

# Priceless Specials Webview

## Overview

This documentation describe integration into Priceless Specials platform using few services provided by Verestro.

We should highlight few main products:

- Full SDK (called in document WEB SDK) - web based service, that allows to integrate Priceless Specials product into partners application. It can be embedded in the mobile application or provide service after redirect to it from partners web panel.
- Goal widget - web based micro app, that can display selected reward and progress % for particular card info.
- Company API - API that allows partner to interact with Priceless Specials product specific data e.g., *customer point adjustment*. The more information about API specifications is [here](#).

## API Domain

All methods are available on below URL except initialization method.

### Endpoint URLs:

Stage: <https://rpm-management.upaidtest.pl/>,

Prod: <https://rpm.secure-verestro.com/>.

## Security and authentication

For backend-backend communication, it is required to attach appropriate certificates to the requests sent. This applies to:

- Registration process - /company/enroll, company/add\_card,

- Endpoints described in Chapter 6.

Method issuer/initialize\_sdk does not require certificate.

## Certificate generation process.

First, the Partner needs generate a CSR (Certificate Signing Request).

The command to generate the CSR:

```
openssl req -new -newkey rsa:4096 -keyout client.key -out client.csr -nodes -subj  
'/CN=bankname cert/emailAddress=rpm@bankname.pl'
```

Once the CSR is generated, it should be passed to Verestro. Verestro will sign the CSR and provide x509 certificates based on it:

- certificate CERT.CRT – used for backend-backend communication,
- certificate CA.CRT – (recommended) used for backend-backend communication,
- certificate to sign the trustedIdentityToken (one of the payload parameters of initializeSdkToken).

JWS tokens must have additional header:

| Name | Description   |
|------|---|
| x5c  | Parameter contains the X.509 certificates chain ( <a href="#">RFC7515#section-4.1.6</a> ) |

## PAN hash generating

PAN hash is an identifier in the Partner-Verestro communication and specifies the card for which the action should be performed.

It is used in:

- Endpoints described in Chapter 6,
- As a parameter in the trustedIdentityToken payload.

PAN hash generation process:

Hash value is as SHA-256 HMAC, please see links below for more details:

RFC: <https://tools.ietf.org/html/rfc4868#page-3>,

Wiki: <https://en.wikipedia.org/wiki/HMAC>.

Test and prod value of key used to calculate HMAC will be delivered by Verestro at the later stage of integration process.

To validate your implementation please check plain and hashed values below:

| Plaintext (HEX)              | Hash  |
|------------------------------|---|
| 5555444433332222             | 4f64c445c859f7e53209e0091a5faef7e8b3ebbad899fbf8c74df09a6bfe5646  |
| 6984576897634895763948576    | 4b2eab65ab16183fa6ac8a8b12ad690890db98c5ce20e6d56aa037b723bbe84   |
| someTestValue398048096859607 | 29596a78a7382e90159d8ec78a8d37baff57d05f676c0607dd7fb24b0396270ce |

## Encrypted PAN number

The structure of encrypted card number sent in the requests for methods:

- POST company/enroll
- POST company/add\_card
- POST company/card\_replace

### JWE structure

Header:

```
{  
  "enc": "A256CBC-HS512",  
  "alg": "RSA-OAEP-256"  
}
```

Payload:

```
"{"privateClaim":{"cardNumber":"5555666677778888"}}"
```

To encrypt the JWE, use the public key returned by GET company/public\_key

## Registration flow

Registration method are used to add the user and his cards to the MRS system and create an account on the Priceless Spiecial platform. Registration is possible without providing an email address, in which case the user will have to verify it in first log in.

# Card status

This endpoint returns information about card and consents status in MRS. If the card does not exist in the system, then the API returns: **code 404**.

## Headers:

| Name         | Value            |
|--------------|------------------|
| Accept       | application/json |
| Content-Type | application/json |

## Request Details:

HTTP GET/company/card\_agreements\_status/{panHash}

## Responses

| Status, Body  | Description                        |
|---|------------------------------------|
| HTTP_200, SUCCES<br>{<br>"termsAndCondition": true,<br>"disclosureOfPersonalData": true,<br>"processingPersonalData": true,<br>"marketingInfoEmail": true,<br>"marketingInfoPhone": true,<br>"errorMessage": null<br>}                      | Success.                           |
| HTTP_200, SUCCESS<br>{<br>"termsAndCondition": null,<br>"disclosureOfPersonalData": null,<br>"processingPersonalData": null,<br>"marketingInfoEmail": null,<br>"marketingInfoPhone": null,<br>"errorMessage": "CARD_IS_INACTIVE"<br>}       | Card is inactive in MRS System.    |
| HTTP_200, SUCCES<br>{<br>"termsAndCondition": true,<br>"disclosureOfPersonalData": true,<br>"processingPersonalData": true,<br>"marketingInfoEmail": true,<br>"marketingInfoPhone": true,<br>"errorMessage": "USER_EMAIL_NOT_VERIFIED"<br>} | User didn't confirm email address. |
| HTTP_404  | The card does not exist in system. |

# Add User with Cards

## Supported methods

User add - POST company/enroll.

## Data structure

For POST methods request body should contain JSON with combination of objects mentioned below.

## Request

| Field       |                          | Required        | Type             | Additional information  |
|-------------|--------------------------|-----------------|------------------|---|
| requestId   |                          | No              | String           | External User Identifier provided by client. It can be used as an identifier in system (in standard UUID4). |
| firstName   |                          | Yes             | String           |   |
| lastName    |                          | Yes             | String           |   |
| phoneNumber |                          | No              | String           | Should be passed with prefix.   |
| email       |                          | No              | String           |   |
| zipCode     |                          | No, recommended | String, optional | format: NN-NNN.   |
| birthDate   |                          | No, recommended | String, optional | format: YYYY-MM-DD.   |
| cards       |                          | Yes             | Array            | Array of Card Objects.  |
|             | encryptedNumberCard      | Yes             | String           | Encrypted PAN JWE.  |
|             | programId                | No              | String           |   |
|             | programIdentifier        | No              | String           |   |
|             | termsAndCondition        | Yes             | Boolean          | true or false.  |
|             | disclosureOfPersonalData | Yes             | Boolean          | true or false.  |
|             | processingPersonalData   | Yes             | Boolean          | true or false.  |



|  |   |
|--|---|
| HTTP_201, SUCCESS<br>{<br>"requestId": "123e4567-e89b-12d3-a456-426614174000",<br>"failedPanHashes": [<br>{<br>"panHash":<br>"a7a89543br958437543bf984375bc3498nvuiey74783"<br>}<br>]<br>} | Passed card/cards failed during adding to MRS system. |
| HTTP_400: CARD_ALREADY_EXIST<br>{<br>"failedPanHashes": [<br>{<br>"panHash":<br>"a7a89543br958437543bf984375bc3498nvuiey74783"<br>}<br>]<br>}  | Passed value is not unique in system.                 |
| HTTP_400: INVALID_VALUE_CARD   | Passed Card value is invalid.                         |
| HTTP_400: INVALID_VALUE_EMAIL  | Passed email is invalid.                              |
| HTTP_400: INVALID_VALUE_BIRTH_DATE   | Passed Birth date is invalid.                         |
| HTTP_400: CARDS_LIMIT_EXCEEDED   | Too many passed Cards. Limit 10 cards.                |
| HTTP_403: ACCESS_DENIED  | Method is not available.                              |
| HTTP_401: INVALID_CERTIFICATE  | Passed certificate is invalid.                        |

## Responses for banks that use clientId as BCN (bank customer number)

| Status, Body  | Description   |
|---|---|
| HTTP_201, SUCCESS<br>{<br>"clientId": "PXPYVJ2HZTW0CK0G4840K4WGGOWOKO"<br>}   | Success (email/userId passed in a request).   |
| HTTP_201, SUCCESS<br>{<br>"clientId": "PXPYVJ2HZTW0CK0G4840K4WGGOWOKO",<br>"requestId": "123e4567-e89b-12d3-a456-426614174000"<br>} | Success (email/userId passed in a request).<br>requestId returned to add new cards if user does not verify email address. |

|  |   |
|--|---|
| HTTP_201, SUCCESS<br><pre>{   "clientId": "PXPYVJ2HZTW0CK0G4840K4WGGOWOKO ",   "requestId": "123e4567-e89b-12d3-a456-426614174000",   "failedPanHashes": [     {       "panHash": "a7a89543br958437543bf984375bc3498nvuiey74783"     }   ] }</pre> | Passed card/cards failed during adding to MRS system. |
| HTTP_400: CARD_ALREADY_EXIST<br><pre>{   "failedPanHashes": [     {       "panHash": "a7a89543br958437543bf984375bc3498nvuiey74783"     }   ] }</pre>  | Passed value is not unique in system.                 |
| HTTP_400: INVALID_VALUE_CARD   | Passed Card value is invalid.                         |
| HTTP_400: INVALID_VALUE_EMAIL  | Passed email is invalid.                              |
| HTTP_400: INVALID_VALUE_BIRTH_DATE   | Passed Birth date is invalid.                         |
| HTTP_400: CARDS_LIMIT_EXCEEDED   | Too many passed Cards. Limit 10 cards.                |
| HTTP_403: ACCESS_DENIED  | Method is not available.                              |
| HTTP_401: INVALID_CERTIFICATE  | Passed certificate is invalid.                        |

# Add Card to existing account

## Supported methods

User add - POST company/add\_card.

## Data structure

For POST methods request body should contain JSON with combination of objects mentioned below.

## Request

| Field | Required | Type   | Additional information        |
|-------|----------|--------|-------------------------------|
| email | No       | String | Email or userId is mandatory. |



|        |                          |     |         |                               |
|--------|--------------------------|-----|---------|-------------------------------|
| userId |                          | No  | String  | Email or userId is mandatory. |
| cards  |                          | Yes | Array   | Array of Card Objects.        |
|        | encryptedNumberCard      | Yes | String  | Encrypted PAN JWE.            |
|        | programId                | No  | String  |                               |
|        | programIdentifier        | No  | String  |                               |
|        | termsAndCondition        | Yes | Boolean | true or false.                |
|        | disclosureOfPersonalData | Yes | Boolean | true or false.                |
|        | processingPersonalData   | Yes | Boolean | true or false.                |
|        | marketingInfoEmail       | Yes | Boolean | true or false.                |
|        | marketingInfoPhone       | Yes | Boolean | true or false.                |

Example:

```
{
  "email": "john.smith@gmail.com",
  "cards": [
    {
      "encryptedNumberCard": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJlbmNyeXB0ZWROdW1iZXJkIjoieNTEzODQzMDMxMjA0MjA0MCJ9",
      "programId": 345353,
```

```

    "termsAndCondition":true,
    "disclosureOfPersonalData":true,
    "processingPersonalData":true,
    "marketingInfoEmail":true,
    "marketingInfoPhone":true
  }
]
}

```

## Responses for banks that use PAN (primary account number) as BCN (bank customer number)

| Status, Body  | Description   |
|---|---|
| HTTP_201, SUCCES  | Success.  |
| HTTP_201, SUCCESS<br><pre> {   "failedPanHashes": [     {       "panHash": "a7a89543br958437543bf984375bc3498nvuiey74783"     }   ] } </pre>            | Passed card/cards failed during adding to MRS system.   |
| HTTP_400: CARD_ALREADY_EXIST<br><pre> {   "failedPanHashes": [     {       "panHash": "a7a89543br958437543bf984375bc3498nvuiey74783"     }   ] } </pre> | Passed value is not unique in system.<br>Request is rejected, no cards have been added to the system. |
| HTTP_400: INVALID_VALUE_CARD  | Passed Card value is invalid.   |
| HTTP_400: INVALID_VALUE_EMAIL   | Passed email is invalid.  |
| HTTP_400: INVALID_VALUE_USERID  | Passed userId is invalid  |
| HTTP_400: CARDS_LIMIT_EXCEEDED  | Too many passed Cards. Limit 10 cards.  |
| HTTP_403: ACCESS_DENIED   | Method is not available.  |
| HTTP_401: INVALID_CERTIFICATE   | Passed certificate is invalid.  |

## Responses for banks that use clientId as BCN (bank customer number)

| Status, Body  | Description   |
|---|---|
| HTTP_200, SUCCES<br>{<br>"clientId" : "asdh-adss-sada-sadss"<br>}   | Success.  |
| HTTP_200, SUCCESS<br>{<br>"clientId": "asdh-adss-sada-sadss",<br>"failedPanHashes": [<br>{<br>"panHash":<br>"a7a89543br958437543bf984375bc3498nvuiey74783"<br>}<br>]<br>} | Passed card/cards failed during adding to MRS system.   |
| HTTP_400: CARD_ALREADY_EXIST<br>{<br>"failedPanHashes": [<br>{<br>"panHash":<br>"a7a89543br958437543bf984375bc3498nvuiey74783"<br>}<br>]<br>}                             | Passed value is not unique in system.<br>Request is rejected, no cards have been added to the system. |
| HTTP_400: INVALID_VALUE_CARD  | Passed Card value is invalid.   |
| HTTP_400: INVALID_VALUE_EMAIL   | Passed email is invalid.  |
| HTTP_400: INVALID_VALUE_USERID  | Passed userId is invalid  |
| HTTP_400: CARDS_LIMIT_EXCEEDED  | Too many passed Cards. Limit 10 cards.  |
| HTTP_403: ACCESS_DENIED   | Method is not available.  |
| HTTP_401: INVALID_CERTIFICATE   | Passed certificate is invalid.  |

# Download key to encrypt PAN

## Supported methods

Download key – HTTP GET /company/enrollment/public\_key.

## Data structure

Body of this method should be empty.

## Responses

| Status, Body  | Description                 |
|---|-----------------------------|
| HTTP_200, SUCCESS<br><pre>{   "publicKey" :   "LS0tLS1CRUdJTiBQVUJMSUMgS0VZLS0tLS0KTUJlQ0lqQU5C Z2txaGtpRzl3MEJBUUUVGUUFQ0FnOEFSU0R2dLQ0FnRU FwTS9IamdEZHXUXVVRWhRnkV2MgpHVGVx5SnIrcHBUDU1j ODFxTSt1Mm03ZDFVdnpHNXdUT1k3OVZVWGDdDdFBjMkNX Z05BcXo0aGk4Ymp4WjhOSi9UCjRoMzhya2xoSWWh2anJqQ0 w0NUIESUVqOTImREt1R1lySzBkQlY4eDhjT2drL09jaUhqbIF TVytoL05RTFRpTHIKTHkzbzV0dDhOaVNvWVJuTjlmZEo3cyt aRjdFdU1kMkhuMm1iSkVOS2MwYXRXekZtZkFQbnM4SmRV WWdNWWQxSgpsbll0cXdXVWdGYUxnVUplaDhyZGRrd3lqe HdUZVZ5M0lFQ1hYMHNMcWlwTTZ2NURFWGk5Y1ZVV09PT 0FUSG1pCng0a2dreUNESG9uN3FZNjFaZEhQdVISOFRDdXo xaW9sOGpLNkZTUldlZjFsb01Qem9XVTVPeHFRTjVCMUJrdV MKOWJlUUFZTzFIUyTdRanB5aGRHbGhSeWRrNFNVYmFTR2d 2cXc1N01VRXJkZ2NKOW4rV2hPNUorc0VOclpOSFZhdQo1cz lCaytiRlZuQXltZEtldEdQZzVtZC94Ulo0NzVwQ1FPVXR5UUEr NnduSitONTIwZlJnTINvaDhKK2lnYkhRCmJ2YTNqcjFqKzA1d kw1V1JhNnR1SzRoeTBQQ29JRutYZGNUTk1uZjdDa3dVUIFs aTIVdElqOV05bHozL0VBTy8KWII5cnlXOWJqN0J0cTRMU0IIN FR2K2c2NDg4bXVXMENnSGIQRDJGV3NsWUdMcGQ2V3JvQl R0ZCtCajhhUk5jMQo5YXFMcE1DTmZBdUJlMm5Lc1ZITkxJR nlrbEY3TktVVGRCxm8vcnBKUEFidFJjb0YvK3JtcUtHUVh2L0d uSWQyCjN3SzNhMDUrNnZZeXhmcXNldUtUWGNnQ0F3RUF BUT09Ci0tLS0tRU5EIFBVQkxJQyBLRVktLS0tLQo=" }</pre> | Success. Base 64 encrypted. |

# Connection to SDK and widgets

## Initialization

To connect you need to send HTTP POST request to /initialize\_sdk endpoint with required parameters. To choose what front-end way want to load, you need to provide *widget\_type* parameter that determines also required parameters.

You can also add the parameter “redirect”: false, which is optional – the default value is true. That causes that you are not redirected, but you receive a response 201 with the body (in this case, you have to redirect manually):

```
{

  "redirectUrl": "https://something.com"

}
```

Endpoint URLs:

Stage: https://rpm.upaidtest.pl/issuer,

Prod: https://rpm.upaid.pl/issuer.

Headers:

| Name         | Value            |
|--------------|------------------|
| Accept       | application/json |
| Content-Type | application/json |

cURL example:

```
curl -X POST "http://rpm.upaidtest.pl/issuer/initialize_sdk" -H "Accept: application/json" -H "Content-Type: application/json" -d '{"initializeSDKToken\":"eyJ0eXAiOiJV1QlLCJhbGciOiJIUzI1NiJ9.eyJ0cnVzdGVkSWRlbnRpdHIUb2tIbIl6ImV5SmhiR2NpT2IKU1V6STFOaUizS W5nMVI5STZxeUpOU1VsRk4zcERRMEYwWTBORFVVUkpiR1ZOYkVwS09FVnpWRUZPUW1kcmNXaHJhVWM1ZHpC Q1FWRnpSa0ZFUW1KTIVYTjNRMUZaUkZaUIVVZEZkMHBSVkVSRIZVMUNTVWRCTVZWRIEwRjNUR0pYUmpaaU0yU ndXbGRPY21GWfZYaEZWRUZRUW1kT1ZrSkjZMDFEUm1Sb1kyNU9ObGxZWkdoTIVUUjNSRUZaUkZaUIVVdEVRVlp XWTBkR2NGcEVSvlJOUWtWSFFURIZSVU4zZDB0VFZsRm5WVzA1ZG1SRFFrUIJWRUZsUm5jd2VVMUVRVEJOYWtsNF RrUkJNRTVVWkdGR2R6QXdUVVJCTUUXVvKzaE9SRUV3VGxSa1VMUNaM2hHYWtGVIFtZE9Wa0pCVFUxRVZsWIJVVl ZzUIV4V1FrSlZiRkpQVWxaSmQyZG5TV2xOUVRCSFExTnhSMU5KWWpORVVVVvknRVkZWUVVFMFNVTkVvMEYzWjJk SIMwRnZTVU5CVVVSS2RXChJTa0p2WjFoR1NFbHFVSEZEUVhGclRtY3ZRbnB1TkRWFVZlaFFTTFoyVm5kdk1YSktkV 2cxT0RoT1RqZGxNa2cxT1dVNVRWUkNUbXRpWVRJMFfuUjZhMIjUY1U5VVJuZFhZV0pZTIVvclYyMW1UbnBuU3pkV 1UwZG5TMDIYTVRBMVowZDNUM1pQV1RKcFUwSlhka3BDVTNKRIZuTkNhVWhuY1U0NVZtcDBVMWt5YTBZNGFFe HRRM1F6U21Odk1YVjBRVTF5UzB4SVUxRINUbKv2VvHgbmVXWnZOVXRpVXpkT2R6YzJtBlJTT0V4QmRsWndTUzhy VDI1bmRUWkhVblJIZDBNemRUTnhia05qZVZKU055dDVNSHBKUm5waU1YSm5SV3hNVkVzNFJXWjJVMlo2WW1NM VdFOXhUMjF3WkdjMUwzVINTRXA1U25aRFQwTk9jRVp2V0M5YVNIaHpWMMr1TmtweFlqQk9SVXRtY21WcmFERIR NbGRVYkhSRWQwaGlhR0pNZDBOb05HVXlhMDU0TDFaeUwwbFNARFp3TlhGQmRpdHVZMVl4YVZwVWJXcENRMIZ 4Y0hwUk5XczFSaJlLVlcxb2RrdzFRVzFPY1d0b01GRkVaR1ZvYTNKc1YwNU5RM0JXZVZCaGJFRlJWWGd5VmxaWFNsR jJSMHcwWIZCUmlxUmhSVkk1VDJ4YVIVZFZaV0psZGxFM2RrMXBTRXRaWmpCV05Hb3IPWGM0WmxSNFNXMUtTREJ LTTJOSIEwaHZiVU00Y2xoMlPHWjZRVzlyWVdOT1QwTlJPV2w0WldGaWREY3ZTMjFYVkhkYWRHWHlUamxwYXpSRVF UZExVbkprSzFWU1VHbzFkRkjaV21WQ2FlaGhIVTF0ZVc0dINsUIRaVZYZS3I0WGNXeGhSR3gxVUd0MFdrbEpNVzEw TVhCVWMxVIBjekpwZURoa2VuQjBNMUKzYTBNNVJlVjBUVWxhU0VVMU4ycGtSV0YxTm1SWE4zUklhMGRGUjFWUjnt aHZjbkZpVVdaNVFYbGxNMkZGTUdKalozUnBWV3R0VIM4eIMwRjVXRzU0ZG14d1prZGxTaTkWYmpGTmNVbHhXR2 x1YUhcQk1UUK9haTh5YVRBM05XYzjVSEF2Ym5KVVQyRkNjRmdyU3paMGNGUIFjemRaYUc1SVNIUnhSRE5CTUdsd mMyWjROWFZ0VVsRVFWRkJRazFCTUVkRFUzRkhVMGxpTTBSUIJVSkRkMVZCUVRSSIeWRlRbXRsuUWxVNE5tZERX bkp2TUM5b1dlUk9RUZlQYTF5dFZWWM9ObWh5WmxNck5tUIFOME12VG1wd1FXRmpIR3BQWmtFdkx6Umlja3BLU VhGcU4wbEINVGxPWTJabVQwVkdNVTByYzI1TWJHWldOMU50T1RSblj6WjNaRGc1U0RWUE9UZzNOVXA1ZUd4dmF XSk5UemN6TTNsVmlwWk5XVXN6VjJWTFIzaEJaekZhYjBGSVIXRTFNMIJ5VEU5bVQwYzJOMjIjDWjNjKME1EUnlISFZzZV
```

ZCcFZXbHFjemxMYzBzM1RVNXBNbFpSUIRKRVZXWmpRWE5xSzI1ak1WTjvXa3hCUVZoWFRtSTRiV2RPYm5aUVdV  
SnlARFk1Wm1KblpuVTFjVXRPTmk5cGVWSTRPVVjyVVd0WE1YtjjWE56YWtnM1IxcFFRbTV0UkN0eVlrSldWMkozTT  
B0M1NqSjFTR1pVZDNkNVVtTXdaRmxpWkRkM1I6TmtOVVZEUjBOemFVbHNSa2RrVTNWWUuyaE1WazVVU21GVFN  
WZHFhVzVoV1RWYU9WVIBTMk12ZWtSMU1IUlpPVVlyV0ZWcWjVeExlamhsZDB0dVR6RjZSVWN4ZVVVSUIQwOWpV  
RXBuYjjwU2FrOXBra1I5V0dzNGVtazNjMfP0VWpkeE9HWkVkr3hDZGxob09IaFhjWEIwZVhKUVIVZEIhMWhMV2xsU  
VNuSXLiRII3UjBKae5pdHRUVWhqWkdaSVVXTkpTQzlhS3poU2JebDVUemx1ZEdGd2VGWnNIVVpuYVdGbk9WWmpV  
a1JTYmsxeE5GRm1ia1JOV1VSWIEzcERRV1pQT0VwYWNXZG1iVzIXUldWNVV6RmxPSFpaWlhGc2Vfa3ZjbmR5TjAxd  
2RYTXplbIZYWmtabINUVldiMEpJY20xNWlwNTRkMkppVWxCdVQxY3hibWxVU2tRNWRFRldUemw2U0ZVM1plbE5W  
bHBETkhKc2RIVTNjRU4xUnk5RldtczVOMjQyV2xwTIRVbzJNbU00WjjwUlplbHVRMk4xUm1OdU5FWXIURVpUT1doellt  
ZFpMMFpRTnpKSWMwazBPR1o2WkcxemNtVnjMHhwTjBREkswTmhlRzF6WlhoTGFWZDZSakYwUWxnMk5GWjFWM  
Gc1VEdoWGMMybDFMM0JTT1ZkUmQwSldNWHBJTW5vclpVlhaemgzS3pOaWVUVm5QVDBpWFgwLLcxMC5DbIRISmp  
oRkRCekhYY0I3TjZsNfMTs02Wk9TVngzc1hsRkg4TnV0T3dVY2p0Zmk4VE01SUtSaFIGMEIFVWFDTjAxU1hHdGdzY  
3VJOGZ3ampPVVNleW5Ub1lhN2xRXzB4aHF1V0Y2aWZBNnRBTFBWVDFZa0VoaHRTT293Y3hWUVc1aF9yRU9Qbm  
xLWmFTR2QzQ21WdU02dkdodFVsdWh5UXpRakloTFhTaHBpQIILPLThSaG14dnI2Ykc5QXA3WVlyRGV5YWg0cIY2T1F  
0ek9GNkhONUM4ZUFIYmRvMVExcVQxQ2pUWUVTQVR4NEImREpfRVhLejg4ZE1aWEV1Nk5ZWxEwZ0RGbGpqa3VI  
MUxCTzIdb2ZRbDY4NGpjSkfPeDFTVFVoS3R1M0Z5RWt0Uy1Wd05jMWZBb3RLZEV2VknNZ0o5ZEpmSFdOempoN  
EVrSIVxU1ItTE45OHVBNkiYSnhONk0wLURoUW0yNW83M3Q2Y19ZZjEwbXhvWDFIRFFsZGk5WXI3c1NaMGVRSy1O  
c2F6MjIjSMkxZMHhNMnFneVBnRUICZFp6TE95M0Jjbmw3NF9yeU5VSHFwWF9oUk9Md2JpUW5CLUVjT1ZWVnQ4SzZ  
4bDBmRDM4YU5laGVJUUVd3TjJhbmFWUFNsNXZkaIF0R2tuUthFV3Y3bHZ1d0xSUThuSlp4Ukg0akdnMjRBV1hLY1Bs  
NDJyejhWLVJSQmNhcVpIMDFPMij1OEFOaXN1MDITSXY0aGFtekdfakIEVERjNGR5VUNTRTk0bmlqU0NadkRUVXY3R  
FEzd0dUaVJzZ1BjSjExOHpueS1EZk9xaDVSWHcxUS1LVzBSd3IkZfVsm3dIX1VjcEM0TkdwYkwzWFIwTDFqVHVIWWJ  
YZkh2aTIMd1k2RIJYU2tEN2VtcylsInBhbkhhc2giOijhNjU4ODM1ZDEwZWVjMTQ3YjjiNDFhMWYwZmJiMjg0YWNkMjZi  
ZTEExZTkzYmQwNTVkyWQwZTQ1MzE5NWViNjhiliwib3MiOij3aW5kb3dzliwiZGV2aWNISWQioijjdXN0b21lci1pZC0y  
MDAwliwicmV0dXJuVXJsIjoiaHR0cDovL3d3dy5leGFtcGxILmNvbS9yZXR1cm4iLCJrZWVwU2Vzc2lvdVlybCI6Imh0dH  
A6Ly93d3cuZXhhbXBsZS5jb20va2VlcF9zZXNzaW9uX2hhc2giLCJ3aWRnZXRUeXBlljoiZnVsbnVsbmNvbXBhbnlJZCI6I  
nRlc3Rjc3N1ZXIiLCJleHAiOiIxNjEwOTY5Mjc3OTE0In0.R-BGPxI\_zaVs20eISQVgxtBLEdZkl0mAFvQSRLAISb8\"}\"}

Parameters:

| Name               | Required | Type   | Description  |
|--------------------|----------|--------|--|
| initializeSDKToken | yes      | string | JWT token signed by private key delivered by Partner.                                    |
| redirect           | no       | bool   | The default is redirect true. When you set it as false, you will receive a response 201. |

Token payload data:

| Name                 | Required | Type   | Description             |
|----------------------|----------|--------|-------------------------|
| trustedIdentityToken | yes      | string | Trusted identity token. |

|                |                           |        |  |
|----------------|---------------------------|--------|--|
| panHash        | yes                       | string | PAN hash – described in 3.2.   |
| deviceId       | yes                       | string | Unique ID of device. Base64 encoded. It is a string of numbers and letters that identifies every individual device. It is generated on the device and can be retrieved by any app session with the same way. It should be generated with various parameters like, serial number, os version, screen information, device build, device number, battery information, so it can provide unicity from each device. |
| os             | yes                       | string | One of: "android", "ios", "linux", "macos", "windows".   |
| publicKey      | no                        | string | This is public key from device biometrics authentication module. Base64 encoded.   |
| returnUrl      | yes – for WEB integration | string | Url which will allow to return form RPM to External Issuer System. Recommended in web integration.   |
| errorUrl       | no                        | string | Url which will allow to redirect, in case of any errors. Recommended in web integration.<br><i>Planned for the future.</i>   |
| logoutUrl      | no                        | string | Url which will be triggered when log out will appear. Recommended in web integration. <b>If this parameter is not present, user will set default login page of program!</b><br><i>Planned for the future.</i>  |
| keepSessionUrl | yes – for WEB integration | string | Value signed by EIS, it allows RPM to periodically extend user session in EIS. EIS should be able to validate if it is properly sign with their key.   |

|                 |     |        |  |
|-----------------|-----|--------|--|
| widgetType      | yes | string | One of: "full", "goal".<br>Default: "goal".<br>This value tells which frontend should be loaded.<br>"full" - Full SDK will be loaded, that allows you to use all functionalities.<br>"goal" - Selected goal widget will be loaded. |
| companyId       | yes | string | For example: "citi".   |
| exp             | yes | String | Expiration time (seconds since unix epoch).  |
| additionalItems | no  | array  | Additional items for the particular cardholder.  |

The additional Items is an array of objects:

| Name  | Required | Type   | Description   |
|-------|----------|--------|---|
| id    | yes      | string | The ID of selected item type. (From GET /company/available_item_types). |
| count | optional | int    | The count, default: 1.  |

# Goal Widget communication

## Initialization

To initialize Priceless Specials web SDK within mobile application, it is required to make POST request to RPM backend (API) with parameters (section 3.3). Make sure that parameter widget\_type is set to "goal".

Example POST request body:

```
{
  "initializeSDKToken":
    "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiIxMjM0NTY3ODkwIiwibmFtZSI6IjZSI6InRlc3QiLCJpYXQiOiJlMTYyMzkwMjJ9.tRF6jrkFnCfv6ksyU-JwVq0xsW3SR3y5cNueSTdHdAg"
}
```

## JavaScript events for mobile applications

For getting proper messages on error or session expiration from widget you need to implement:



## Android

```
Android.showMessage(message);
```

Android developers must binding javascript code to android code using @JavascriptInterface annotation. More info [here](#).

## iOS

```
window.webkit.messageHandlers.payment.postMessage({ status: message });
```

More info [here](#).

Partner can react on those in various ways that suits given use case or interface.

## Events list

There are some rare cases that error will occur, here are list of most common:

- 'ERROR: Missing parameters',
- 'ERROR: Missing rewards',
- 'ERROR: Session expired'.

## WEB application

If there is an error, and returnUrl is set, app will redirect to returnUrl so partner can react.

If there is no returnUrl, error page will be displayed.

# Initialization of Priceless Specials Webview

Solution is prepared to open in webview and should be implemented in a way, where no iframe is used at all!  
Please make sure support for local storage and cookies is enabled.

### Base flow:

- Banking mobile app authenticates user,
- Bank's backend system generates trusted identity token,
- Mobile application initializes Native SDK – developed by Bank,
- Native SDK generates missing data:
  - Unique device ID,
  - System name,
  - Public key.

Native SDK opens Priceless Specials Webview by POST request, like described below.

To initialize Priceless Specials Webview within mobile application, it is required to make POST request to RPM backend (API) with parameters (section 3.3). Make sure that parameter widgetType is set to "full".

Example **POST** request body:

```
{  
  
  initializeSDKToken:  
  eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiIxMjM0NTY3ODkwIiwibmFtZSI6IjE1MTYyMzkwMjJ9.tRF6jrkFnCfv6ksyU-JwVq0xsW3SR3y5cNueSTdHdAg  
  
}
```

Partner will perform POST action /initialize\_sdk with parameters as described above.

It will trigger communication between WEB APP and RPM API to log in user by provided trusted identity.

## Closing of the session

### Integration with Web application

In this type, if parameter returnUrl is present, in GUI customer will see button to go back, and will be redirected to returnUrl.

### Integration with Mobile application

In mobile integration, parent mobile app can close web view at any time, but in case of some errors or losing session, WEB APP will trigger JavaScript events to inform webview about it.

## Session support mechanism

Only for WEB flow!

Partner should share endpoint, that will allow to extend user session, so if user will come back to issuer service, it should be still logged in.

This endpoint should be able to validate, if it is secure to extend user session, so keepSessionUrl should be signed by issuer.

WEB APP will periodically call this endpoint (Request GET) to avoid session timeout on issuer side. After user decide to return, WEB APP will log user out and redirect to partner site (returnUrl).

# SDK Customization

## Font styles and colors

Priceless Specials SDK allows to customize some parts of application layout:

- Header color,
- Footer color,
- Main font color,
- Font type (in the entire application).

## Card selection screen

During the integration process, the partner may choose to enable/disable the card selection screen.

This functionality is enabled by default.

## Additional API endpoints

Endpoints that are not required. They are used to get additional information from the system via the API and allow additional functionalities.

The more information about API specifications is [here](#).

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