

Slovak Banking API Standard.

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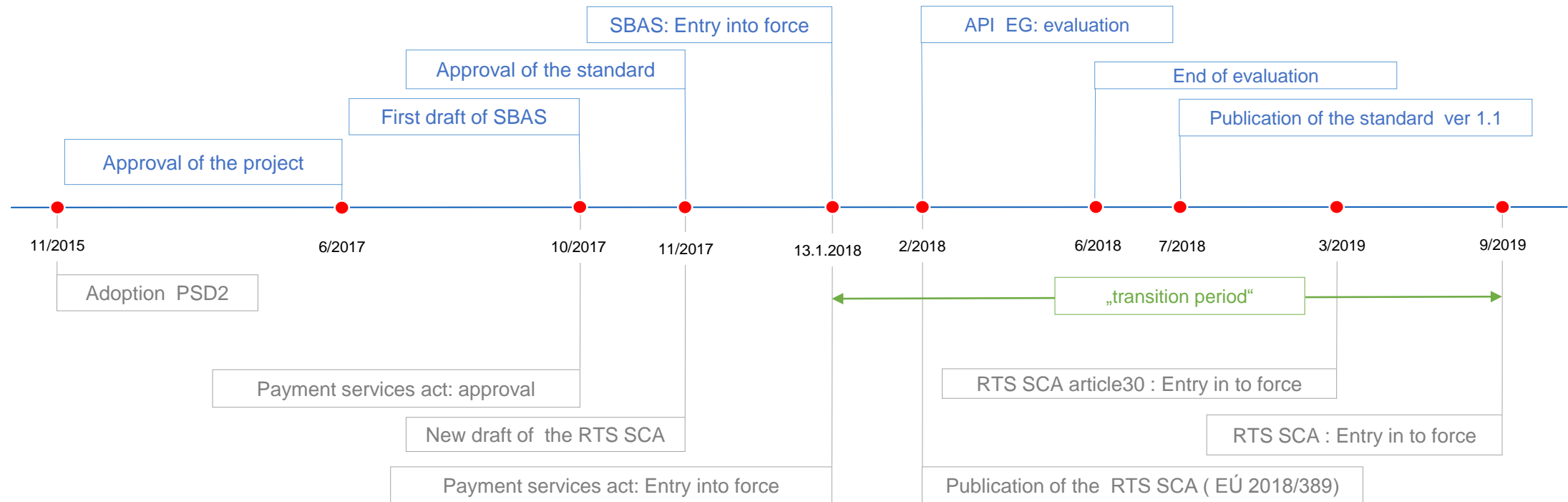
01.

Slovak Banking API Standard: Introduction

1.1 Why did SBA decide to prepare API standard?

- We knew that from January 13, 2018, banks in Slovakia had to open for the „Third Party Providers“ (decision of regulator)
- Security reason

1.2 How we prepared the API standard



1.3 Overview of SBAS

- The Slovak Banking API Standard (SBAS) defines secure communication between the banks and third party providers based on PSD2 requirements.
- SBAS represents minimum requirements for API implementation.
- The standard is voluntary for SBA members and it is obligatory only for members which have joined it.
- SBAS is open standard (everyone can use it).

1. 4 API Evaluation Group Activities

- SBAS is among the five european API standardisation initiatives which is evaluated by experts of API Evaluation Group (API EG).
- API EG is a market group and its creation was proposed by the European commision.
- The API EG has the objective to evaluate standardised API specifications in order to help ensure that those standards are compliant with the requirements of the PSD2 and meet the needs of all market participants.



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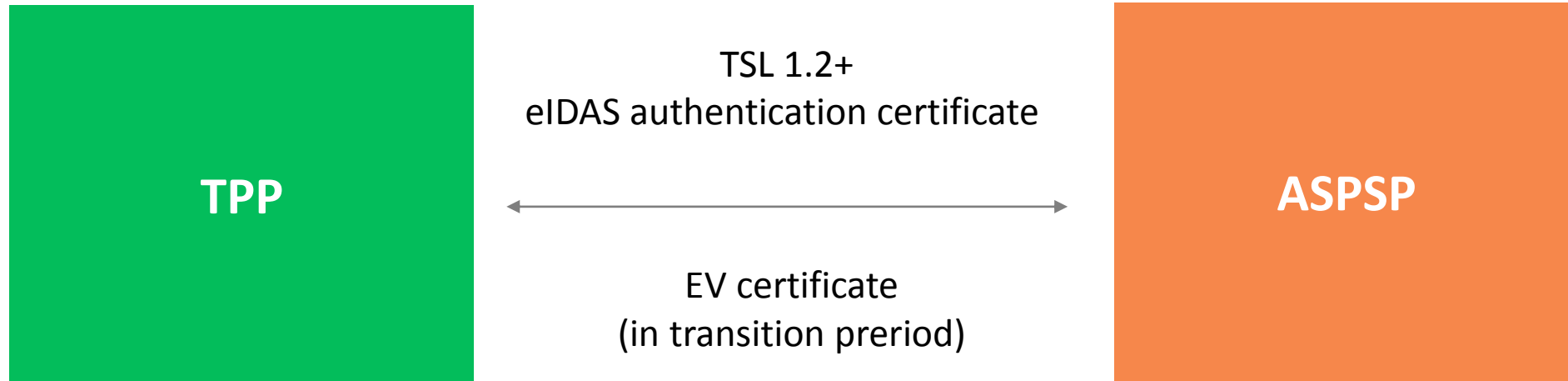
Slovak Banking API Standard: Technical characteristics

2.1 Design principles

- **Mandatory service operation is related just to one customer's bank account.** None of the service operations can provide response for a bulk of accounts.
- **An account identifier, especially IBAN should be located in the body of a HTTP request, or at least in a HTTP header field.** The HTTP method GET cannot be used with a message body with semantic meaning in order to follow the HTTP specification.
- **The data model** of the standard and all extended APIs should utilized data elements, terms, and semantics from **ISO 20022 as much as reasonable.**

2.2 TPP and ASPSP Authentication framework

- A TLS version 1.2+ is required to secure the communication layer.
- For the authentication of the ASPSP as a resource provider, the eIDAS-based site authentication certificate will be used



2.3 OAuth 2.0 Authorization framework

- The technical enrollment of TPP helps to share identifiers (`client_id` and `client_secret`).
- ASPSP communicates with TPP by using the OAuth 2.0 (`access_token` and `refresh_token`)
- Authorization code grant flow and Client credentials grant flow are supported.

2.4 Technical enrollment endpoints

Endpoints	Methods	Description
https://ib.banka.sk/enroll	POST	Service returns technical identifier <code>client_id</code> and <code>client_secret</code>
https://ib.banka.sk/enroll/{client_id}	PUT	TPP may request to change the application-specific registration details.
https://ib.banka.sk/enroll/{client_id}	DELETE	By calling this resource, the TPP may request to remove data and application-specific credentials.
https://ib.banka.sk/enroll/{client_id}/renewSecret	POST	By calling this resource, TPP can request a new <code>client_secret</code> .



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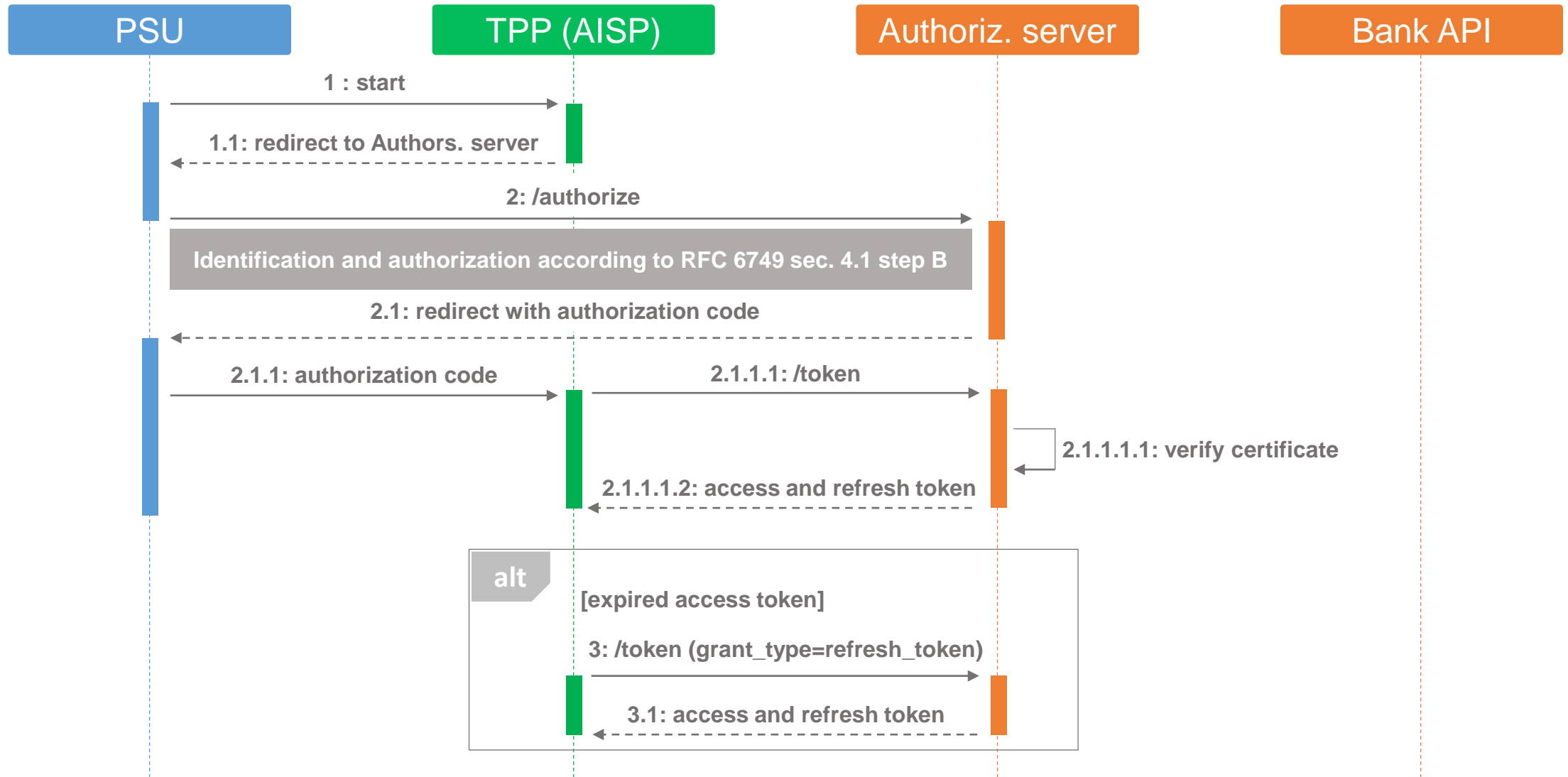
Use cases:

Account information services

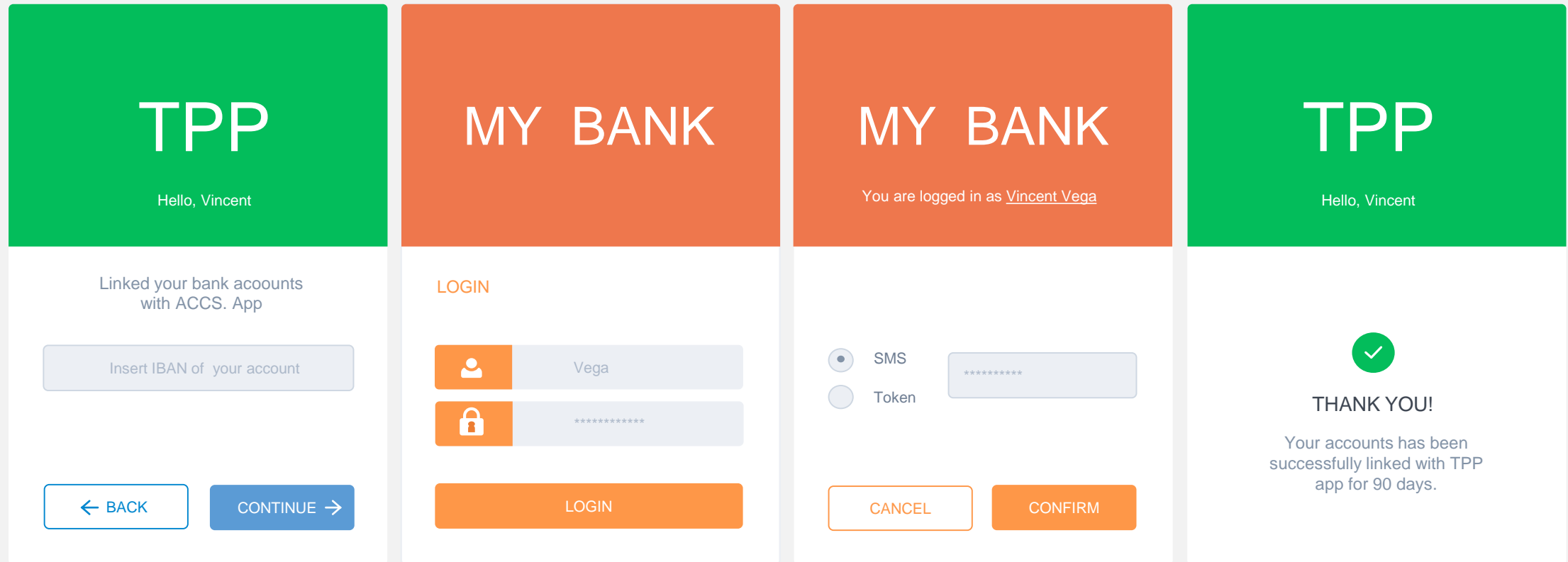
3.1 AISP Endpoint definition

Endpoints	Methods	Optionality	Description
/api/v1/accounts/information	POST	Mandatory	Account information - service provide information and balances related to an account
/api/v1/accounts/transactions	POST	Mandatory	Account transactions - service provide list of transactions in JSON Format (based on CAMT.054) related to an account
/api/v1/accounts	GET	Optional	List of accounts - service returns the list of accounts to which the client has given a long-term mandate to specific TPP (not a list of all client accounts) without balances

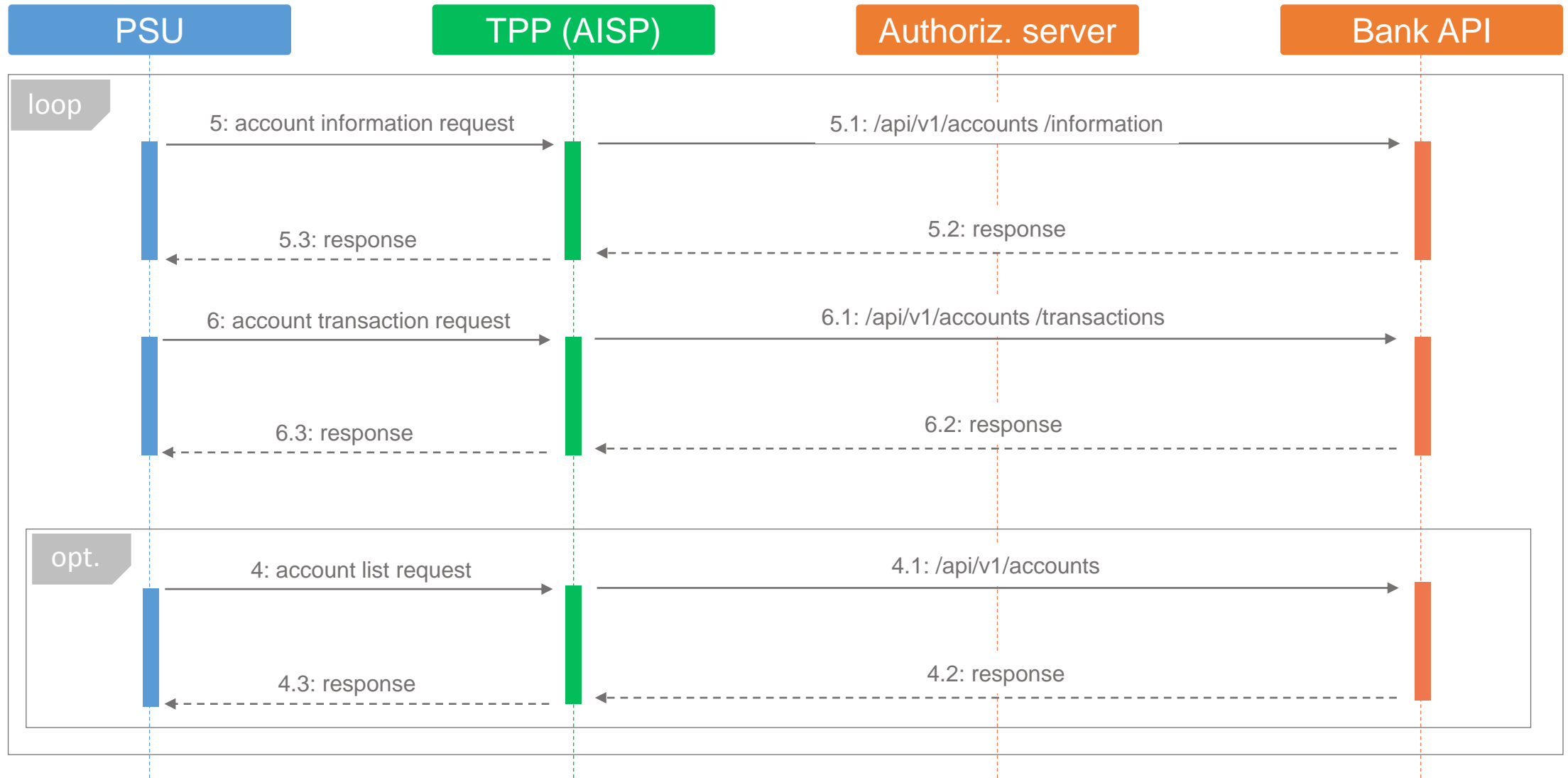
3.2 Enrollment: OAuth 2.0 tokens for AISP/PISP services



Example of Graphical user interface implementation: AIP access to selected accounts for 90 days



3.3 Calls AISP services with valid Access token





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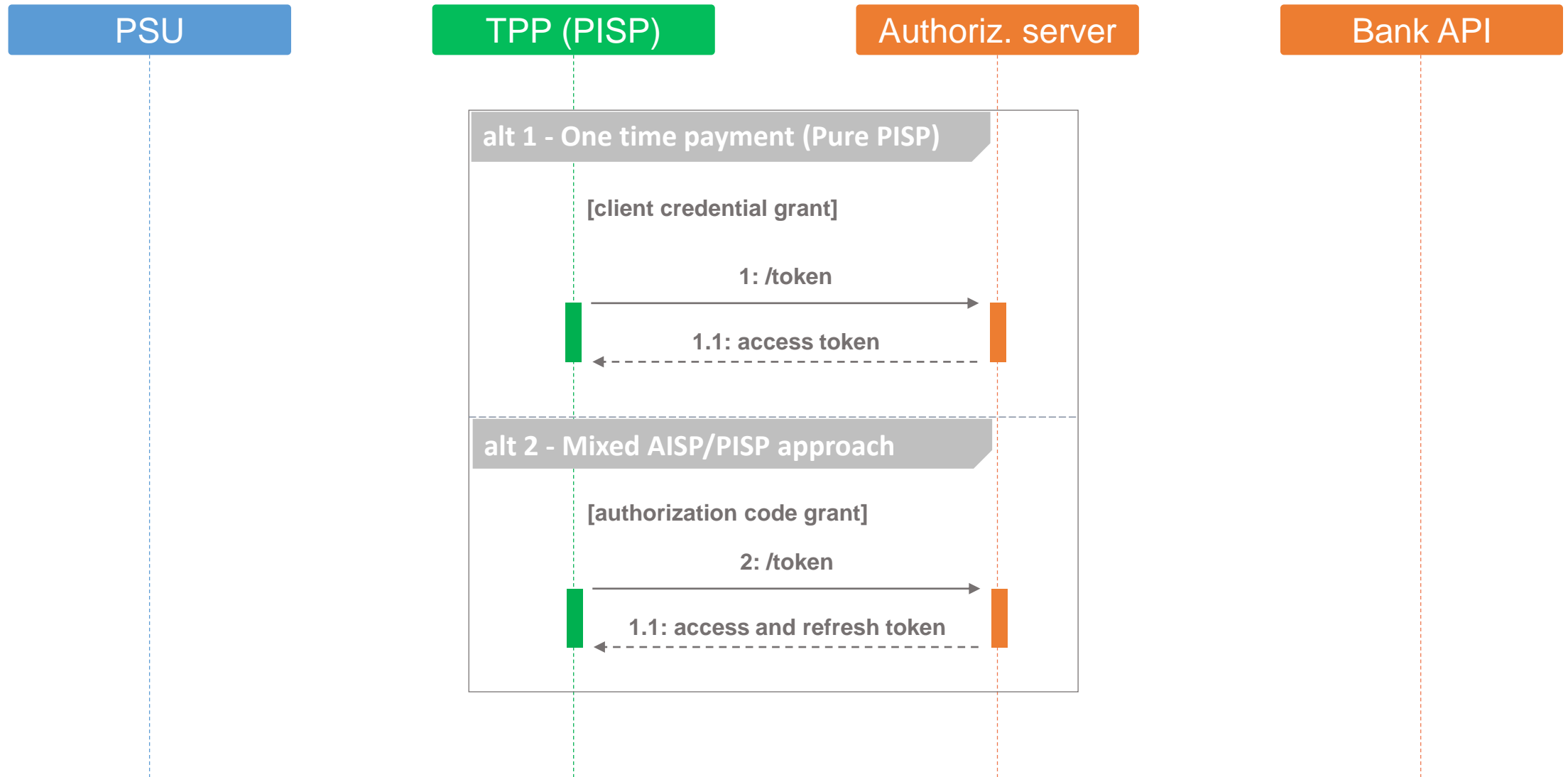
Use cases:

Payment initiation services

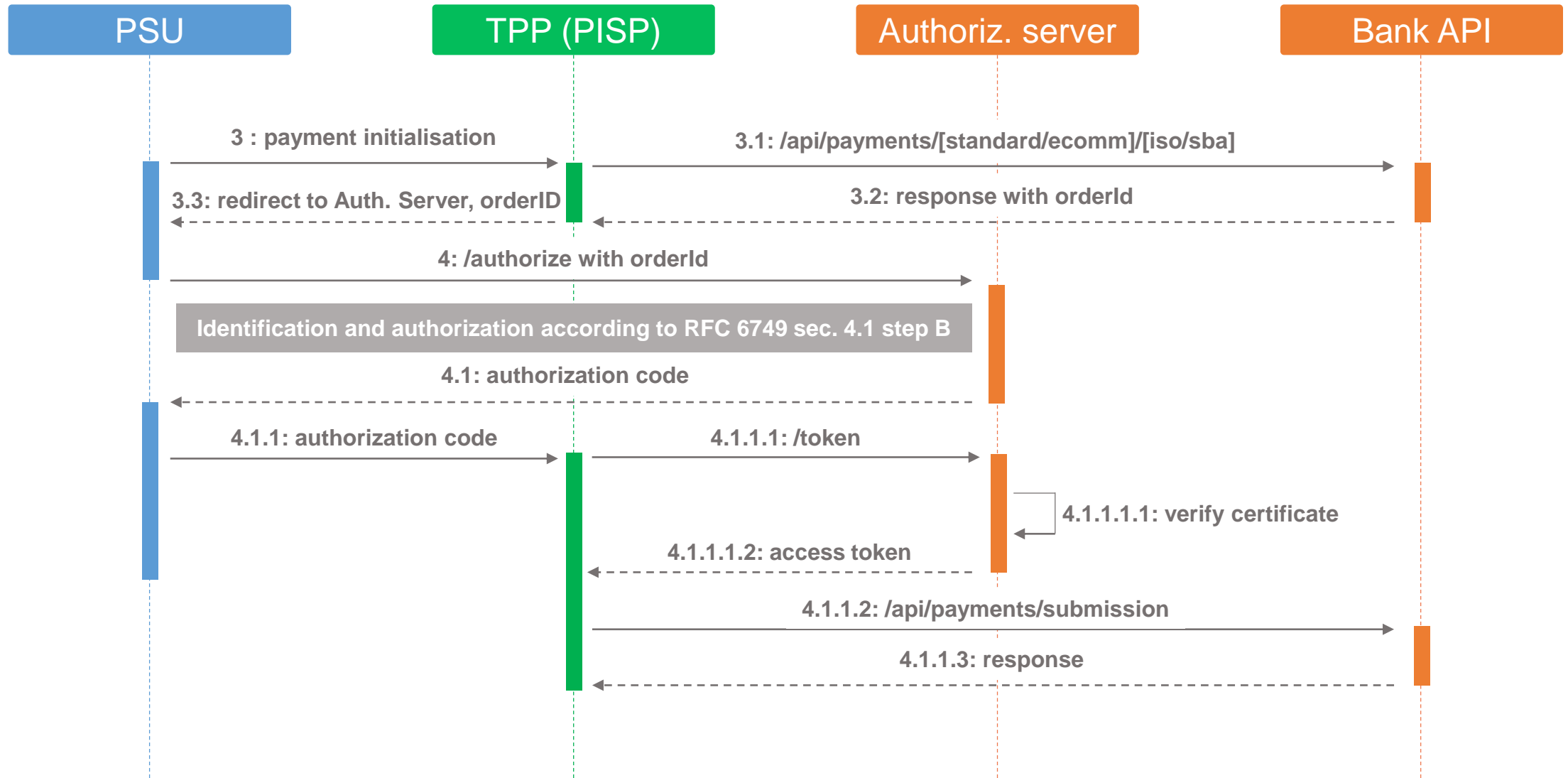
4.1 PISP Endpoints definition

Endpoints	Method	Optionality	Description
/api/v1/payments/standard/iso	POST	Mandatory	Standard payment initialization – service allows to initialize payment in XML format (PAIN.001)
/api/v1/payments/submission	POST	Mandatory	Standard payment submission – service allows to authorization of initialized payment
/api/v1/payments/{orderId}/status	GET	Mandatory	Payment order status – service provide actual information about initialized payment
/api/v1/payments/standard/sba	POST	Optional	Standard payment initialization – service allows to initialize payment in JSON format
/api/v1/payments/ecommm/iso	POST	Optional	Ecommerce payment initialization – service allows to initialize immediate payment in XML format (PAIN.001)
/api/v1/payments/ecommm/sba	POST	Optional	Ecommerce payment initialization – service allows initialize immediate payment in JSON format

4.2 Payment Initiation with Client Credential Grant Type or Authorization Code Grant Type



4.3 Payment Initiation with Payment Submission



Example of Graphical user interface implementation: One time payment (Pure PISP)

TPP
TOTAL AMOUNT
€15
to the account of Amazon EU S.à.r.l.

Insert IBAN of your account

[← BACK](#) [CONTINUE →](#)

MY BANK
PAYMENT
€15
to the account LU28 0019 4006 4475 0000

LOGIN

[LOGIN](#)

MY BANK
PAYMENT
€15
to the account LU28 0019 4006 4475 0000


You are logged in as [Vincent Vega](#)

SMS

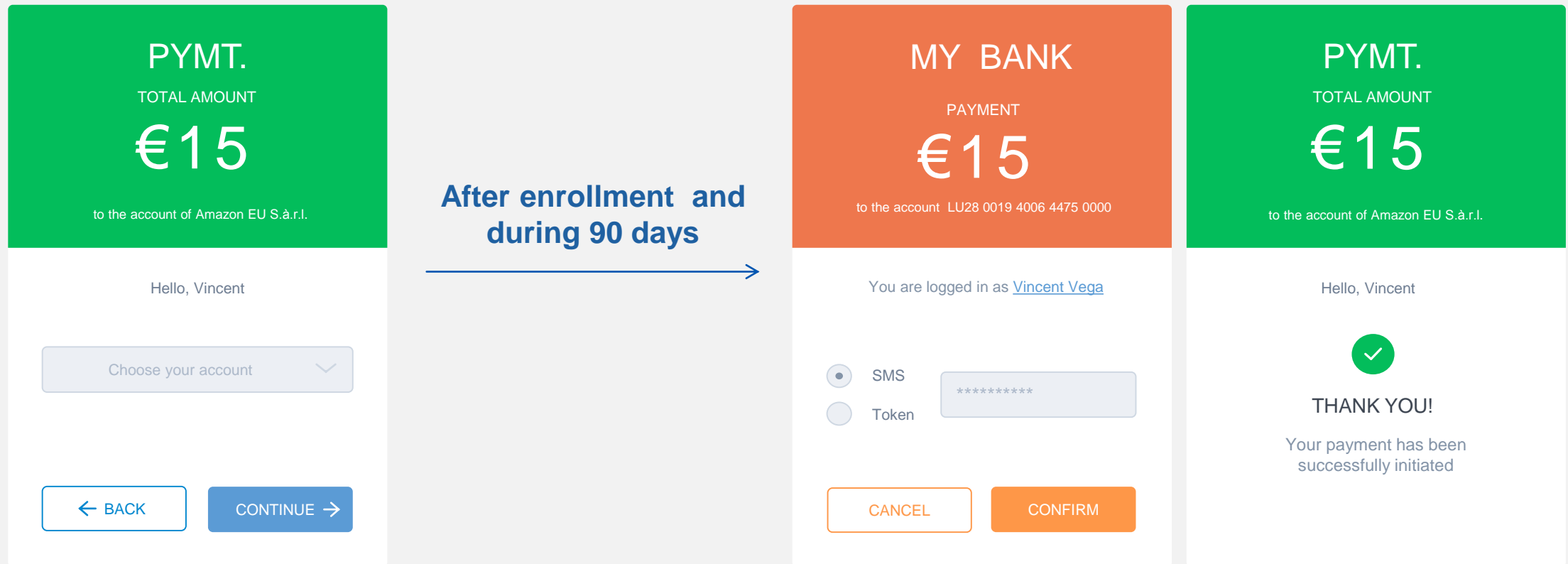
Token

[CANCEL](#) [CONFIRM](#)

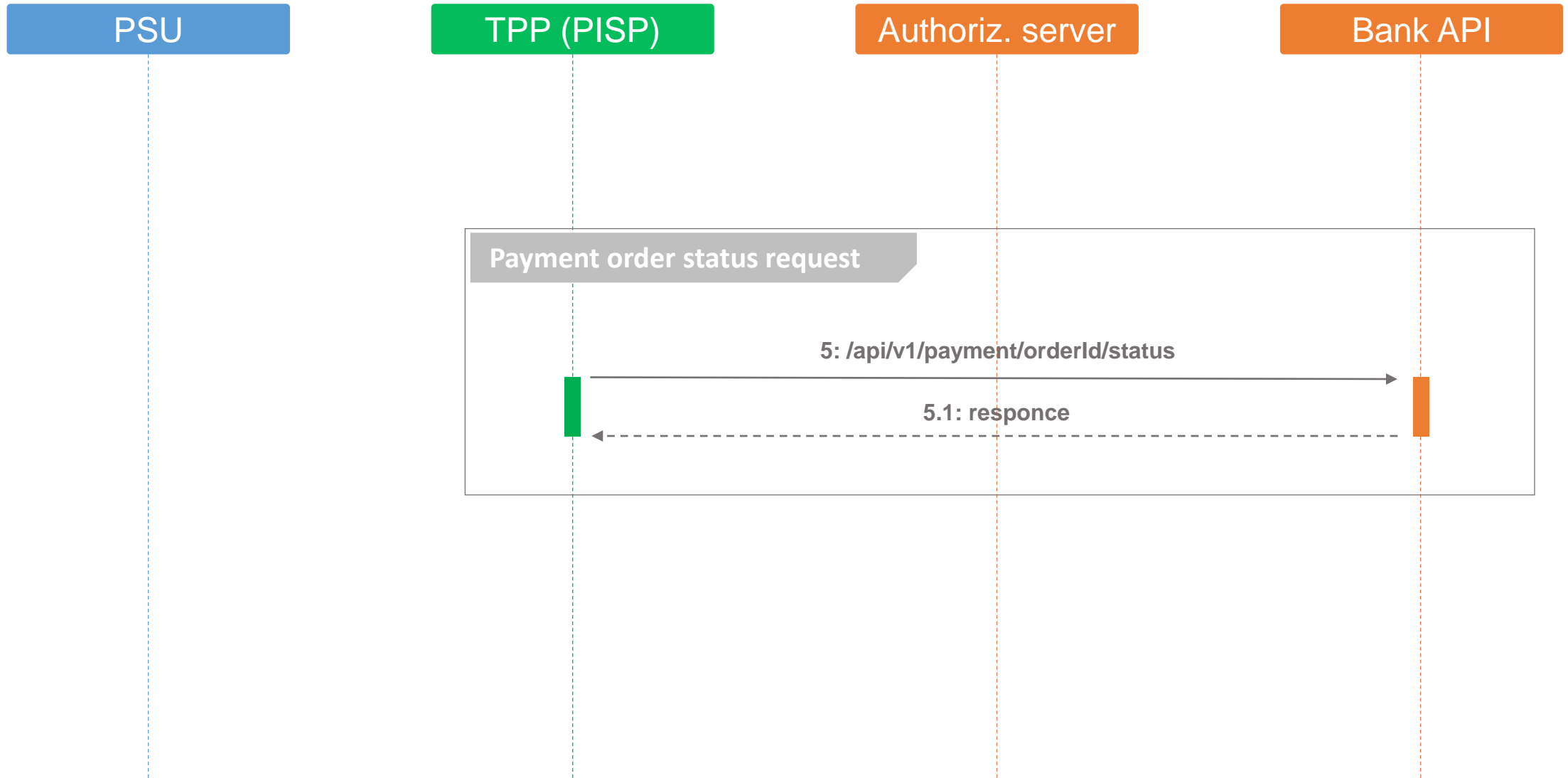
TPP
TOTAL AMOUNT
€15
to the account of Amazon EU S.à.r.l.


THANK YOU!
Your payment has been successfully initiated

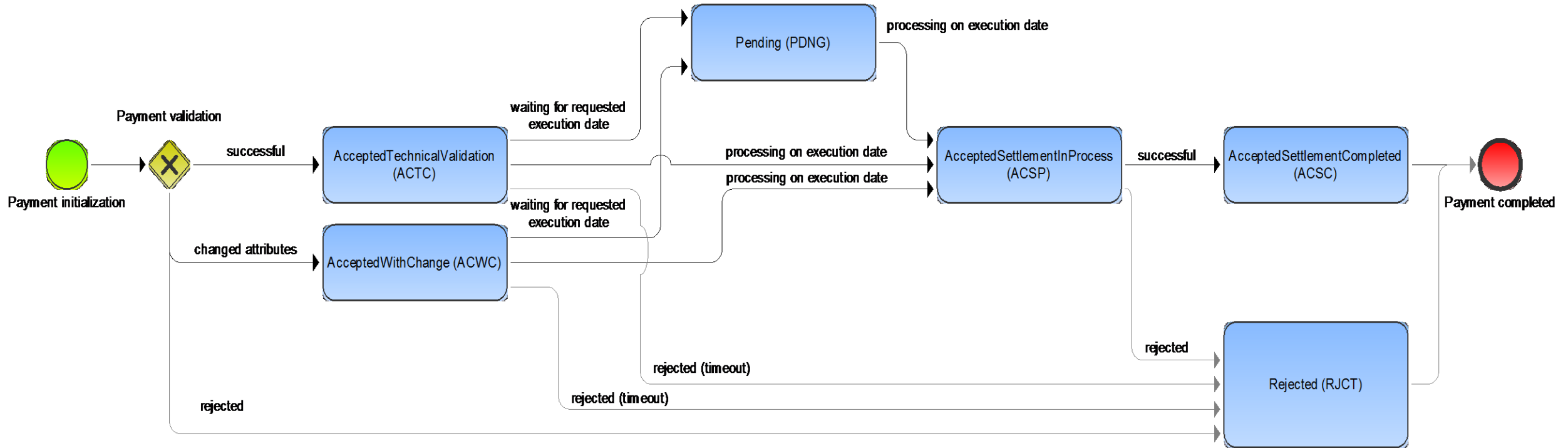
Example of Graphical user interface implementation: Payment with account sign-in to TPP (Mixed AISP/PISP)



5.4 Payment order status request



4.5 Flow of Payment's statuses





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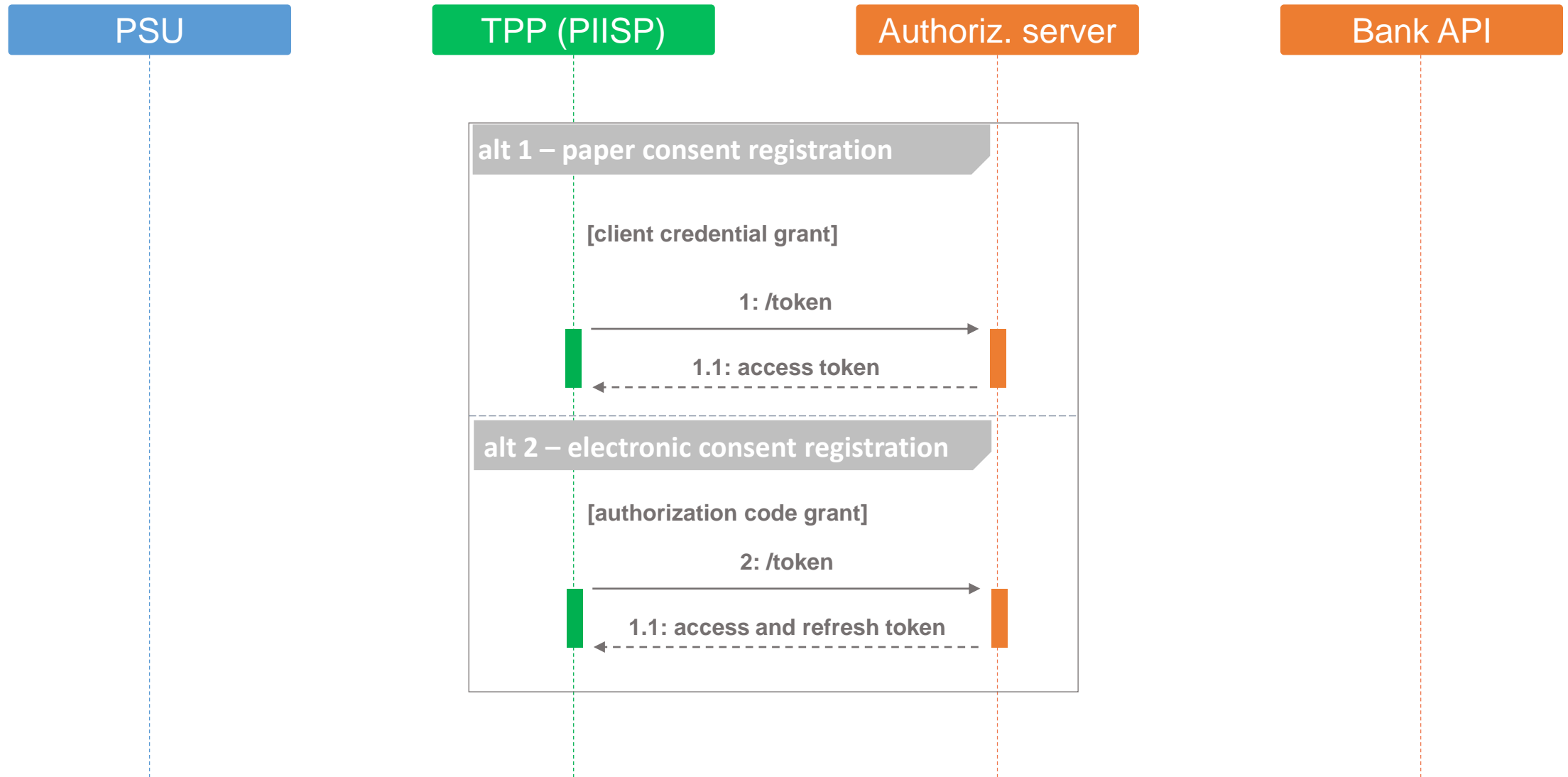
Use cases:

Payment Instrument Issuer
Services

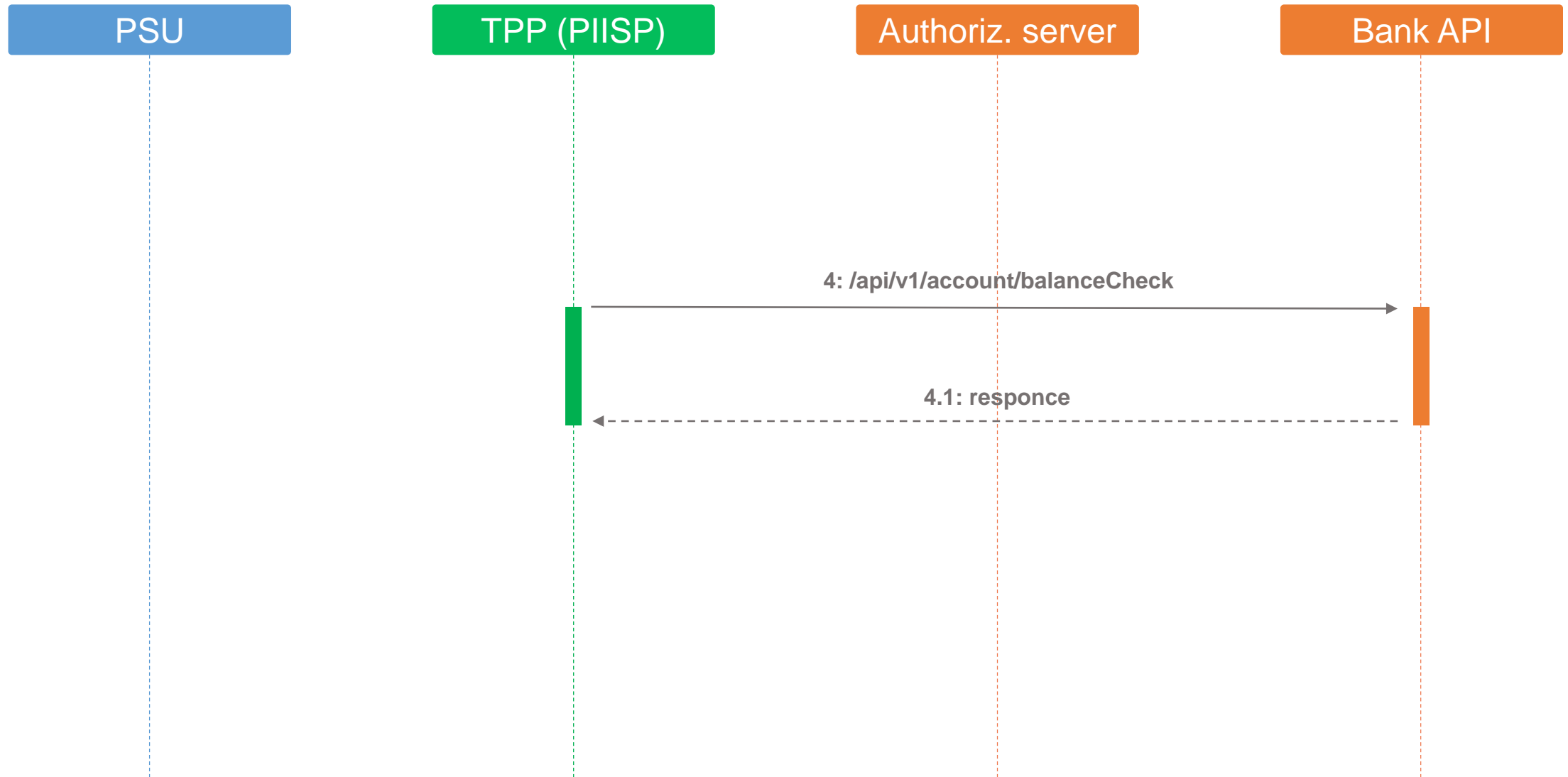
3.1 Endpoint definition

Endpoints	Methods	Optionality	Description
/api/v1/accounts/balance Check	POST	Mandatory	Balance check – service provide information about sufficient balance with the yes/no answer

5.2 Balance check with Client Credential Grant Type or Authorization Code Grant Type



5.3 Balance check for Payment Instrument Issuer





More information:

www.sbaonline.sk/SBAS

Thank you.

Appendix: Technical characteristics of SBAS

Transport protocols	TLS1.2+, HTTP
Applicative protocol	REST
Authorization protocol	OAuth 2.0 (client credential grant, authorization code grant)
Authentication methods:	Based on re-direct
Character set	UTF-8
Data structure	JSON (XML in the payment initiation services)
Data model origin	ISO 20022 is preferable used for attributes name
Character case convention	lowerCamelCase

Appendix: List of services

Service provider	Service	Optionality
AISP	Accounts Information	Mandatory
AISP	Accounts Transactions	Mandatory
AISP	Accounts List	Optional
PISP	Standard Payment Initialization (XML)	Mandatory
PISP	Standard Payment Submission	Mandatory
PISP	Payment Order Status	Mandatory
PISP	Standard payment initialization (JSON)	Optional
PISP	Ecommerce payment initialization (XML)	Optional
PISP	Ecommerce payment initialization (JSON)	Optional
PIISP	Balance check	Mandatory