



Digital Transaction Register

Issuer Interface Agreement

Version: 5.0

Status: Final

Change History

The following table shows the history of changes to this document.

| Date | Author | Change history |
|------------|-----------------|--|
| 25/03/2020 | Luca Somaruga | First version Draft |
| 02/09/2020 | Denisa Braho | Final Version |
| 22/09/2020 | Denisa Braho | Update "Payment instrument enrolment" (paragraphs 1.1.4, 1.2.5). Request and response call parameters updated |
| 08/10/2020 | Michael Desogus | Added Appendices 1 and 2 relating to authentication certificates and authentication wizard |
| 14/10/2020 | Denisa Braho | "Setting/Modifying IBAN" call parameters updated |
| 23/10/2020 | Denisa Braho | <ul style="list-style-type: none"> - Paragraph relating to payment instrument enrolment updated, entering the calls with specific parameters based on the payment instrument (<i>in review</i>) - Added the paragraphs relating to the new APIs envisaged on BPD: - Award Period List |

| | | |
|------------|---------------|--|
| | | <ul style="list-style-type: none"> - Retrieving ranking - Retrieving total cashback |
| 18/11/2020 | Denisa Braho | <ul style="list-style-type: none"> - Added Paragraph "Unsubscribe Citizen" - Update: Paragraph 1.1.8 "List Award Periods" adding new parameters in the Response body |
| 24/11/2020 | Denisa Braho | <ul style="list-style-type: none"> - Added error 404 in the paragraph "Retrieve Payment Instrument Status" - Added error 409 in the API "Enrollment Payment Instrument" - Added error 404 in the API "Citizen Status" - Added note in the "Enrollment Payment Instruments" paragraph |
| 25/11/2020 | Luca Somaruga | Updated paragraphs: 1.1.3; 1.1.6, 1.2.4 and 1.25 |
| 27/11/2020 | Luca Somaruga | Updated: paragraph 1.1.3.1 - changed format of the parameter brand and type |
| 27/11/2020 | Denisa Braho | Updated: paragraph 1.1.2: added new parameter in the body request |
| 11/12/2020 | Denisa Braho | Updated: paragraph 1.1.3.1 and 1.1.7 - added new parameters necessary to enroll tokenized cards. |

| | | |
|------------|--------------|---|
| 17/12/2020 | Denisa Braho | Updated: paragraph 1.1.3.2 |
| 18/12/2020 | Denisa Braho | <ul style="list-style-type: none"> - Added: paragraph 1.1.12 - Updated: paragraph 1.1.6 |
| 15/02/2021 | Denisa Braho | <ul style="list-style-type: none"> - Removed field "technicalAccountHolder" from paragraph 1.1.2 (the Use Case that describes Technical Accounts managing process is on review; the necessary information to add in the request are yet to be determined) - Updated API's v.2 <ul style="list-style-type: none"> - 1.1.2 Setting/modifying IBAN from H/M Banking - 1.1.4 Accepting T&Cs from H/M Banking - 1.1.5 Citizen H/M Banking Status - 1.1.6 H/M Banking Payment Instrument Status - 1.1.7 H/M Banking Payment Instrument deactivation - 1.1.9 Retrieving ranking - 1.1.10 Retrieving cashback total - 1.1.11 Unsubscribe Citizen |

Glossary

The table below summarises the list of terms and acronyms contained in the document in question.

| Term/Acronym | Definition |
|--------------|--|
| RTD | Digital Transaction Log |
| BPD | Digital Payments Bonus |
| FA | Automatic Billing |
| CF | User Tax Code |
| PAN | Primary Account Number |
| HPAN | Hash of the Primary Account Number (PAN) of a digital payment instrument |
| MVP | Minimum Viable Product |
| TBD | To Be Defined |
| N/A | Not applicable |
| T&C | Terms & Conditions |

Definitions and semantics

The following table shows the semantics of the key terms used in the document in order to articulate the Platform logic.

| Term | Definition |
|------|--|
| User | Identifies the person who makes a purchase transaction with a card at a particular <i>Merchant</i> and represents the subject to whom the <i>Bonus</i> will be awarded. In the following document, some synonyms of the term User will be used, for example <i>Cardholder</i> (to |

| | |
|----------|--|
| | underline card ownership). |
| Merchant | The term <i>Merchant</i> identifies all the operators present in the system. |
| Acquirer | Payment institution or bank that offers its collection services to merchants, installing physical POSs at their premises or in any case intermediating payment transactions. |
| Issuer | Subject subscribing to a Circuit, which issues Cards or other payment instruments, managing the relationship with the Holders. |

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Introduction and purpose of the document

The purpose of this document is to describe the application solution, in all its interfaces and the different flows of incoming or outgoing events to be managed and the related data exchange methods, as well as the High Level executive architecture, with particular reference to the interfaces presented by the PagoPa SpA systems to the Issuer subjects.

Introduction and purpose of the initiative

The objective of the project is the creation of a technological infrastructure which allows to enable new use cases and services for citizens and businesses, mainly focused on the digitalisation of payments through the use of cards and payment instruments through physical POSs.

The pillar of the new infrastructure is communications with the Acquirer entities operating in Italy.

The PagoPa platform CentroStella must manage information that must comply with all the requirements of the GDPR; in particular, it must not be allowed to trace the individual transaction and recover the personal data of the payers and/or the payment in any way.

The macro components covered by the initiative are listed below:

| | |
|--|--|
| DIGITAL TRANSACTION LOG (RTD) Aggregates commercial transactions carried out through digital payment instruments, both by individuals and by companies through physical POSs throughout Italy. A single log that enables the creation of electronic billing, welfare and automation incentive solutions. | |
| AUTOMATIC BILLING Relies on the Digital Transaction Log for the automatic issuance of electronic invoices in the context of a payment made by a company. | DIGITAL PAYMENTS BONUS Relies on the Digital Transaction Log to award bonuses to citizens who make payments through digital payment instruments. |

Objective

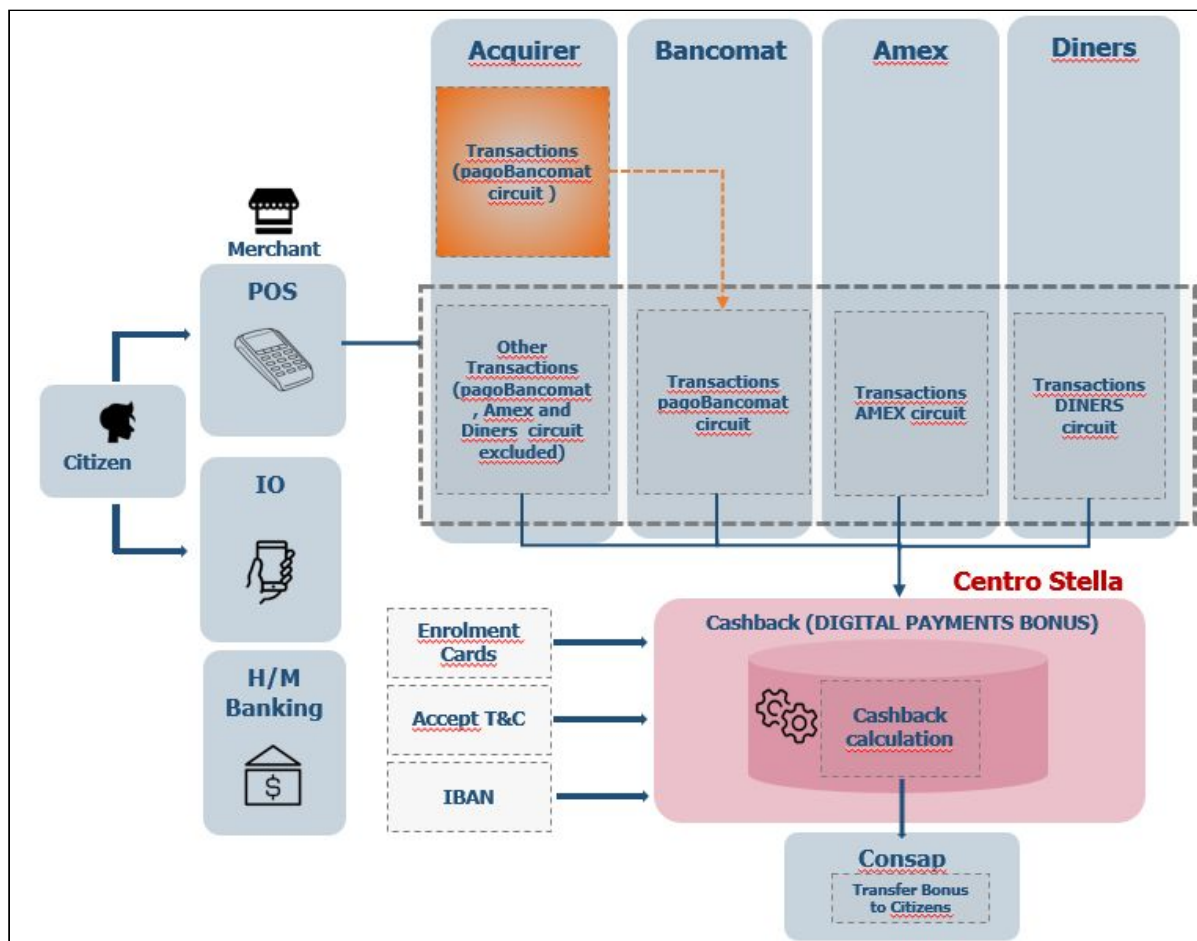
The Digital Transaction Log is the enabling platform for different and future use

cases that see the role of electronic payments as central, maintaining a unique integration with Acquirer entities operating in Italy.

The main objectives of the project are therefore:

1. to encourage payments by electronic means to reduce the use of cash, creating rewarding conditions and a cumulative result even if achieved with different payment instruments.
2. to boost the adoption of e-billing by small operators by simplifying the exchange of information between all the actors involved in the process.

Functional solution proposed: Digital Payments Bonus



Happy Flow



The Happy Flow is explained below, summarising the proposed functional solution of the project:

- a. The Citizen securely stores their payment instrument on the platform CentroStella
- b. The Citizen makes a payment to a physical operator in Italy
- c. The Acquirer, after posting the transaction, sends the transaction data to the platform BPD
 - The Acquirers participating in the service will send to Centro Stella only the transactions related to circuits different from PagoBancomat, Amex and Diners.
 - The Acquirers will send only the transactions carried out on the PagoBancomat circuit to Bancomat
 - Bancomat, Amex and Diners will send directly to CentroStella all the transactions carried out on their own circuit (including those received from the other Acquirers in case of Bancomat)
- d. CentroStella assigns points to the transaction
- e. Cashback awards are assigned based on the accumulated points
- f. The Citizen enters the IBAN of their current account through the IO App or H/M Banking to be credited with the accrued cashback.

General Context

If an Issuer of a payment instrument decides, on its own initiative, to see to the integration with the CentroStella platform, it shall mainly:

1. recognise in strong mode (equivalent to SPID) the identity of the Citizen with particular reference to their tax code
2. allow the same to use even a minimal subset of functionalities, such as:
 - a. explicit acceptance/rejection of T&Cs and subscription to the service
 - b. activation/deactivation and payment instruments issued by the Issuer Bank
 - c. sending IBAN for receiving cashback
 - d. display total cashback accrued in the period and ranking

Main processes

Below are the main processes related to the integration with the Issuer Banking systems and common to both scenarios (Digital Payments Bonus and

Automatic Billing).

1. CentroStella authentication processes via API key

The authentication process of the Issuer Bank on CentroStella is preliminary in order to ensure communication between the two systems. Individual calls to the RTD platform (and related BPD/FA sub-systems) will be made through an authentication key, *API Key*, obtained through the registration of the Issuer Bank on the *API Gateway portal*.

| Process Description |
|--|
| <ul style="list-style-type: none">a. the Issuer logs into the API Gateway portal to request registrationb. Upon registration, the portal returns the API key needed to authenticate on CentroStella |

2. Communication of user consent data (T&C Acceptance)

To allow the user to subscribe to the service of their interest, the contract containing the Terms & Conditions of the Digital Payments Bonus/Automatic Billing service will be made available through Home and/or Mobile Banking. Following the user's acceptance of the T&Cs, the Issuer Bank will send the request to CentroStella to save the acceptance date of the T&Cs.

| Process Description |
|--|
| <ul style="list-style-type: none">a. The Issuer Bank makes a call to CentroStella to save the T&C date;b. CentroStella saves the acceptance date of the T&Cs on its systems |

3. Managing payment instruments

Exploiting the APIs made available by CentroStella, the Issuers will be able to manage, through the Home and/or Mobile Banking channels, all the payment

instruments issued to the same Issuer bank.

In particular, it will be possible to enrol/deactivate a card with respect to the Digital Payments Bonus and Automatic Billing services.

| Process Description |
|--|
| <ol style="list-style-type: none"> 1. Enrolment of the payment instrument issued by the Issuer Bank: <ol style="list-style-type: none"> a. Home/Mobile Banking calls a service presented by CentroStella in order to activate the payment instrument on the BPD/FA service. The parameters sent to the Platform include the card PAN in clear form. b. CentroStella calls a hashing service presented by the PM communicating the unique ID of the card c. The PM hashes the PAN of the payment instrument and sends the HPAN to CentroStella <ol style="list-style-type: none"> i. The data related to the enrolled card is saved, so that it can be retrieved from the APP IO. d. CentroStella proceeds to save the following information, after which the service on the instrument will be active 2. Deactivation of the payment instrument issued by the Issuer Bank: <ol style="list-style-type: none"> a. the user selects the BPD/FA service deactivation request option from H/M Banking for the payment instrument. H/M Banking therefore sends the deactivation call to CentroStella. <ol style="list-style-type: none"> i. The parameters sent to the Platform include the card PAN in clear form b. CentroStella calls a hashing service presented by the PM communicating the unique ID of the card c. The PM hashes the PAN of the payment instrument and sends the HPAN to CentroStella d. CentroStella proceeds to deactivate the service and deactivation information is saved in the internal database. |

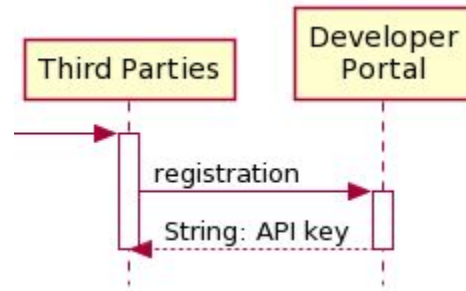
The individual interfaces will be analysed in detail in the following paragraphs.

Definition of interfaces

Issuer Registration

The “Registration” service will allow Issuers to register on the API Gateway portal in order to obtain the key used for authentication on CentroStella.

After logging into the API Gateway portal and completing the registration procedure, the portal will provide Issuers with the API key needed to authenticate on CentroStella (see Appendix 2)



Issuer Integration

The following paragraphs describe the APIs and parameters necessary for correct integration with the Digital Payments Bonus and Automatic Billing services:

1.1 BPD

1.1.1 T&C HTML File Return

API used to recover the html file containing the Digital Payments Bonus Terms and Conditions of Service.

Path: /bpd/tc/html

Method: GET

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

No parameters envisaged

**Request Body**

No parameters envisaged

Response Code

HTTP Response Code 200

Response Header

No parameters envisaged

Response Body

The service responds with the html file, containing the Digital Payments Bonus Terms and Conditions of Service.

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|----------------|----------------|
| 404 | FILE_NOT_FOUND | file not found |
| 500 | GENERIC_ERROR | generic error |

1.1.2 Setting/modifying IBAN from H/M Banking

The BPD platform will provide a service through which the user can save/update, from Home/Mobile Banking, the IBAN on which he/she wishes to receive the award payment. With IBAN entry from H/M Banking, the user can only enter IBANs associated exclusively with accounts opened at the Issuer Bank providing the portal.

URL: bpd/hb/citizens/v2

METHOD: PATCH

Path Parameters

No parameters envisaged

Query Parameters



No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| field | format | Mandatory | Description |
|-----------------------------|--------------|-----------|---|
| id | Alphanumeric | YES | user ID, which corresponds to their tax code |
| accountHolderCF | String | YES | Tax code of the IBAN holder |
| accountHolderName | String | YES | Name of IBAN holder |
| accountHolderSurname | String | YES | Surname of the IBAN holder |
| payoffInstr | String | YES | means of payment, e.g., IBAN user |
| payoffInstrType | enum | YES | type of payment instrument for collecting the award |

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-------------------------|--------|-----------|---|
| validationStatus | String | YES | <p>Validation status following the call to check Iban, the possible values will be:</p> <ul style="list-style-type: none"> • OK: the IBAN is associated with the user (IBAN will be saved in BPD) • KO: the IBAN is not associated with the user (IBAN will not be saved in BPD) • UNKNOWN_PSP: could not verify (IBAN will be saved in BPD) <p>In the case of Technical accounts, the CheckIBAN service will not be invoked, hence the above results will not be shown.</p> |

HTTP Error Codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---|
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 403 | TC_NOT_ACCEPTED | T&Cs were not accepted |
| 400 | IBAN_NOT_VALID | Iban entered is syntactically incorrect |

1.1.3 H/M Banking Payment Instrument Enrolment

1.1.3.1 Card type payment instrument enrolment

API used to enrol a card type payment instrument (credit, debit or prepaid credit) to the digital payment bonus program.



Path: /bpd/hb/payment-instruments/card

Method: PUT

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| Field | Type | Mandatory | Description |
|----------------------|--------------|-----------|---|
| id | Alphanumeric | YES | id of the payment instrument encrypted with pgp key, which corresponds to the Primary Account Number (PAN) of the payment method* |
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| expireYear | Number | YES | expiry year of the payment instrument (4 digits ex. 2020) |
| exprireMonth | Alphanumeric | YES | expiry month of the payment instrument (2 digits ex .11) |
| issuerAbiCode | Alphanumeric | YES | ABI code of the card issuing bank |



| | | | |
|---------------------|--------------|-----|---|
| brand | enum | YES | type of circuit String(VISA,MASTERCARD,MAESTRO,VISA_ELECTRON,AMEX, OTHER) |
| holder | Alphanumeric | NO | cardholder (Name and Surname) |
| type | enum | YES | card type (PP=Prepaid, DEB=Debit card, CRD=Credit card) possible values: PP, DEB, CRD |
| channel | Alphanumeric | YES | Channel that uniquely identifies the issuer on the platform that matches the ABI Issuer code |
| tokenPanList | String List | NO | list of the tokenized PANs linked to the physical card (PAN) ex. tokenized payment instruments such as GooglePay, ApplePay etc |
| PAR | String | NO | corresponds to the Payment Account Reference |

***Not necessary for the SIT environment.** The parameter id, once encrypted with the pgp public key, must have the following structure in the Request Body :

```
-----BEGIN PGP MESSAGE-----\nVersion: BCPG C#\n
v1.6.1.0\n\nhQEMA+NENQPn0iNJAQf/ee9tRkksD+lhY84e2SG4Or5lKopVtwWbysbzEpWX0oAo\n0a
VLq10BHbTs2zEG1L1Xwqf24YrrRvc6lUX73j4Xh6n//Mz7op8dCD47uMSVeSDa\n9EMd239jDKD31d6O
3l1CEPfnATVOPy4veHxgNn6deWxdUai9a1RCZMJXO9AXWKtu\n6oVjUMWiJhpT8zK9OO2KT+YpMU
Wp8CTJfoQQVMdZx8lqpYvXvmbIAAtT7HZfGn4l\nFYnPv07mOseniLI5jOeHcUwDb2uVZExysxfotg
W8VECUXT/39kLYkqzh4USyvVWo\nMC9XN1Jo3iXV6Z1BYDS9f/BydHPk3EGJeOk41QVY68kuVMrPT
KAMluHg49E0vj+X\nSVEPI4vqqNn0hsRJDDOYnFUVbOIEhYHW4q3lmttOlw==\n=7n38\n-----END
PGP MESSAGE-----\n
```

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|--|
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 409 | HPAN_OTHER_CF | The payment instrument is "active" in BPD and has been enrolled by another user |
| 400 | BAD_REQUEST | bad request. |

1.1.3.2 BancomatPay payment instrument enrolment

API used to enable a BancomatPay type payment instrument in BPD



Path: /bpd/hb/payment-instruments/bpay

Method: PUT

Path Parameters

No parameter envisaged

Query Parameters

No parameter envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| Field | Type | Mandatory | Description |
|-------------------|--------------|-----------|--|
| id | Alphanumeric | YES | unique id of the payment instrument, which corresponds to the encrypted value of the string "ABI+ mobile number" |
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| channel | Alphanumeric | YES | Channel that uniquely identifies the issuer on the platform valued with the fixed value "BPAY1" |
| groupCode | String | YES | ABI code of the group to which the bank indicated in the InstituteCode field belongs. |

| | | | |
|------------------------------|--------|-----|---|
| instituteCode | String | YES | User Institute ABI Code. |
| bank | String | YES | Name of the Issuer Bank |
| nameHolder | String | YES | Account Holder's obscured Name |
| surnameHolder | String | YES | Account Holder's obscured Surname |
| phoneNumber | String | YES | Account Holder's obscured Mobile Number |
| cryptedPhoneNumber | String | YES | Account Holder's encrypted Mobile Number |
| serviceStatus | enum | YES | Service status: domain: ("ATT", "DIS", "SOSP", "SAT_GG", "SAT_MM", "SAT_NO", "NFC_IN_COR", "NFC_ESTINTO", "ATTPND", "DISPND") |
| infoPaymentInstrument | | YES | basic information about the instrument. Field consisting of the fields indicated in the "InstrumentInfo" table |

"InstrumentInfo" table

| | | | |
|-------------|--------|-----|---------------|
| iban | String | YES | obscured iban |
|-------------|--------|-----|---------------|



| | | | |
|--------------------------------|---------|-----|--|
| flagPreferredPaymentPI | Boolean | YES | If set to true, it indicates that the instrument with which it is associated has been set as the default instrument for outgoing payments. |
| flagPreferredIncomingPI | Boolean | YES | If set to true, it indicates that the instrument with which it is associated has been set as the default instrument for incoming payments. |

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|--|
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---------------|
| 401 | TOKEN_NOT_VALID | invalid token |

| | | |
|------------|-----------------|--|
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register, accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 409 | HPAN_OTHER_CF | The payment instrument is "active" in BPD and has been enrolled by another user |

1.1.3.3 Satispay payment instrument enrolment

API used to enable a payment instrument of the Satispay type for the digital payment bonus program.

Path: /bpd/hb/payment-instruments/satispay/{id}

Method: PUT

Path Parameters

| field | format | Description |
|-----------|--------------|---|
| id | Alphanumeric | unique id of the payment instrument (Customer ID) |

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |



Request Body

| Field | Type | Mandatory | Description |
|-------------------|--------------|-----------|--|
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| channel | Alphanumeric | YES | Channel that uniquely identifies the issuer on the platform valued with the fixed value "STPAY" |

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|--|
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---------------|
| 401 | TOKEN_NOT_VALID | invalid token |

| | | |
|------------|-----------------|--|
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register, accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 409 | HPAN_OTHER_CF | The payment instrument is "active" in BPD and has been enrolled by another user |

1.1.4 Accepting T&Cs from H/M Banking

API used to enrol the user, which in fact consists of the acceptance of the digital Payments Bonus Terms and Conditions of Service.

Path: /bpd/hb/citizens/v2

Method: PUT

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |

Request Body

| field | format | Mandatory | Description |
|-------|--------|-----------|-------------|
|-------|--------|-----------|-------------|



| | | | |
|-----------|--------------|-----|--|
| id | Alphanumeric | YES | user ID, which corresponds to their tax code |
|-----------|--------------|-----|--|

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| field | format | Mandatory | Description |
|------------------------|--------------|-----------|---|
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| payoffInstr | Alphanumeric | NO | identifier of the payment instrument for collecting the award |
| payoffInstrType | Alphanumeric | NO | type of payment instrument for collecting the award |
| enabled | Boolean | YES | service activation status by the citizen |
| timestampTC | Timestamp | YES | timestamp of T&C acceptance. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---------------|
| 401 | TOKEN_NOT_VALID | invalid token |

| | | |
|-----|---------------|-------------------------------|
| 500 | GENERIC_ERROR | error retrieving user profile |
|-----|---------------|-------------------------------|

1.1.5 Citizen H/M Banking Status

API used to retrieve information about the citizen.

Path: /bpd/hb/citizens/v2

Method: GET

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |
| id | Alphanumeric | YES | user ID, which corresponds to their tax code |

Request Body

No parameters envisaged

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|-------|------|-----------|-------------|
|-------|------|-----------|-------------|

| | | | |
|---------------------|--------|----|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |
|---------------------|--------|----|---|

Response Body

| Field | Type | Mandatory | Description |
|------------------------|--------------|-----------|---|
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| payoffInstr | Alphanumeric | NO | identifier of the payment instrument for collecting the award |
| payoffInstrType | Alphanumeric | NO | type of payment instrument for collecting the award |
| enabled | Boolean | YES | status of service activation by the citizen |
| timestampTC | Timestamp | YES | timestamp of T&C acceptance. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 404 | CF_NOT_FOUND | Tax code not found |



1.1.6 H/M Banking Payment Instrument Status

API used to retrieve the status of a payment instrument to the BPD program. If there are token related to the PAN, they will have the same status as the master payment instrument.

Path: /bpd/hb/payment-instruments/v2

Method: GET

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|---------------------------|--------------|-----------|--|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |
| id | Alphanumeric | YES | id of the payment instrument, which corresponds to the <i>pgp</i> encrypted Primary Account Number (PAN) of the payment method |

Request Body

No Request Body

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-------------------------|--------------|-----------|--|
| hpan | Alphanumeric | YES | id of the payment instrument, which corresponds to the hash of the Primary Account Number (PAN) of the payment method |
| fiscalCode | Alphanumeric | YES | Tax code linked to the payment instrument |
| Status | Alphanumeric | YES | status of the payment instrument and the eventual tokens related to the PAN. Can have the following values: <ul style="list-style-type: none"> • ACTIVE • INACTIVE |
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |
| deactivationDate | Timestamp | NO | timestamp of the eventual deactivation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|--|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register, accepting the |

| | | |
|------------|----------------|-------------------------------|
| | | T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 404 | HPAN_NOT_FOUND | hashPan not found |



1.1.7 H/M Banking Payment Instrument deactivation

API used to deactivate the payment instrument from BPD.

Path: /bpd/hb/payment-instruments/v2

Method: DELETE

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|--|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| id | Alphanumeric | YES | id of the payment instrument, which corresponds to the <i>pgp</i> encrypted Primary Account Number (PAN) of the payment method |

Request Body

No parameters envisaged

Response Code

HTTP Response Code 204

Response Header



| Field | Type | Mandatory | Description |
|--------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

No response body

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|-------------------------------|
| 404 | HPAN_NOT_FOUND | hpan not found |
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error retrieving user profile |

1.1.8 Award Period List

API that returns a list containing information about the award periods.

URL: /bpd/hb/award-periods

METHOD: GET

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|-------|------|-----------|-------------|
|-------|------|-----------|-------------|



| | | | |
|----------------------------------|--------------|-----|---|
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |

Request Body

No request body

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

The response body is formed as a list of objects containing the following information:

| Field | Type | Mandatory | Description |
|-----------------------------|--------|-----------|--|
| awardPeriodId | Number | YES | unique identification of the award period |
| startDate | Date | YES | Award period start date. FORMAT ISO8601 yyyy-MM-dd |
| endDate | Date | YES | Award period end date. FORMAT ISO8601 yyyy-MM-dd |
| minTransactionNumber | Number | YES | Minimum number of transactions to access cashback |

| | | | |
|--------------------------------|--------|-----|---|
| maxAmount | Number | YES | Maximum amount payable in the period |
| minPosition | Number | YES | Minimum position for application of the "special refund" |
| maxTransactionCashback | Number | YES | Maximum cumulative cashback per single transaction |
| maxPeriodCashback | Number | YES | Maximum cashback which can be accumulated for the entire period |
| cashbackPercentage | Number | YES | Cashback percentage |
| gracePeriod | Number | YES | Duration of the grace period |
| maxTransactionEvaluated | Number | YES | Maximum value attributable to the single transaction |
| status | String | YES | Status of the Award period: <ul style="list-style-type: none"> - ACTIVE (current active period) - INACTIVE (future periods) - WAITING (during grace period) - CLOSED (previous periods) |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|-------------------------------------|
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error during user profile retrieval |

1.1.9 Retrieving ranking

API used to retrieve information on the ranking, calculated based on the score



accumulated by a given user registered for the digital payment bonus service. It is assumed that the user has accepted the T&Cs and is therefore registered on the BPD system; otherwise, the API returns an error.

If the `awardPeriodId` is specified, the API will return a list containing the details for the requested period, otherwise will return a detailed list including current periods and all previous ones

URL: `/bpd/hb/citizens/v2/ranking`

METHOD: GET

Path Parameters

No parameters envisaged

Query Parameters

| Field | Type | Mandatory | Description |
|----------------------|---------|-----------|---------------------------------------|
| awardPeriodId | Numeric | NO | unique identifier of the award period |

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| id | Alphanumeric | YES | user ID, which corresponds to their tax code |

Request Body

No request body



Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-----------------------------|--------|-----------|--|
| ranking | Number | YES | Ranking position referring to the current award period. |
| totalParticipants | Number | YES | Total number of participants in the Digital Payments Bonus |
| maxTransactionNumber | Number | YES | Maximum number of transactions made by users who are eligible for the "special refund" |
| minTransactionNumber | Number | YES | Minimum number of transactions made by users eligible for the "special refund" |
| transactionNumber | Number | YES | Number of transactions made by the user |
| awardPeriodId | Number | YES | unique identifier of the award period |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---------------|
| 401 | TOKEN_NOT_VALID | invalid token |



| | | |
|-----|---------------|-------------------------------------|
| 500 | GENERIC_ERROR | error during user profile retrieval |
|-----|---------------|-------------------------------------|

1.1.10 Retrieving cashback total

API used to verify the calculated score based on the points accumulated by a given user registered for the digital payment bonus service.

URL: /bpd/hb/winning-transactions/v2/total-cashback

METHOD: GET

Path Parameters

No parameter

Query Parameters

| Field | Format | Mandatory | Description |
|---------------|--------|-----------|---------------------------------------|
| awardPeriodId | Number | YES | unique identifier of the award period |

Request Header

| Field | Type | Mandatory | Description |
|---------------------------|--------------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |

Request Body

No request body



Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|--------------------------|--------|-----------|--|
| totalCashback | Number | YES | Sum of the accumulated cashback of all transactions, up to a ceiling defined by the period |
| transactionNumber | Number | YES | Number of transactions made by the user |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|-------------------------------------|
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error during user profile retrieval |

1.1.11 Unsubscribe Citizen

API used for disabling the citizen from the platform. This operation allows you to disable the user and all his active payment instruments, his transactions and ranking.

URL: /bpd/hb/citizens/v2

METHOD: DELETE



Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Format | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| id | Alphanumeric | YES | user ID, which corresponds to their tax code |

Request Body

| Field | Format | Mandatory | Description |
|----------------|--------------|-----------|--|
| channel | Alphanumeric | YES | the channel that identifies the Issuer calling the API: <ol style="list-style-type: none">1. Issuer's ABI code2. string "BPAY1" for PagoBancomat3. string "STPAY" for Satispay |

Response Code

HTTP Response Code 204

Response Header

| Field | Format | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |



Response Body

No response body

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-------------------|---|
| 401 | TOKEN_NOT_VALID | invalid key |
| 500 | GENERIC_ERROR | generic error |
| 400 | TOO_MANY_CHANNELS | error that occurs in case there are other payments instruments that are active and enrolled from other channels |

1.1.12 H/M Banking Update Payment instrument Tokens

API used to update the tokens related to a physical Card (identified by the PAN) enrolled on BPD.

Path: /bpd/hb/payment-instruments

Method: PATCH

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|-------|------|-----------|-------------|
|-------|------|-----------|-------------|



| | | | |
|----------------------------------|--------------|-----|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| Field | Type | Mandatory | Description |
|---------------------|--------------|-----------|---|
| id* | Alphanumeric | YES | id of the payment instrument, which corresponds to the encrypted Primary Account Number (PAN) of the payment method |
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| tokenPanList | String List | NO | list of the tokenized PANs linked to the physical card (PAN) ex. tokenized payment instruments such as GooglePay, ApplePay etc |
| PAR | String | NO | corresponds to the Payment Account Reference |

***Not necessary for the SIT environment.** The parameter id, once encrypted with the pgp public key, must have the following structure in the Request Body :

```
-----BEGIN PGP MESSAGE-----\nVersion: BCPG C#\nvi.6.1.0\n\nnhQEMA+NENQPn0iNJAQf/ee9tRkksD+IhY84e2SG4Or5IkopVtwWbysbzEpWX0oAo\nn0aVLq10BHbTs2zEG1LIXwqf24YrrRvc6lUX73j4Xh6n//Mz7op8dCD47uMSVeSDa\nn9EMd239jDKD31d6O3lICEPfnATVOPy4veHxgNn6deWxdUai9a1RCZMJXO9AXWKtu\nn6oVjUMWiJhpT8zK9OO2KT+YpMUWp8CTJfoQQVMdZx8lqpYvXvmbIAAtT7HZfGn4l\nnFYnPV07mOseniLI5jOeHcUwDb2uVZExysxfotgW8VECUXT/39kLYkqzh4USyvVWo\nnMC9XN1Jo3iXV6Z1BYDS9f/BydHPk3EGJeOk41QVY68kuVMrPTKAMluHg49E0vj+X\n\nSVEPl4vqqNn0hsRJDDOYnFUVbOlEhYHW4q3lmttOlw==\n\n=7n38\n\n-----END PGP MESSAGE-----\n
```

Response Code



HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|---|
| activationDate | Timestamp | YES | timestamp of the activation of the physical card (identified by the PAN). FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|-------------------------------|
| 404 | HPAN_NOT_FOUND | hpan not found |
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error retrieving user profile |

1.2 FA *(in review)*

1.2.1 T&C HTML File Return

API used to recover the Automatic Billing Terms and Conditions of Service HTML file.

Path: /fa/tc/html

Method: GET

Path Parameters

No parameters envisaged

**Query Parameters**

No parameters envisaged

Request Header

No parameters envisaged

Request Body

No parameters envisaged

Response Code

HTTP Response Code 200

Response Header

No parameters envisaged

Response Body

The service responds with HTML (MediaType = text/html) containing the Automatic Billing Terms and Conditions of Service.

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|----------------|----------------|
| 404 | FILE_NOT_FOUND | file not found |
| 500 | GENERIC_ERROR | generic error |

1.2.2 Accepting T&C from H/M Banking

API used to send HB's acceptance of the Terms & Conditions of a customer who wants to onboard to the automatic billing service

Path: /fa/hb/customer

Method: PUT

Path Parameters



| Field | Format | Description |
|-------|--------|-------------|
| | | |

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |

Request Body

| Field | Format | Mandatory | Description |
|----------------------|--------------|-----------|--|
| vatNumberList | String List | NO | user ID list, which corresponds to VAT No. |
| SDI | Alphanumeric | YES | recipient code or certified email address |
| id | Alphanumeric | YES | user ID, which corresponds to their tax code |

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|--|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system |



| | | | |
|--|--|--|--------|
| | | | (UUID) |
|--|--|--|--------|

Response Body

| field | format | Mandatory | Description |
|---------------|-----------|-----------|---|
| fiscalCode | String | YES | user ID, which corresponds to their tax code |
| vatNumberList | String | NO | user ID list, which corresponds to VAT No. |
| timestampTC | Timestamp | YES | timestamp of T&C acceptance. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|-------------------------------|
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error retrieving user profile |

1.2.3 Customer H/M Banking Status

API used to retrieve status information about a customer onboarded to the automatic billing program.

Path: /fa/hb/customer

Method: GET

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged



Request Header

| Field | Type | Mandatory | Description |
|---------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |
| id | Alphanumeric | NO | customerID, which corresponds to their tax code |

Request Body

No parameters envisaged

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|--------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|---------------|-------------------|-----------|--|
| id | Alphanumeric | YES | customer id, which corresponds to their tax code |
| vatNumberList | Alphanumeric list | NO | List of customer VAT numbers |
| status | Alphanumeric | YES | status of the payment instrument. Can have the following values: <ul style="list-style-type: none">• ACTIVE• INACTIVE |

| | | | |
|-------------------------|-----------|-----|---|
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |
| deactivationDate | Timestamp | YES | timestamp of the deactivation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|--|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register, accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 404 | CF_NOT_FOUND | tax code not found |

1.2.4 H/M Banking Payment Instrument Enrolment

1.2.4.1 Card type payment instrument enrolment

API used to enrol a card type payment instrument (credit, debit or prepaid credit) to the automatic billing program.

Path: /fa/hb/payment-instruments/card

Method: PUT

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged



Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| Field | Type | Mandatory | Description |
|----------------------|--------------|-----------|---|
| id | Alphanumeric | YES | id of the payment instrument encrypted with pgp key, which corresponds to the Primary Account Number (PAN) of the payment method* |
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| expireYear | Number | YES | expiry year of the payment instrument (4 digit es. 2020) |
| expireMonth | Alphanumeric | YES | expiry month of the payment instrument (2 digit es.11) |
| issuerAbiCode | Alphanumeric | YES | ABI code of the card issuing bank |
| brand | enum | YES | type of circuit String: (VISA,MASTERCARD, MAESTRO,VISA_ELECTRON, AMEX, OTHER) |
| holder | Alphanumeric | NO | cardholder (Name and Surname) |
| type | enum | YES | card type (PP=Prepaid, |



| | | | |
|---------------------|--------------|-----|---|
| | | | DEB=Debit card, CRD=Credit card) possible values: PP, DEB, CRD |
| channel | Alphanumeric | YES | Channel that uniquely identifies the issuer on the platform that matches the ABI Issuer code |
| tokenPanList | String List | NO | list of the tokenized PANs linked to the physical card (PAN) ex. tokenized payment instruments such as GooglePay, ApplePay etc |
| PAR | String | NO | corresponds to the Personal Account Reference |

***Not necessary for the SIT environment.** The parameter id, once encrypted with the pgp public key, must have the following structure in the Request Body :

```
-----BEGIN PGP MESSAGE-----\nVersion: BCPG C#\nvi.6.1.0\n\nnhQEMA+NENQPn0iNJAQf/ee9tRkksD+IhY84e2SG4Or51kopVtwWbysbzEpWX0oAo\nn0aVLq10BHbTs2zEG1LXwqf24YrrRvc6lUX73j4Xh6n//Mz7op8dCD47uMSVeSDa\nn9EMd239jDKD3ld6O3lICEPfnatVOPy4veHxgNn6deWxdUai9a1RCZMJXO9AXWKtu\nn6oVjUMWiJhpT8zk9OO2KT+YpMUWp8CTJfoQQVMdZx8lpYvXvmbIAAtT7HZfGn4l\nnFYnPV07mOseniLI5jOeHcUwDb2uVZExysxfotgW8VECUXT/39kLYkqzh4USyvVWo\nnMC9XN1Jo3iXV6Z1BYDS9f/BydHPK3EGJeOk4lQVY68kuVMrPTKAMluHg49E0vj+X\n\nSVEPl4vqqNn0hsRJDDOYnFUVbOlEhYHW4q3lmttOlw==\n\n=7n38\n\n-----END PGP MESSAGE-----\n
```

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body



| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|---|
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Code

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|--|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register, accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 409 | HPAN_OTHER_CF | The payment instrument is "active" in BPD and has been enrolled by another user |
| 400 | BAD_REQUEST | bad request. |

1.2.4.2 BancomatPay payment instrument enrolment

API used to enable a BancomatPay type payment instrument in FA

Path: /fa/hb/payment-instruments/bpay

Method: PUT

Path Parameters

No parameters envisaged

Query Parameters



No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| Field | Type | Mandatory | Description |
|----------------------|--------------|-----------|--|
| id | Alphanumeric | YES | unique id of the payment instrument, which corresponds to the encrypted value of the string "ABI+ mobile number" |
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| channel | Alphanumeric | YES | Channel that uniquely identifies the issuer on the platform valued with the fixed value "BPAYI" |
| groupCode | String | YES | ABI code of the group to which the bank indicated in the InstituteCode field belongs. |
| instituteCode | String | YES | User Institute ABI Code. |
| bank | String | YES | Name of the Issuer Bank |
| nameHolder | String | YES | Account Holder's obscured Name |
| surnameHolder | String | YES | Account Holder's obscured |

| | | | |
|------------------------------|--------|-----|---|
| | | | Surname |
| phoneNumber | String | YES | Account Holder's obscured Mobile Number |
| cryptedPhoneNumber | String | YES | Account Holder's encrypted Mobile Number |
| serviceStatus | enum | YES | Service status: domain: ("ATT", "DIS", "SOSP", "SAT_GC", "SAT_MM", "SAT_NO", "NFC_IN_COR", "NFC_ESTINTO", "ATTPND", "DISPND") |
| infoPaymentInstrument | | YES | basic information about the instrument. Field consisting of the fields indicated in the "InstrumentInfo" table |

"InstrumentInfo" table

| | | | |
|--------------------------------|---------|-----|--|
| iban | String | YES | obscured iban |
| flagPreferredPaymentPI | Boolean | YES | If set to true, it indicates that the instrument with which it is associated has been set as the default instrument for outgoing payments. |
| flagPreferredIncomingPI | Boolean | YES | If set to true, it indicates that the instrument with which it is associated has been set as the default instrument for incoming payments. |

Response Code



HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|---|
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 409 | HPAN_OTHER_CF | The payment instrument is "active" in FA and has been enrolled by another user |

1.2.4.3 Satispay payment instrument enrolment

API used to enable a payment instrument of the Satispay type for the FA program.



Path: /fa/hb/payment-instruments/satipay/{id}

Method: PUT

Path Parameters

| field | format | Description |
|-------|--------------|---|
| id | Alphanumeric | unique id of the payment instrument (Customer ID) |

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|---------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| Field | Type | Mandatory | Description |
|------------|--------------|-----------|--|
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| channel | Alphanumeric | YES | Channel that uniquely identifies the issuer on the platform valued with the fixed value "STPAY" |

Response Code

HTTP Response Code 200



Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|--|
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|---|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |
| 409 | HPAN_OTHER_CF | The payment instrument is "active" in FA and has been enrolled by another user |

1.2.5 H/M Banking Payment Instrument Status

API used to retrieve the status of a payment instrument to the FA program. If there are token related to the PAN, they will have the same status as the master payment instrument.

Path: /fa/hb/payment-instruments



Method: GET

Path Parameters

| field | format | Description |
|-------|--------|-------------|
| | | |

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|---------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | Alphanumeric | NO | Request ID, unique identifier determined by initialisation (UUID) |
| id | Alphanumeric | YES | id of the payment instrument, which corresponds to the encrypted Primary Account Number (PAN) of the payment method |

Request Body

No parameters envisaged

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|--------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

| Field | Type | Mandatory | Description |
|-------------------------|--------------|-----------|--|
| hpan | Alphanumeric | YES | id of the payment instrument, which corresponds to the hash of the Primary Account Number (PAN) of the payment method |
| fiscalCode | Alphanumeric | YES | Tax code linked to the payment instrument |
| Status | Alphanumeric | YES | status of the payment instrument and the eventual tokens related to the PAN. Can have the following values: <ul style="list-style-type: none"> • ACTIVE • INACTIVE |
| activationDate | Timestamp | YES | timestamp of the activation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |
| deactivationDate | Timestamp | NO | timestamp of the eventual deactivation of the payment instrument. FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|--|
| 401 | TOKEN_NOT_VALID | invalid token |
| 403 | TC_NOT_ACCEPTED | Terms & Conditions not accepted. To enable a payment instrument, the user must first register, accepting the T&Cs of the service |
| 500 | GENERIC_ERROR | error retrieving user profile |



| | | |
|-----|----------------|-------------------|
| 404 | HPAN_NOT_FOUND | hpan non presente |
|-----|----------------|-------------------|

1.2.6 H/M Banking Payment Instrument deactivation

API used to deactivate the payment instrument from the automatic billing program.

Path: /fa/hb/payment-instruments/{id}

Method: DELETE

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|---------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| id | Alphanumeric | YES | id of the payment instrument, which corresponds to the encrypted Primary Account Number (PAN) of the payment method |

Request Body

No parameters envisaged

Response Code

HTTP Response Code 204

Response Header



| Field | Type | Mandatory | Description |
|--------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

No response body

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|-------------------------------|
| 404 | HPAN_NOT_FOUND | hpan not found |
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error retrieving user profile |

1.2.7 Unsubscribe Customer

API used for disabling the user from the platform. This operation allows you to disable the user and all his active payment instruments.

URL: /fa/hb/customer

METHOD: DELETE

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header



| Field | Format | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| id | Alphanumeric | YES | customerID, which corresponds to their tax code |

Request Body

| Field | Format | Mandatory | Description |
|----------------|--------------|-----------|---|
| channel | Alphanumeric | YES | the channel that identifies the Issuer calling the API: 1. Issuer's ABI code 2. string "BPAY1" for PagoBancomat 3. string "STPAY" for Satispay |

Response Code

HTTP Response Code 204

Response Header

| Field | Format | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body

No response body

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|------------|-------------|
|--------------------|------------|-------------|



| | | |
|------------|-------------------|---|
| 401 | TOKEN_NOT_VALID | invalid key |
| 500 | GENERIC_ERROR | generic error |
| 400 | TOO_MANY_CHANNELS | error that occurs in case there are other payments instruments that are active and enrolled from other channels |

1.2.8 H/M Banking Update payment instruments Token

API used to update the tokens related to a physical Card (identified by PAN) enrolled on FA.

Path: /fa/hb/payment-instruments/{id}

Method: PATCH

Path Parameters

No parameters envisaged

Query Parameters

No parameters envisaged

Request Header

| Field | Type | Mandatory | Description |
|----------------------------------|--------------|-----------|---|
| Ocp-Apim-Subscription-Key | Alphanumeric | YES | Subscription key associated with the issuer |
| x-request-id | String | NO | Request ID, unique identifier determined by initialisation (UUID) |

Request Body

| Field | Type | Mandatory | Description |
|-------|------|-----------|-------------|
|-------|------|-----------|-------------|



| | | | |
|---------------------|--------------|-----|---|
| id* | Alphanumeric | YES | id of the payment instrument, which corresponds to the encrypted Primary Account Number (PAN) of the payment method |
| fiscalCode | Alphanumeric | YES | user ID, which corresponds to their tax code |
| tokenPanList | String List | NO | list of the tokenized PANs linked to the physical card (PAN) ex. tokenized payment instruments such as GooglePay, ApplePay etc |
| PAR | String | NO | corresponds to the Payment Account Reference |

***Not necessary for the SIT environment.** The parameter id, once encrypted with the pgp public key, must have the following structure in the Request Body :

```
-----BEGIN PGP MESSAGE-----\nVersion: BCPG C#\nvi.6.1.0\n\nnhQEMA+NENQPn0iNJAQf/ee9tRkksD+IhY84e2SG4Or51kopVtwWbysbzEpWX0oAo\nn0aVLq10BHbTs2zEG1LIXwqf24YrrRvc6lUX73j4Xh6n//Mz7op8dCD47uMSVeSDa\nn9EMd239jDKD3ld6O3lICEPfnatVOpy4veHxgNn6deWxdUai9a1RCZMJXO9AXWKtu\nn6oVjUMWiJhpT8zK9OO2KT+YpMUWp8CTJfoQQVMdZx8lqpYvXvmbIAAtT7HZfGn4l\nnFYnPV07mOseniLI5jOeHcUwDb2uVZExysxfotgW8VECUXT/39kLYkqzh4USyvVWo\nnMC9XN1Jo3iXV6Z1BYDS9f/BydHPk3EGJeOk41QVY68kuVMrPTKAMluHg49E0vj+X\n\nSVEPl4vqqNn0hsRJDDOYnFUVbOlEhYHW4q3lmttOlw==\n\n=7n38\n\n-----END PGP MESSAGE-----\n
```

Response Code

HTTP Response Code 200

Response Header

| Field | Type | Mandatory | Description |
|---------------------|--------|-----------|---|
| x-request-id | String | NO | Request ID, unique identifier determined by caller or system (UUID) |

Response Body



| Field | Type | Mandatory | Description |
|-----------------------|-----------|-----------|---|
| activationDate | Timestamp | YES | timestamp of the activation of the physical card (identified by the PAN). FORMAT ISO8601 yyyy-MM-ddTHH:mm:ss.SSSXXXXX |

HTTP Error Codes

Below is the list of error messages and the associated response codes

| HTTP Response Code | Error code | Description |
|--------------------|-----------------|-------------------------------|
| 404 | HPAN_NOT_FOUND | hpan not found |
| 401 | TOKEN_NOT_VALID | invalid token |
| 500 | GENERIC_ERROR | error retrieving user profile |

Appendix 1 - Issuer Authentication

The interactions of the issuer use a mutual authentication mechanism over TLS 1.2 protocol, through the exchange of public certificates, issued by a CA (certifying authority), used for verification by both actors with respect to the keys in their possession. For this mechanism to be applicable, the following is therefore necessary:

- the Client must be configured to send requests over TLS 1.2 protocol, indicating a store containing the chain of certificates necessary to verify the reliability of the server on which the request is made; in addition, a store containing at least the private and public key with which the client authenticates with the machine contacted.
- the API must be configured to accept requests over TLS 1.2 protocol, it must be configured to use a collection of keys on which to apply certificate verification, it must be configured to provide a public certificate, used by the Client for the authentication of the machine to which the request is directed.

To generate the Certificate Signed Request it is necessary to use the `client-certificate.cnf` configuration template (suitably reconfigured with the information of the specific Issuer). The command to invoke for generating the csr and its private key (using OpenSSL) is as follows:

```
openssl req -new -config client-certificate.cnf -keyout client-certificate.key  
-out client-certificate.csr
```

To enable the authentication process, certificates related to CAs in “.cer” format must be provided to the API publisher (since they must contain only the public key, the password is not mandatory, otherwise it must also be provided).

N.B: for tests in the sit environment, the client certificate can be self-signed, and must be provided to the API publisher in “.cer” format, while for higher environments it must be signed by the PagoPA internal CA, and it is not necessary to share it with the API Publisher. Consequently, the file containing the CA's public key should only be provided by the Issuers in the SIT

environment. In higher environments the PagoPA CA certificate will already be preconfigured. If it is necessary to obtain a certificate with a signature valid for environments above SIT, send the .csr to be signed to security@pagopa.it.

The APIs will be presented and configured to enable the mutual authentication process based on a given certificate. In the case of services used by Issuers, a dedicated policy is introduced to allow the authentication process through multiple certificates, to allow the use of certificates for the Issuers.

Appendix 2 - Issuer Services Authorisation

Issuer system developers who need to use the published APIs must include a valid subscription key in HTTP requests when making calls to those APIs. Otherwise, the calls are immediately rejected by the API Management gateway and, as a result, are not forwarded to back-end services.

To obtain a subscription key for API access, a subscription is required. A subscription is essentially a container for a pair of subscription keys. Developers who need to use published APIs can obtain the subscriptions in two ways (depending on how they were configured):

- with the approval of API publishers;
- without the need for API publisher approval.

API publishers can also create subscriptions directly for API consumers.



After subscribing, the client can invoke the services (for which it has subscribed) by entering the field **Ocp-Apim-Subscription-Key** as the parameter of the request header. The value of the field must match the code obtained after registering with the Azure portal.

Below are the steps necessary to register to test the behaviour of the services;
Access the dev address dedicated to developers (see Appendix 3)



1. After clicking on the yellow button, you will be directed to the registration page where the credentials for the account configuration must be entered.



Sign up

Email

Password

Confirm password

First name

Last name

Company name

Phone number

Address

Sign up

2. After completing the credential entry process, we will receive via email the necessary configurations to complete the verification via a link.
3. After clicking on the link contained in the email, you will be redirected to the login page where you will have to authenticate with the created user. To create the subscription and its keys you must select the "Products" option.





4. At this stage, you must select the subscription type



5. Enter a name and select the Subscribe option



Starter

Subscribers will be able to run 5 calls/minute up to a maximum of 100 calls/week.

Starter

Your subscriptions

| Name | Status |
|---------|----------------------|
| starter | <div>Subscribe</div> |

APIs in the product

Search APIs

| Name | Description |
|-----------|-------------|
| _Echo API | |

6. The outcome of the subscription will be visible under “Profile” in the menu.

pppp

Home APIs Products Reports **Profile** Sign out

User profile

Account details

Email

First name

Last name

Registration date10/08/2020

Change name

Change password

Close account

Subscriptions

| Subscription details | Product | State | Action |
|----------------------|--|-------------------|--------|
| Name | APP_ID_PRODUCT | Submitted | Cancel |
| Requested on | | | |
| 10/08/2020 | | | |
| Primary key | xx | Show Regenerate | |
| Secondary key | xx | Show Regenerate | |



Appendix 3 - Environments

| Environment | IP API Gateway | URL API Gateway | Developer Portal URL |
|-------------|----------------|---|---|
| SIT | 104.40.204.96 | https://bpd-dev.azure-api.net | https://bpd-dev.developer.azure-api.net |
| UAT | 20.54.178.216 | https://test.cstar.pagopa.it/ | https://developer-test.cstar.pagopa.it/ |
| PROD | 51.137.18.218 | https://prod.cstar.pagopa.it/ | https://developer.cstar.pagopa.it/ |