • GET • PUT • PATCH • DELETE			
PSU-Device-ID	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	OPN	UUID ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhM

	more information			CVVMxEzARBgNVBA

Body

Field	Description	Type	Man.	Format
authenticationMethodId	Identifier of the authentication method.	String	MAN	^.{1,35}$ E.g. "authenticationMethodId": "123"

5.4.2.2 Response

Htpp code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
ASPSP-SCA-Approach	Value returned if the SCA method has been fixed. Possible values: • EMBEDDED • DECOUPLED • REDIRECT The SCA based on OAuth2 will be taken as REDIRECT.	String	OPN	E.g. ASPSP-SCA-Approach: REDIRECT

Body

Field	Description	Type	Man.	Format
chosenScaMethod	**NOT SUPPORTED IN THIS VERSION**	AuthenticationObject	COND	
challengeD	**NOT SUPPORTED IN**	Challeng	COND	

ata	**THIS VERSION**	e		
_links	List of hyperlinks to be recognised by the TPP. Types supported in this response: • scaRedirect: in case of SCA by redirection. Link where the PSU navigator must be redirected by the TPP. • scaStatus: link to query the SCA status corresponding to the authorisation sub-resource. This link is only contained if an authorisation sub-resource has been created.	Links	MAN	E.g. "_links": {…}
scaStatus	SCA status	String	MAN	E.g. "scaStatus": "received"
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessage": […]

5.4.2.3 Examples

Example of a MULTI-BANK payment initiation request

```
PUT https://hub.example.es/asp-name/v1/multibanco-payment/service-payments/123-qwe-456/authorisations/123asd456
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
```

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

Example of response

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

5.4.3 Obtain authorisation sub-resources

Will provide an array of resource identifiers for all the sub-resources of authorisation generated.

5.4.3.1 Request

Endpoint in the case of a MULTI-BANK payment initiation

GET {provider}/{asp-name}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/authorisations

Endpoint in the case of a MULTI-BANK payment cancellation

GET {provider}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/cancellation-authorisations

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
asp-name	ASPSP to which the request is addressed	String	MAN	
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	MAN	E.g. {provider}/v1/multibanco-payments/service-payments
paymentId	Identifier of the resource that references the multi-bank payment initiation.	String	MAN	^.{1,36}$ E.g.123-qwe-456

Query parameters

No additional fields are specified.

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-	IP port of the HTTP request between the	String	OPN	^\\d{1,5}$

Port	PSU and the TPP, if available.			E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the PSU and the TPP.	String	OPN	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)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: DELETE
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,]

	between the PSU and the TPP			[\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	See annexes
TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

5.4.3.2 Response

Htpp code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
authorisationIds	Array de authorisationIds. **Note**: mandatory field when not a cancellation	Array<String>	COND	^.{1,36}$ E.g. " authorisationIds": […]
cancellationIds	Array of cancellationIds connected to the payment resource. **Note**: mandatory when a cancellation	Array<String>	COND	E.g. "cancellationIds": […]
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

5.4.3.3 Examples

Example of request

```
GET https://hub.example.es/asp-name/v1/multibanco-payment/service-payments/123-qwe-456/authorisations
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
Content-Type: application/json
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example of response

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

}

5.4.4 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.

5.4.4.1 Request

Endpoint in the case of a MULTI-BANK payment initiation

GET {provider}/{asp-name}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/authorisations/{authorisationId}

Endpoint in the case of a MULTI-BANK payment cancellation

GET {provider}/v1/multibanco-payments/{multibanco-payment-type}/{paymentId}/cancellation-authorisations/{cancellationId}

Path

Field	Description	Type	Man.	Format
provider	URL of the ASPSP where the service is published.	String	MAN	E.g. aspsp.example.es
multibanco-payment-type	Possible values are: • service-payments • special-service-payments • public-sector-payments • social-security-payments	String	COND	E.g. {provider}/v1/multibanco-payments/service-payments
paymentId	Identifier of the resource that references the multi-bank payment initiation.	String	MAN	^.{1,36}$ E.g.123-qwe-456
authorisationId	Identifier of the sub-resource associated with payment initiation, consent or Signing Basket.	String	COND	^.{1,36}$

Query parameters

No additional fields are specified.

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
Authorisation	Bearer Token. Obtained in a prior authentication on OAuth2.	String	MAN	E.g. Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address	IP address of the HTPP request between the PSU and the TPP.	String	OPN	^[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
PSU-IP-Port	IP port of the HTTP request between the PSU and the TPP, if available.	String	OPN	^\\d{1,5}$ E.g. PSU-IP-Port: 443
PSU-Accept	Accept header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept: application/json
PSU-Accept-Charset	Accept charset header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Charset: utf-8
PSU-Accept-Encoding	Accept encoding header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Encoding: gzip
PSU-Accept-Language	Accept language header of the HTTP request between the PSU and the TPP.	String	OPN	^.{1,50}$ E.g. PSU-Accept-Language: es-ES
PSU-User-Agent	Navigator or operating system of the HTTP request between the	String	OPN	E.g. PSU-User-Agent: Mozilla/5.0 (Windows;

	PSU and the TPP.			U; Windows NT 6.1; en-US; rv:1.9.1.5) Gecko/20091102 Firefox/3.5.5 (.NET CLR 3.5.30729)
PSU-Http-Method	HTTP method used in the interface between the PSU and the TPP. Permitted values: • POST • GET • PUT • PATCH • DELETE	String	OPN	E.g. PSU-Http-Method: GET
PSU-Device-ID	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	OPN	**UUID** ^[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
PSU-Geo-Location	Location corresponding to the HTTP request between the PSU and the TPP	String	OPN	**RFC 2426** ^GEO:[\\d]*.[\\d]*[;,][\\d]*.[\\d]*$ E.g. PSU-Geo-Location: GEO:90.023856;25.345963
Digest	It is contained if it carries the Signature field. See **Error! Reference source not found. Error! Reference source not found.** for more information.	String	MAN	^.{1,100}$ E.g. Digest: SHA-256=NzdmZjA4YjY5M2M2NDYyMmVjOWFmMGNmYTZiNTU3MjVmNDI4NTRlMzJkYzE3ZmNmMDE3ZGFmMjhhNTc5OTU3OQ==
Signature	Signature of the request by the TPP. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	See annexes

TPP-Signature-Certificate	The TPP certificate used to sign the request in Base64. See **Error! Reference source not found. Error! Reference source not found.** for more information	String	MAN	^.{1,5000}$ E.g. TPP-Signature-Certificate: MIIHgzCCBmugAwIBAgIIZzZvBQlt0UcwDQYJ…….KoZIhvcNAQELBQAwSTELMAkGA1UEBhMCVVMxEzARBgNVBA

Body

No additional data are specified.

5.4.4.2 Response

Htpp code

200 Ok if everything has gone well

Header

Field	Description	Type	Man.	Format
X-Request-ID	Unique identifier of the transaction assigned by the TPP and submitted through the HUB to the ASPSP	String	MAN	**UUID** ^[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
scaStatus	SCA status	String	MAN	E.g. "scaStatus": "finalised"
psuMessage	Text sent to TPP through the HUB to be shown to PSU.	String	OPN	^.{1,512}$ E.g. "psuMessage": "Information for PSU"
tppMessages	Message for the TPP sent through the HUB.	List<TppMessage>	OPN	E.g. "tppMessages": […]

5.4.4.3 Examples

Example of request

```
GET https://hub.example.es/asp-name/v1/multibanco-payments/service-payments/123-qwe-456/authorisations/123asd456
X-Request-ID: 96201400-6ff9-11e8-adc0-fa7ae01bbebc
Authorisation: Bearer 2YotnFZFEjr1zCsicMWpAA
PSU-IP-Address: 192.168.8.16
PSU-IP-Port: 443
PSU-Accept: application/json
PSU-Accept-Charset: utf-8
PSU-Accept-Encoding: gzip
PSU-Accept-Language: es-ES
PSU-User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:54.0) Gecko/20100101 Firefox/54.0
PSU-Http-Method: GET
PSU-Device-ID: f8b3feda-6fe3-11e8-adc0-fa7ae01bbebc
PSU-GEO-Location: GEO:12.526347;54.649862
Date: Sun, 26 Sep 2017 15:02:48 GMT
```

Example 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"
}
```

6. DEFINITION OF TYPES OF COMPOSITE DATA

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

6.1 AccountAccess

Field	Description	Type	Man.	Format
accounts	Indicates the accounts on which to ask for detailed information.	List<AccountReference>	OPN	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.			
balances	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>	OPN	E.g. "balances": […]
transactions	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>	OPN	E.g. "transactions": […]
availableAccounts	Only the value "allAcounts" is permitted	String	OPN	E.g. "availableAccounts": "allAcounts"
availableAccountsWithBalances	Only the value "allAcounts" is permitted	String	OPN	E.g. "availableAccountsWithBalances": "allAcounts"
allPsd2	Only the value "allAcounts" is permitted	String	OPN	E.g. "allPsd2": "allAcounts"

6.2 AccountDetails

Field	Description	Type	Man.	Format
resourceId	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"
iban	IBAN of the account	String	OPN	E.g. "iban":"ES1111111111111111111"
bban	BBAN of the account if it does not have an IBAN.	String	OPN	E.g. "bban":"20385778983000760236"
msisdn	Alias to access a payment account through a registered mobile phone number.	String	OPN	^.{1,35}$ E.g. "msisdn":"…"
currency	Account currency.	String	MAN	**ISO 4217** E.g. "currency":"EUR"
ownerName	Name of the first owner of the account	String	MAN	^.{1,140}$ Ex.: "ownerName":"Name of the account owner"
name	Name given by the bank or the PSU to the online bank account.	String	OPN	^.{1,35}$ E.g. "name":"Name"
product	Name of the product given by the ASPSP to this account.	String	OPN	^.{1,35}$ E.g. "product":"Main Account"
cashAccountType	Specifies the nature or use of the account.	String	OPN	**ExternalCashAccountType1Code de ISO 20022** E.g. "cashAccountType": ”CACC"
status	Account status. The value is one of the following: • enabled: the account is available • deleted:	String	OPN	E.g. "status":"enabled"

	account closed • blocked: account blocked			
bic	BIC of the account.	String	OPN	^.{1,12}$ E.g. "bic":"XSXHXSMMXXX"
linkedAccounts	In this field the ASPSP may name an account associated with the pending card transactions.	String	OPN	^.{1,70}$
usage	Specifies the use of the account. Possible values: • PRIV: private personal account • ORGA: business account	String	OPN	^.{1,4}$ E.g. "usage": "PRIV"
details	Specifications that must be provided by the ASPSP. • Account characteristics • Card characteristics	String	OPN	^.{1,140}$
balances	Account balances.	List<Balance>	COND	"balances": […]
_links	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	OPN	E.g. "links": {…}

6.3 AccountReference

Field	Description	Type	Man.	Format
iban	IBAN of the account	String	COND	E.g. "iban":"ES1111111111111111111"
bban	BBAN of the account if it does not have an IBAN.	String	COND	E.g. "bban":"20385778983000760236"
pan	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"
maskedPan	Primary Account Number of the card in masked form.	String	COND	^.{1,35}$ E.g. "maskedPan":"123456******4567"
msisdn	Alias to access a payment account through a registered mobile phone number.	String	COND	^.{1,35}$ E.g. "msisdn":"…"
currency	Currency.	String	OPN	**ISO 4217** E.g. "currency":"EUR"

6.4 AccountReport

Field	Description	Type	Man.	Format
booked	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":[{..}]
pending	Transactions pending in the account. Not contained if the bookingStatus parameter is established as "booked".	List<Transactions>	OPN	E.g. "pending":[{..}]
_links	The following links are accepted in this	Links	MAN	E.g. "_links":[{..}]

	object: • account (MAN) • first (OPT) • next (OPT) • previous (OPT) • last (OPT)			

6.5 Address

Field	Description	Type	Mand.	Format
street	Street NOTE: Mandatory if cross-border-credit-transfers	String	OPN/MAN	^.{1,70}$ E.g. "street":"Example of street"
buildingNumber	Number	String	OPN	E.g. "buildingNumber":"5"
city	City NOTE: Mandatory if cross-border-credit-transfers	String	OPN/MAN	E.g. "city":"Córdoba"
postalCode	Postcode	String	OPN	E.g. "postalCode":"14100"
country	Country code	String	MAN	**ISO 3166** E.g. "country":"ES"

6.6 Amount

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

6.7 AuthenticationObject

Field	Description	Type	Mand.	Format

<table>
<tr>
<td>authenticationType</td>
<td>Type of authentication method. Possible values:
• SMS_OTP
• CHIP_OTP
• PHOTO_OTP
• PUSH_OTP

See annex 7.6 SCA statuses
<table>
<tr><th>Code</th><th>Description</th></tr>
<tr><td>received</td><td>The authorisation resource was created correctly.</td></tr>
<tr><td>psuIdentified</td><td>The PSU associated with the authorisation resource has been identified and authenticated (for example, by a password or by the access token)</td></tr>
<tr><td>scaMethodSelecte</td><td>The PSU/TPP has selected the SCA flow. If the SCA method is chosen implicitly, because only one SCA method is available, then this is the first status to be entered, instead of "received"</td></tr>
</table>
</td>
<td>String</td>
<td>MAN</td>
<td>E.g. "authenticationType":" SMS_OTP"</td>
</tr>
</table>

	<table><tr><td>**d**</td><td></td></tr><tr><td>**started**</td><td>The SCA flow has been initiated.</td></tr><tr><td>**finalised**</td><td>The SCA flow has been completed successfully.</td></tr><tr><td>**failed**</td><td>The SCA flow failed.</td></tr><tr><td>**exempted**</td><td>The transaction is exempt from SCA; the associated authorisation is correct.</td></tr></table> Types of authentication for more information.			
authenticationVersion	Version of the tool associated with the authenticationType.	String	COND	E.g. "authenticationVersion" :"1.0"
authenticationMethodId	Id of the authentication method provided by the ASPSP.	String	MAN	^.{1,35}$
name	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	String	MAN	E.g. "name":"SMS OTP to phone 666777888"

	present it to the PSU.			
explanation	Detailed information about the SCA method for the PSU	String	OPN	

6.8 Aspsp

Field	Description	Type	Man.	Format
bic	BIC code of the ASPSP.	String	MAN	E.g. "bic":" XXXXXXXXXXX"
name	Name of the ASPSP	String	OPN	E.g. "name":"ASPSP name"
apiName	Name of the ASPSP used in the request PATH. **Note**: Only available for V2 of the list of available ASPSPs.	String	COND	E.g. "apiName": "BankName"

6.9 Balance

Field	Description	Type	Man.	Format
balanceAmount	Amount and currency of the balance	Amount	MAN	E.g. "balanceAmount": {…}
balanceType	Type of balance. Values supported in the annex 7.8 Types of balances	String	MAN	E.g. "balanceType": "closingBooked"
creditLimitIncluded	Flag indicating whether the credit limit of the corresponding account is included in the balance calculation, when applicable.	Boolean	OPN	E.g. "creditLimitIncluded":true
lastChangeDateTime	Date of the last action carried out on the account.	String	OPN	**ISODateTime** E.g. "lastChangeDateTime": "2017-10-25T15:30:35.035Z"
referenceDate	Reference date of the balance	String	OPN	**ISODate** E.g. "referenceDate": "2017-10-25"

lastCommittedTransaction	entryReference of the last transaction to assist the TPP in identifying whether all the PSU transactions are already known.	String	OPN	**Max35Text** E.g. "lastCommittedTransaction": "1234-asd-567"

6.10 EntityCorporateData

Field	Description	Type	Man.	Format
fiscalName	The entity's fiscal name	String	OPN	E.g. "fiscalName": "van Egmond"
fiscalNumber	The entity's fiscal number	String	OPN	^.{1,12}$ E.g. "fiscalNumber": "6017337891225600"
fiscalAddress	The entity's fiscal address	String	OPN	E.g. "fiscalAddress": "362 Pocmos Highway"
fiscalRegister	The entity's fiscal register	String	OPN	E.g. "fiscalRegister": "wupvucl"
corporateCapital	Entity Corporate Capital Amount	Amount	OPN	E.g. "corporateCapital":{…
reference	Reference description for invoice.	String	OPN	E.g. "reference": "Telemóvel"
vat	Invoice VAT	Amount	OPN	E.g. "vat": {…}
message	Message from the entity to the PSU	String	OPN	E.g. "message": "OBRIGADO POR PREFERIR A LYCAMOBILE. CASO NECESSITE"

6.11 ExchangeRate

Field	Description	Type	Man.	Format
currencyFrom	Source currency	String	MAN	E.g. "currencyFrom":"USD"
rate	Defines the exchange rate. E.g. currencyFrom=USD, currencyTo=EUR: 1USD =0.8 EUR and rate 0.8.	String	MAN	E.g. "rate":"0.8"

currencyTo	Destination currency	String	MAN	E.g. "currencyTo":"EUR"
rateDate	Date of fee	String	MAN	**ISODateTame**
rateContract	Reference to the fee contract	String	OPN	

6.12 Href

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

6.13 Links

Field	Description	Type	Man.	Format
scaRedirect	URL used to carry out the SCA, through redirecting the PSU navigator.	Href	OPN	E.g. "scaRedirect": {…}
startAuthorisation	Link to the endpoint where the authorisation of the transaction or the authorisation of the cancellation transaction must be initiated.	Href	OPN	E.g. "startAuthorisation":{…}
startAuthorisationWithAuthenticationMethodSelection	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	OPN	E.g. " startAuthorisationWithAuthenticationMethodSelection ": {…}
selectAuthenticationMethod	Link where the TPP may select the 2-factor authentication method applicable for the PSU, if there is more than one.	Href	OPN	E.g. "selectAuthenticationMethod": {…}

self	The link to the resource created for the request. This link may be used subsequently to recover the transaction status.	Href	OPN	E.g. "self": {…}
status	The link to recover the transaction status. For example, payment initiation status.	Href	OPN	E.g. "status": {…}
account	Link to the resource that provides the information on an account.	Href	OPN	E.g. "account": {…}
balances	Link to the resource that provides the account balances.	Href	OPN	E.g. "balances": {…}
transactions	Link to the resource that provides the account activity.	Href	OPN	E.g. "transactions": {…}
first	Navigation link for reports on paginated accounts.	Href	OPN	E.g. "first": {…}
next	Navigation link for reports on paginated accounts.	Href	OPN	E.g. "next": {…}
previous	Navigation link for reports on paginated accounts.	Href	OPN	E.g. "previous": {…}
last	Navigation link for reports on paginated accounts.	Href	OPN	E.g. "last": {…}
download	Download link for large AIS data packages. Only for camt-data.	Href	OPN	E.g. "download": {…}

6.14 PaymentExchangeRate

Field	Description	Type	Man.	Format
unitCurrency	Currency in which the exchange rate is expressed in foreign currency. In the following example EUR 1 = CUR xxx,	String	OPN	**ISO 4217** E.g. "unitCurrency": "EUR"

	the monetary unit is the EUR.			
exchangeRate	Factor used to convert an amount in one currency to another. Reflects the price in which a currency was purchased with another currency.	String	OPN	E.g. "exchangeRate": "1.3"
contractIdentification	Unique identification to identify the currency exchange contract	String	OPN	E.g. "contractIdentification" : "1234-qeru-23"
rateType	Specifies the rate used to complete the currency exchange. Permitted values: • SPOT • SALE • AGRD	String	OPN	E.g. "rateType": "SPOT"

6.15 PaymentLiquidation

Field	Description	Type	Man.	Format
code	Settlement code.	Integer	MAN	^.{1,2}$ E.g. "code":11
name	Settlement description Examples: - Trabalhadores do Serviço Doméstico - Seguro Social Voluntário - Produtores Agrícolas dos Açores The name of the TSU social security centre is provided in companies	String	MAN	E.g. "name": "ProdutoresAgricolasdosAÇores"

entityCode	Payment settlement entity	Integer	OPN	E.g. "entityCode": 12345
branch	Payment settlement branch related to the payment settlement entity	Integer	OPN	E.g. "branch": 54169188

6.16 PaymentPeriod

Field	Description	Type	Man.	Format
year	The year to which the payment corresponds. Values from 1 to 9999	Integer	MAN	^.{1,4}$ E.g. "year": 2020
month	Month of the year to which the payment corresponds. Values from 1 to 12	Integer	OPN	^.{1,2}$ E.g. "month": 10

6.17 PaymentUnit

Field	Description	Type	Man.	Format
minimum	Minimum unit of nature of payment	Integer	MAN	E.g. "minimum": 1
maximum	Maximum unit of nature of payment	Integer	MAN	E.g. "maximum": 25

6.18 PublicSectorPaymentEntity

Field	Description	Type	Man.	Format
entityCode	Entity code	Integer	MAN	E.g. "entityCode": 12345
paymentLiquidation	Data for payment settlement	PaymentLiquidation	MAN	E.g. "paymentLiquidation": {…}

6.19 PublicSectorPaymentType

Field	Description	Type	Man.	Format
code	Payment code.	String	MAN	^.{1,2}$ E.g. "code":01
name	Payment type description.	String	MAN	E.g. "name": "PAGAMENTOPORCONTA1"

6.20 Remuneration

Field	Description	Type	Man.	Format
code	Remuneration code	Integer	MAN	E.g. "code": 1
name	Description of the remuneration	String	MAN	E.g. "name": "Monthly-FullMonth"
minimumAmount	Value of minimum effective monthly remuneration	Amount	MAN	E.g. "minimumAmount":{…}
maximumAmount	Value of maximum effective monthly remuneration	Amount	MAN	E.g. "maximumAmount":{…}

6.21 ReportExchangeRate

Field	Description	Type	Man.	Format
sourceCurrency	Currency from which an amount will be converted in a currency conversion	String	MAN	**ISO 4217** E.g. "sourceCurrency": "EUR"
exchangeRate	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"
unitCurrency	Currency in which the exchange rate is expressed in foreign currency. In the following example EUR 1 = CUR xxx,	String	MAN	**ISO 4217** E.g. "unitCurrency": "EUR"

	the monetary unit is the EUR.			
targetCurrency	Currency into which an amount will be converted in a currency conversion.	String	MAN	**ISO 4217** E.g. "targetCurrency": "USD"
quotationDate	Date on which an exchange rate is quoted.	String	MAN	**ISODate** E.g. "quotationDate": "2019-01-24"
contractIdentification	Unique identification to identify the currency exchange contract	String	OPN	E.g. "contractIdentification" : "1234-qeru-23"

6.22 ServicePaymentEntity

Set of generic parameters of the payment service to be taken into account in the definition of the TPP interface.

Field	Description	Type	Man.	Format
servicePaymentName	Payment service name	String	MAN	E.g. "servicePaymentName" : "Myrtie Munoz"
minimumAmount	Indicates the minimum Payment Service amount. The minimum amount accepted is 0.01	Amount	MAN	E.g. "minimumAmount": {…}
maximumAmount	Indicates the maximum Payment Service amount. The maximum amount accepted is 99999.99	Amount	MAN	E.g. "maximumAmount": {…}
entityCode	Entity code	Integer	MAN	E.g. "entityCode": 12345
paymentType	Payment type. It will have a value of 1.	Integer	MAN	^.{1,1}$ E.g. "paymentType": 1

6.23 SinglePayment

Field	Description	Type	Man.	Format

instructedAmount	Information on the transfer carried out.	Amount	MAN	E.g. "instructedAmount": {…}
debtorAccount	The debtor's account. **Note**: this field may be optional in some services such as bulk payments	Account Reference	MAN	E.g. "debtorAccount": {"iban":"ES1111111111111111111111"}
creditorAccount	Creditor account	Account Reference	MAN	E.g. "creditorAccount": {"iban":"ES1111111111111111111"}
creditorName	Creditor's name	String	MAN	^.{1,70}$ E.g. "creditorName":"Name"
creditorAgent	BIC of the creditor account. NOTE: Mandatory if cross-border-credit-transfers	String	OPN/MAN	E.g. "creditorAgent":"XSXHXSMMXXX"
creditorAddress	Creditor's address NOTE: Mandatory if cross-border-credit-transfers	Address	OPN/MAN	E.g. "creditorAddress":{…}
chargeBearer	Only for payment-product: • sepa-credit-transfers • target-2-payments (companies only)instant-sepa-credit-transfers (companies only) Permitted values: • SLEV • cross-border-credit-transfers (só para empresas) Permitted values: • DEBT • CRED • SHAR •	String	OPN/MAN	**ChargeBearerType1Code of ISO 20022** E.g. "chargeBearer":"SLEV"
remittanceInformatio	Additional information.	String	OPN	^.{1,140}$

nUnstructured	See annex 7.10 Application layer Locating message parameters Definition of the interface follows the REST services approach. This approach allows message parameters to be transported in different layers: • Message parameters as part of the HTTP layer (HTTP headers) • Message parameters defining additional query parameters in the path (information in the URL path) • Message parameters as part of the HTTP body The parameters contained in the corresponding HTTP body will be encoded in JSON. The parameters are encoded in: • spinal-case (lowercase letters) at the path level • Spinal-case (starting with uppercase letters) at the HTTP header level • lowerCamelCas			E.g. "remittanceInformationUnstructured":"Additional information"

	e for query parameters (query params) and JSON-based parameters. The following principles apply to definition of the API: • Definition of the content syntax • Certificates and signature data required • PSU identification data (based on the access token) • Protocol-level data such as the request Timestamp or request/transaction identifiers Message parameters as part of the path level: • Identification of the *provider* • Identification of the service • Identification of the type of payment • Resource ID Query parameters: • Additional information required to process GET requests to filter information			

	Message parameters as part of the HTTP body: • Business data • PSU authentication data • Information messages Hyperlinks for full addressing of the TPP-ASPSP process **6.23.1 Signing messages under BG 1.3 specifications** All requests will go signed to the ASPSP. The signature must be included in the HTTP header. **6.23.2 API interface structure** The interface is resource-oriented. The resources can be routed under the API endpoints. Using additional content parameters {parameters}, where: • {provider} is the host and path of the API • v1 is the version of this			

	specification • {service} has the multi-bank-payments values. • {¿query-parameters} are parameters that provide details of the GET access methods • {parameters} are attributes defined in JSON encoding The structure of the request/response is described in accordance with the following categories: • Path: attributes encoded in the Path • Query parameters: attributes added to the path after the ? sign, such as flags for the addressing of processes and filtering attributes for GET access methods. Boolean type access parameters must always be used with the values true or false. • Header: attributes encoded in the			

	HTTP header of the request or response • Request: attributes of the request • Response: attributes of the response in JSON The HTTP response codes, which can be used in the interface, will be defined later. **6.24 Communications and certificates** The following information is valid for a PRODUCTION environment. **6.24.1 Communications originating in TPP with API destinations** **https channel (TLS 1.2) + TWOWAY-SSL** The eIDAS QWAC certificate of the TPP must be used **Signing messages under BG 1.3 specifications**			

	The eIDAS QSealC certificate of the TPP must be used **6.25 Good practice guide** remittanceInformation Unstructured field for recommendations on use.			
requested Execution Date	Execution date requested for future payments. **Note**: only if supported by the ASPSP	String	COND	**ISODate**
requested ExecutionTime	Requested time of execution. **Note**: only if supported by the ASPSP	String	COND	**ISODateTime**

6.26 SocialSecurityPaymentParameters

Field	Description	Type	Man.	Format
paymentNature	Nature of the payment for individuals' social security **Note**: it has a value if it is not a TSU centre	PaymentLiquidation	OPN	E.g "paymentLiquidation": {…}
tsuCenter	Data of the TSU social security centres. Only for companies **Note**: it has a value if it is a TSU centre	PaymentLiquidation	OPN	E.g. "tsuCenter":{…}
paymentUnit	Payment unit	PaymentUnit	OPN	E.g. "paymentUnit": {…}
remuneration	Information about the type of remuneration	Remuneration	OPN	E.g. "remuneration":{…}

6.27 SpecialServicePaymentEntity

Field	Description	Type	Man.	Format
servicePaymentName	Identifies the name of the special payment service	String	MAN	E.g. "servicePaymentName" : "Livre"
entityCode	MULTI-BANK entity code	Integer	MAN	E.g. "entityCode": 12345
paymentType	Payment type. Value 2.	Integer	MAN	^.{1,1}$ E.g. "paymentType": 2
chargeType	Type of charge	Integer	MAN	^.{1,3}$ E.g. "chargeType": 1
productName	Name of the product offered by the entity	String	MAN	^.{1,3}$ E.g. "productName": "Carragamento Lycamobile"
specialServicePayment Parameters	List of possible accepted amounts	List<SpecialServicePaymentParameters>	OPN	E.g. "specialServicePayment Parameters": […]
minimumAmount	Indicates the minimum amount accepted for special payment services	Amount	MAN	E.g. "minimumAmount": {…}
maximumAmount	Indicates the maximum amount accepted for special payment services	Amount	MAN	E.g. "maximumAmount": {…}
entitiesCorporateData	Entity Corporate Capital Currency.	List<EntityCorporateData>	OPN	E.g. "entitiesCorporateData" : […]

6.28 SpecialServicePaymentParameters

Field	Description	Type	Man.	Format
code	Code associated with the amount	Integer	MAN	E.g. "code": 1
amount	Amount	Amount	MAN	E.g. "amount": {…}

6.29 TppMessage

Field	Description	Type	Man.	Format
category	Category of type of message received. Possible values: ERROR or WARNING	String	MAN	E.g. "category": "ERROR"
code	Response code. All the return codes for the service are listed in annex 7.3 Return codes.	String	MAN	E.g. "code":"CONSENT_INVALID"
path	Path to the field with a reference to the error.	String	COND	E.g. "path":"…"
text	Additional explanatory text.	String	OPN	E.g. "text":"Example of text"

6.30 Transactions

Field	Description	Type	Man.	Format
transactionId	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	OPN	E.g. "transactionId":"123-asdf-456"
entryReference	Identification of the transaction that may be used, for example, in delta queries.	String	OPN	^.{1,35}$ E.g. "entryReference":"1234-asdf-456"
endToEndId	Unique end-to-end identifier.	String	OPN	^.{1,35}$ E.g. "endToEnd":"…"
mandateId	Identification of the mandate. For example, an ID of a SEPA mandate.	String	OPN	^.{1,35}$ E.g. "mandateId":"…"
checkId	Cheque identifier	String	OPN	^.{1,35}$ E.g. "checkId":"…"

creditorId	Identification of the beneficiary. For example, an ID of a SEPA beneficiary.	String	OPN	^.{1,35}$ E.g. "creditorId":"…"
bookingDate	Transaction annotation date	String	OPN	**ISODate** "bookingDate":"2017-10-23"
valueDate	Date on which the entry becomes available for the account holder in case of a loan.	String	OPN	**ISODate** E.g. "valueDate":"2017-10-23"
transactionAmount	Transaction amount	Amount	MAN	E.g. "transactionAmount": [{..}]
currencyExchange	Exchange rate	List<ReportExchangeRate>	OPN	E.g. "currencyExchange": [{…}]
creditorName	Creditor name if the transaction is a debit.	String	OPN	^.{1,70}$ E.g. "creditor": "Name"
creditorAccount	Creditor's account.	AccountReference	COND	E.g. "creditorAccount": {...}
ultimateCreditor	Ultimate creditor.	String	OPN	^.{1,70}$ E.g. "ultimateCreditor": "Name"
debtorName	Debtor's name if the transaction is a credit.	String	OPN	^.{1,70}$ E.g. "debtor": "Name"
debtorAccount	The debtor's account.	AccountReference	COND	E.g. "debtorAccount": {...}
ultimateDebtor	Name of ultimate debtor.	String	OPN	^.{1,70}$ E.g. "ultimateDebtor": "Name"
remittanceInformationUnstructured	Field to include additional information on the remittance.	String	OPN	^.{1,140}$ E.g. "remittanceInformationUnstructured":"Additional information"
remittanceInformationStructured	Field to include a reference to the remittance.	String	OPN	^.{1,140}$ E.g. "remittanceInformationStructured":"Ref. 12344567"
purposeCo	ExternalPurpose1Cod	String	OPN	**ExternalPurpose1Co**

de	e ISO 20022			**de ISO 20022**
bankTransactionCode	Bank transaction code as used by the ASPSPs in the ISO 20022 format	String	OPN	**ExternalBankTransactionDomain1Code**
proprietaryBankTransactionCode	Proprietary bank transaction code	String	OPN	^.{1,35}$
_links	Possible values: • transactionDetails	Links	OPN	E.g. "_links": {…}

7. ANNEXES

7.1 Signature

7.1.1 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.

7.1.2 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
keyId	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= YYYYYYYYYYYYYYY" Where "XXX" is the serial number of the certificate in hexadecimal code and "YYYYYYYYYYYYYYY" is the full "Distinguished Name" of the certification authority.
Algorithm-ID	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.
Headers	String	OPN	Is used to specify the list of HTTP headers included when the signature is generated for the message. If specified, it must be a list between inverted commas and in lower case, separated by a	The required fields to be signed are: • digest • x-request-id Conditionally, if they travel and are supported, they must include: • psu-id

			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. 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.	• psu-corporate-id • tpp-redirect-uri
Signature	String	MAN	The "signature" parameter must be in Base64 according to RFC 4648. 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.	There are no additional requirements.

7.1.3 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.

7.1.3.1 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: A5F1CF405B28E44ED29507E0F64495859BA877893D2A714512D16CE3BD8BE562
- Base64: pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

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

SHA256=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

The headers you have so far are:

X-Request-ID=a13cbf11-b053-4908-bd06-517dfa3a1861f]
Digest=SHA256=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

7.1.3.2 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=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

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+g5mwqcW
vXtBr1vg0bZKN8Zt3+uJMN37NQg9tJNE2yKIJlEPlAYOjC2PA/yzGSLOdADnXQut9yRvx
w8gMCjDtRaKDyWmwG6/crX293hGvBUeff1xvTluWhQzyfx4J6WG0v1ZmpnWdZ1LF6
8sToeDGTdu65aVKV2q6qcZzcm5aPV6+mVHX+21Vr6acxiLZdeYUHYJHrzErUN3KJrmt
3w2AL7Dw==

7.1.3.3 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=”MIIEWTCCA0GgAwIBAgI….

7.1.3.4 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=pfHPQFso5E7SlQfg9kSVhZuod4k9KnFFEtFs472L5WI=

Signature=keyId="SN=-5d803f65,CA=CN=REDSYS-AC-EIDASt-C1,OU=PKI,O=REDSYS,C=ES",algorithm="SHA-256",headers="digest x-request-id",signature="
la8LV3Fny2so4c40OkYFtZvr1mOkOVY1n87iKfIggEkXQjZNcyjp9fFkNtQc+5ZVNESdiqKG8xrawYa5gAm46CvcKChNTPaakiEJHcXM5RZPWN0Ns5HjV5mUY2QzD+g5mwqcWvXtBr1vg0bZKN8Zt3+uJMN37NQg9tJNE2yKIJlEPlAYOjC2PA/yzGSLOdADnXQut9yRvxw8gMCjDtRaKDyWmwG6/crX293hGvBUeff1xvTluWhQzyfx4J6WG0v1ZmpnWdZ1LF68sToeDGTdu65aVKV2q6qcZzcm5aPV6+mVHX+21Vr6acxiLZdeYUHYJHrzErUN3KJrmt3w2AL7Dw=="

TPP-Signature-Certificate=MIIEWTCCA0GgAwIBAgIEon/…

7.2 HTTP response codes

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

HTTP code	Description
200 OK	• Response code for PUT and GET requests • 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 • The FCS POST request also allows 200 to be returned given that a new resource is not created. • Response code for DELETE requests when the request has been carried out correctly and no authorisation is required.
201 Created	Response code for POST requests where a new resource has been correctly created.
202 Accepted	Response code for DELETE requests when a payment resource may be cancelled but that requires authorisation for cancellation by PSU.
204 No Content	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.
400 Bad Request	A validation error has occurred. This code covers errors in syntax in incorrect requests or data in the payload.
401 Unauthorised	The TPP or the PSU is not correctly authorised to make the request. Retry the request with the correct authentication information.
403 Forbidden	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.

404 Not found	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.
405 Method Not Allowed	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.
406 Not Acceptable	The ASPSP cannot generate the content that the TPP specifies in the Accept header field
408 Request Timeout	The server is still working correctly, but the request has timed out.
409 Conflict	The request may not be completed due to a conflict with the current status of the referenced use.
415 Unsupported Media Type	The TPP has requested a "media type" that the ASPSP does not support.
429 Too Many Requests	The TPP has exceeded the maximum number of requests permitted by the consent or by the RTS
500 Internal Server Error	An internal server error has occurred.
503 Service Unavailable	The ASPSP server is temporarily unavailable. Generally it is a temporary state.

In cases where the HTTP code does not match a return code, additional error information is not sent (tppMessages). In these cases, the HTTP code provides sufficient information about the error situation.

7.3 Return codes

Permitted return codes and associated HTTP response codes.

	HTTP code	Code	Description
SIGNATURE CERTIFICATE	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_MISSI	The signature certificate

		NG	was not present in the request.
SIGNATURE	401	SIGNATURE_INVALID	The signature is incorrect.
	401	SIGNATURE_MISSING	The signature is not in the message when this is required.
GENERAL	400	FORMAT_ERROR	The format of certain request fields is wrong. The fields will be indicated. This applies to the body and header fields. It also applies to cases where these entries refer to instances of inexistent or erroneous data.
	400	PARAMETER_NOT_CONSISTENT	Parameters sent by the TPP are not consistent. Only applies to query parameters.
	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 indicted, 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	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.
	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 that 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.
PIS	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.

7.4 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.
ACSP	AcceptedSettlementInProcess	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.
ACTC	AcceptedTechnicalValidation	Syntactic and semantic authentication and validation are correct.
ACWC	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.
ACWP	AcceptedWithoutPosting	The payment instruction included in the credit transfer has been accepted without

		being sent to the account of the creditor client.
RCVD	Received	The payment initiation has been received by the agent (the ASPSP through the HUB)
PATC	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
PDNG	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.
RJCT	Rejected	The payment initiation or the individual transaction included in the payment initiation has been rejected.
CANC	Cancelled	The start of payment has been cancelled before its execution. Note: needs ISO 20022 approval
PART		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.

7.5 Consent statuses

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

7.6 SCA statuses

Code	Description
received	The authorisation resource was created correctly.
psuIdentified	The PSU associated with the authorisation resource has been identified and authenticated (for example, by a password or by the access token)
scaMethodSelected	The PSU/TPP has selected the SCA flow. If the SCA method is chosen implicitly, because only one SCA method is available, then this is the first status to be entered, instead of "received"
started	The SCA flow has been initiated.
finalised	The SCA flow has been completed successfully.
failed	The SCA flow failed.
exempted	The transaction is exempt from SCA; the associated authorisation is correct.

7.7 Types of authentication

Code	Description
SMS_OTP	SCA method where an OTP associated with the transaction to be authorised is sent to the PSU via an SMS channel.
CHIP_OTP	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.
PHOTO_OTP	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.
PUSH_OTP	The OTP is sent via PUSH to a dedicated authentication APP and displayed to the PSU.

7.8 Types of balances

Code	Description
closingBooked	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.

expected	Transactions composed of annotated entries and the entries pending at the request time.
openingBooked	Account balance at the start of the report period. It is always equal to the "closingBooked" balance of the report for the previous period.
interimAvailable	Balance provisionally available. Calculation based on the entries of credit and debit items during the specified period of time.
interimBooked	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.
forwardAvailable	Advance of the cash balance available to the account holder at the specified date.

7.9 Types of charge sharing

Code	Description
DEBT	All the transaction charges are payable by the debtor
CRED	All the transaction charges are payable by the creditor
SHAR	Shared charges. The creditor and debtor are responsible for their corresponding charges.
SLEV	The charges applicable follow the rules agreed at the service and/or scheme level

7.10 Application layer

7.10.1 Locating message parameters

Definition of the interface follows the REST services approach. This approach allows message parameters to be transported in different layers:

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

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

The parameters are encoded in:

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

The following principles apply to definition of the API:

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

Message parameters as part of the path level:

- Identification of the *provider*
- Identification of the service
- Identification of the type of payment
- Resource ID

Query parameters:

- Additional information required to process GET requests to filter information

Message parameters as part of the HTTP body:

- Business data
- PSU authentication data
- Information messages

Hyperlinks for full addressing of the TPP-ASPSP process

7.10.2 Signing messages under BG 1.3 specifications

All requests will go signed to the ASPSP.

The signature must be included in the HTTP header.

7.10.3 API interface structure

The interface is resource-oriented. The resources can be routed under the API endpoints.

Using additional content parameters {parameters}, where:

- {provider} is the host and path of the API
- v1 is the version of this specification
- {service} has the multi-bank-payments values.
- {¿query-parameters} are parameters that provide details of the GET access methods
- {parameters} are attributes defined in JSON encoding

The structure of the request/response is described in accordance with the following categories:

- Path: attributes encoded in the Path
- Query parameters: attributes added to the path after the ? sign, such as flags for the addressing of processes and filtering attributes for GET access methods. Boolean type access parameters must always be used with the values true or false.
- Header: attributes encoded in the HTTP header of the request or response

- Request: attributes of the request
- Response: attributes of the response in JSON

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

7.11 Communications and certificates

The following information is valid for a PRODUCTION environment.

7.11.1 Communications originating in TPP with API destinations

https channel (TLS 1.2) + TWOWAY-SSL

The eIDAS QWAC certificate of the TPP must be used

Signing messages under BG 1.3 specifications

The eIDAS QSealC certificate of the TPP must be used

7.12 Good practice guide

7.12.1 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 retail business xxx"

7.12.2 Life of the scaRedirect link

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