Technical Document on UBB Integration via API

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1. Document Content

This documents describes main technical assumptions for the effective use of the UBB Integration via API service.

2. Connectivity and access requirements. Technical restrictions.

The communication between the Information System of the Client (for example, ERP, accounting system) and the systems of the Bank is being made via a protected connection, based on HTTPS protocol and a valid certificate. The Bank requires that the Client should apply and respectively check the Information system for availability of an imported and valid SSL certificate for organization validation (Organization Validation (OV) SSL Certificate). Presently SSL should be of a Qualified Website Authentication Certificate - QWAC type. This certificate should also be compatible with the Bank's systems.

The Client shall send the public part of the certificate as agreed with the Bank. After verifying and confirming the certificate's authenticity, the Bank shall register the application on the Client's behalf. In the registration process a client identifier (Client ID) and a client secret (Client Secret) are being generated. The Bank shall send the keys to the Client and shall make a subscription of the Client's Information System for using the respective API products. Upon having the secret keys granted by the Bank to the Client this shall certify the access of the Client's application to the Bank's system. Upon

expiry of the certificate's validity and upon importing a new one the public part of that certificate shall have to once again be provided to the Bank for the purpose of generating a new identifier and a new secret.

Prior to each communication of the Client's Information System with the system of the Bank, the information system of the Client shall have to require a token for access with regard to the service, for which a request is being submitted. The token will be generated upon accessing of an URL address on the part of the Client's Information System for obtaining a token and providing a Client ID and a Client Secret. The issued token shall be valid 60 minutes after which for subsequent use the Client's Information System shall have to request a new one.

Imposed technical limits on the number of requests over a certain period of time:

- Consent for Access: 10/sec
- Account Info: 50/sec
- Payment Initiation: 20/sec

3. Consent for access to accounts. Technical restrictions.

Registered Consent for access to an account shall be signed within 24 hours after its creation, otherwise it shall automatically be deleted.

The consent for access to an account shall have a validity of 90 days, with effect from the activation date and shall be subject to renewal after expiry of its validity.

One Consent for access to account may be used for authorizing access to several accounts simultaneously, as well as for selecting a different type of information, which is to be extracted.

A business client may have only one active Consent for access to account.

The data in the Consent cannot be changed. If a Client wishes to update the existing details, the available Consent shall have to be deleted and a new one shall have to be created.

The activation of the Consent for Access to account shall be made by the respective authorized user via authentication of the latter in the manner, stated in Item 7.3.1. of the UBB AD General Terms on Payment Services for Business Clients , in Internet environment, provided by the Bank. The process of activating a Consent for Access comprises the following steps:

- The Client shall have to create a request for activation of a Consent for Access to Account in its Information System and shall send the request via an API interface to the Bank.
- In response, the Bank shall return via the API interface a link for access to the website for strong customer authentication of clients-legal entities (SCA site- Strong Customer Authentication). The Client's information system shall deliver the address for access to its respective user.
- Upon accessing the website for strong customer authentication of clients-legal entities the authorized user shall activate the Consent for Access, in which he/she shall state the accounts and the type of information, which should be loaded in the Client's Information System.

4. Account Info. Technical possibilities and restrictions.

The types of info a business client can choose from for uploading directly in their Information System in real time, are the following:

INFORMATION TYPE
List of accounts of the Client, authorized for access via an API Interface
Particular account details
Account balance info
Account movement over a certain period
Information about particular payment transactions on account

Account info report (account movement) is being generated over a period, which cannot be shorter than one day.

Maximum number of entries (transactions) on an account over a particular time span: 2500.

5. Payment initiation. Technical possibilities and restrictions.

The types of fund transfers a business client can upload directly in their Information System, are the following:

ORDER TYPE	CURRENCY	TO ACCOUNT IN THE BANK	BISERA	RINGS	SEPA	TARGET	SWIFT
Single fund transfer	Bulgarian leva (BGN)	Yes	Yes	Yes	-	-	-
Single fund transfer (to the State Budget)	Bulgarian leva (BGN)	Yes	Yes	Yes	-	-	-
Single fund transfer	Foreign currency	-	-	-	Yes	Yes	Yes
Bulk payment	Bulgarian leva (BGN)	Yes	Yes	Yes	-	-	-
Bulk payment (to the State Budget)	Bulgarian leva (BGN)	Yes	Yes	Yes	-	-	-
Bulk payment	Euro	-	-	-	Yes	-	-

Maximum time for a request in Signature Pending mode: 24 hours.

Maximum number of payment orders in a bulk payment in one request:

- Credit payments in Bulgarian leva (BGN): 300
- State Budget payments: 180
- SEPA payments: 200

Bulk payments may contain only payments of uniform type.

One bulk payment comprises at least two single fund transfers.

The process of using the payment services, subject of UBB Integration via API, comprises the following steps:

- The Client shall prepare a payment order (a single/bulk one) in its Information System, which shall send via an API interface for execution to the Bank.
- In response, the Bank shall send via an API Interface to the Information System of the Client a link to the website for strong customer authentication of clients-legal entities (SCA site- Strong Customer Authentication), where the payment will be authorized or the authorization process will be launched.
- The Client's Information System shall deliver the link to its respective user for the purpose of confirming the payment.
- Authorization of payment orders, submitted for execution via the Client's Information System, shall be made by the Client's legal representative, respectively by the persons, authorized by the Client to dispose of its accounts via the online banking functionality in accordance with the General Terms, in the manner, indicated in Item 7.3.1. and Item 7.3.2. of UBB AD General Terms on Payment Services for Business Clients in Internet environment, namely - in the website for strong customer authentication of clients-legal entities, as upon need of additional signature /s, the respective authorized user/s shall subsequently put additional signatures on the payment in UBB Online. Every bulk payment shall be authorized via a particular link for access to the respective payment.
- On the screen for confirming a single payment in the SCA site and in UBB Online in the respective table, in TYPE column the following is being visualized - *Payment Authorization from TPP.*
- On the screen for confirming a bulk payment in the SCA site and in UBB Online in the respective table, in TYPE column the following is being visualized - *Bulk Payment Authorization from TPP.*
- Having successfully processed a single payment, uploaded through UBB Integration via API, in UBB Online, "Payments" section, "E-Documents" sub-section - *Payments Status and E-documents* there will be a particular reference number and Payment Type visualized as Payment Authorization from TPP.
- Having successfully processed a bulk payment, uploaded through UBB Integration via API, in UBB Online, "Payments" section, "E-Documents" sub-section - *Payments Status and E-documents* there will be a particular group reference number and bulk Payment Type visualized as Bulk Payment Authorization from TPP.
- The particular reference numbers of the successfully processed single fund transfers, part of a bulk payment, uploaded through UBB Integration via API, are being visualized in UBB Online in "Deposits and Accounts" section, "Reports" sub-section - *Account Movements.*
- Upon extracting of information under particular payment transactions, which are part of a bulk payment, uploaded through UBB Integration via API, in the Client's Information System information is being uploaded about a particular reference number for each single fund transfer, part of the bulk payment, as the reference number of the first fund transfer shall coincide with the reference number of the bulk payment.
- Upon an attempt to upload a bulk payment through UBB Integration via API in the Client's Information System an error will occur with status "Time responded", in the cases when the account, from which the payments are being ordered, has been included in the bulk as one of the accounts, to which a fund transfer should be ordered.

- Upon a found error in a bulk payment, ordered via UBB Integration via API, a Bulk Error message will appear and no payment from the bulk will be executed.

6. Additional comments

It is recommendable that clients should test the connectivity of their Information System and should confirm its ability to connect, access and communicate through UBB Integration via API prior to establishing the connection in the production environment.