IBAN Management

Verestro IBAN Management Service was created for Customers who want to provide their endusers the possibility to top up or charge their balances and ordering or receiving money transfer by bank account number.

Introduction

Verestro IBAN Management Service is created for Customers who want to provide their end users the possibility to receive money on IBAN (bank account number). This solution allows Customer's users to reload their balances via a bank transfer. As part of the integration, it is also possible to create an Admin Panel for the Customer. Admin Panel allows Customer to track the history of transfers made using the IBAN Management solution.

> The solution is available to Customers integrated with Antaca. For more information about Antaca service please open this link

How to connect with us?

Verestro provides access to the solution in two ways, depending on the Customer requirements. The Customer can access the IBAN Management solution through Mobile SDK or REST API implementation models.

REST API

The REST API integration model involves connecting directly via a server to server path. In this case we do not provide any application view - each process is performed on the server according with the REST protocol. In this integration model, authorization is performed using x509 certificate authentication. More detailed information about IBAN Management REST API integration path are available in Technical documentation chapter**.** Verestro actively supports the Customer in the integration process.

Mobile SDK

The Mobile SDK integration model is the mobile SDK provided by Verestro. The SDK should be plugged into your mobile application, thus allowing your users to operate on their bank accounts from this level. In this integration model, user authorization is performed using a bearer token from a separate MobileDC service. More detailed information about the integration with IBAN Management**.** Verestro actively supports the Customer in the integration process.

> **Important!** Implementation is work in progress...

Overview

This document provides high level description of functionalities offered by IBAN Management Service. Solution allows to generate IBAN as a subaction for the created balance, thus enabling transfers using the IBAN number. The solution is very simple to integrate as most of the processes, such as handling transfers, are performed by the payment institution and our backend. Detailed information about the integration is available in the Technical documentation chapter.

> **Note:** IBAN generating is available to entities registered as payment institutions or banks. If you are not such an institution, you are required to sign an agreement with our partner Quicko, who will generate IBAN numbers on your behalf.

> **Note:** IBAN is the balance reference. Therefore, you must first create a balance to which a given IBAN will be generated. To create a balance for yourself and your users, use our balance management service - Antaca API. Every IBAN is created in response to the created balance.

Abbreviations

This section shortly describes abbreviations and acronyms used in the document.

Abbreviation	Description
SDK	Software Development Kit
API	Application Programming Interface
IBAN	International Bank Account Number
OS	Operative System
IMS	IBAN Management Service

THC	Transaction History Core
AP	Admin Panel

Terminology

This section explains a meaning of key terms and concepts used in this document.

Name	Description
IBAN	International bank account number, which is a standard international account number. IBAN consists of the: • two-digit country code (ISO) • two-digit control number • account number IBAN length may be different depending to country. More detailed information about IBAN can be find in IBAN generating chapter.
Base IBAN / IBAN prefix	Base IBAN issued to the Customer by the IBAN Issuing Institution. Each base IBAN is issued per currency and is necessary to generate new IBANs in the context of each Customer.
Balance	Current amount that is in our bank account and is available for use at any time. Each transfer with an IBAN assigned to another account reduces the balance of our bank account. In turn, each top up on our account causes the account balance to increase.
Customer	Institution which is using Verestro products. Basically Customer can be called Verestro client.
IBAN Issuing Institution	Verestro partner who's assigning base IBANs to IMS Customers and settles IBAN transfers. This institution contacts with the Bank. This means that the responsibility for the settlement of the transaction is beyond the Customer. More detailed information about base IBAN can be find in IBAN generating chapter.

Bank	The Bank contacts the IBAN Issuing Institution informing about transfers that need to be settled.
Currency	Monetary unit - the name of the money used in a given country. This name is used primarily in the context of international exchange. To see the list of the supported currencies please visit Supported currencies chapter.
Transaction file	A file with the .pli extension containing information about bank transfers. On the basis of this file, balance transfers and debits are generated in response to transfers made using the IBAN number. These files are created by the Bank being a partner of Verestro and only IBAN Issuing Institution employees have access to them.

Application components

This chapter describes IBAN Management as a complete solution divided into all components that support and are required to managing IBAN domain. Individual functionalities for which these services are responsible reduce the need for additional work on the part of the Customer to a minimum. Processes such as transaction validation, debiting and topping up balances or saving transaction history per enduser are performed on our side.

IBAN Management Service architecture diagram
image-1676368942013.drawio (1).png

IBAN Management API

Backend component that allows you to generate IBANs. It is also responsible for handling debits and credits of a given balance if the operation performed is an IBAN transfer. To do so this service communicates directly with Antaca API. In addition, IBAN Management API is responsible for validating each transfer order.

Supporting services

The following services are not a direct implementation part of the IBAN Management API. However, they are involved in the processes of creating and issuing IBAN numbers. Additionally they are allowing to perform money transfer process and saving such transfers history.

Antaca API

Backend component that is responsible for creating every balance in our system. After creating the balance, Antaca API sends an event which is catched by IBAN Management API. On the basis of this event the IMS API creates an IBAN assigned to the created balance. It is a key component without which IBAN transfers are not possible. More information on Antaca balances can be found here.

Transaction History Core

Backend component responsible for storing details of the performed transactions. Transaction information stored in this service is provided, among others, to the Admin Panel so that allow you to track transactions made by your users. Transactions stored in Transaction History Core are also transferred to the users as a history of debits and account top-ups. Eventually Transaction History Core is also able to send transaction notifications to you and and to you users.

Admin Panel

Component that allows to create a management panel thus allowing you to track every transfer performed by you users. Information shown in such panel will tell you, for example, whether various transactions are succeed or failed or what amount and currency was chosen for them. Additionally you are able to order an IBAN transfer by yourself using proper section in Admin Panel.

> **Note:** Admin Panel is an optional service intended for customers who want to have greater control over transactions performed in their context.

Application details

The IBAN Management solution allows you to order and receive transfers of various types depending on the Bank that processes the ordered transfer. The choice of Bank is determined based on the IBAN structure, which contains information about which bank a given account comes from. The transfer type is, in turn, determined based on the transfer currency and the country from and/or to which the funds are going. This chapter will describe at a high level the methods of integration, the differences between banks along with supported transfer types and the assumptions defining the types of transfers.

Domain	Description
IBAN generating	Domain of the solution responsible for generating IBANs using a special algorithm based on the IBAN prefix that Customer received from the Payment Institution.

IBAN transfer receiving	Domain of the solution responsible for handling incoming transfers to the received IBAN and thus for initiating the process of topping up recipient's balance.
IBAN transfer sending	Domain of the solution responsible for handling outgoing transfers and thus for initiating the sender's balance charging process.

Implementation models

Verestro provides two implementation models for the IBAN Management Solution - Mobile SDK and REST API. Public methods in IBAN Management were implemented for getting and displaying IBANs. This section provides the architecture information divided into components that are included in the process.

Mobile SDK	Integration via mobile SDK has been for the Customers who want to connect to the IBAN Management service via mobile applications. In this solution, the Customer authorizes himself using session token previously obtained from the Mobile DC service.
REST API	Server-to-server integration has been for the Customers who want to connect to the IBAN Management website directly from their backend. This type of integration was created in accordance with the REST architectural pattern. In this solution, the Customer authorizes himself with a signed x509 certificate. Details of integration via REST API are available in the Technical documentation chapter.

Mobile SDK

The Mobile SDK implementation model was created for Customers who want to share the IBAN Management Service solution through their mobile application. After connecting the appropriate libraries provided by the SDK, your end users will be able to display their IBANs assigned to their balances and order transfers to potential recipients. These actions require authorization with a bearer session token from Mobile DC. Obtaining a valid Mobile DC token takes place after positive end user authorization. The mobile SDK is then responsible for communication with the proper Verestro server methods.

```
@startuml
skinparam ParticipantPadding 30
skinparam BoxPadding 30
skinparam noteFontColor #FFFFFF
skinparam noteBackgroundColor #1C1E3F
skinparam noteBorderColor #1C1E3F
skinparam noteBorderThickness 1
```

```
skinparam sequence {
ArrowColor #1C1E3F
ArrowFontColor #1C1E3F
ActorBorderColor #1C1E3F
ActorBackgroundColor #FFFFFF
ActorFontStyle bold
ParticipantBorderColor #1C1E3F
ParticipantBackgroundColor #1C1E3F
ParticipantFontColor #FFFFFF
ParticipantFontStyle bold
LifeLineBackgroundColor #1C1E3F
LifeLineBorderColor #1C1E3F
}
participant "User" as user
participant "Customer App" as issuer
participant "Mobile DC" as mdc
participant "IBAN Management" as ims
note right of user: User opens Customer application
user->issuer: Login to app
issuer->mdc: Authenticate user
issuer<-mdc: Success
user<-issuer: Login successful
user->issuer: Check my IBAN
issuer->ims: Get user IBANs
ims->ims: Validate user
issuer<-ims: Return user's IBAN
user<-issuer: Display IBAN to the user
user->issuer: Perform money transfer
note right of user: User provides receiver's IBAN in Customer App
issuer->ims: Send funds on provided receiver IBAN
ims->ims: Order transfer
issuer<-ims: OK - Transfer ordered
user<-issuer: Transfer ordered
@enduml
```

REST API

The REST API implementation model was created for Customers who want to share the IBAN Management Service solution through server-to-server communication. After integration with the appropriate methods issued by IBAN Management Service your end users will be able to display their IBANs assigned to their balances and order transfers to potential recipients. In this model, communication is carried out with accordance to the REST protocol - each action is reflected in a specific API method to which you must integrate. Customer authorization is performed by checking the signature in the x509 certificate, which was generated in the context of your Customer account during the onboarding process. REST methods provided by IBAN Management Service are

described in the Technical documentation chapter.

```
@startuml
skinparam ParticipantPadding 30
skinparam BoxPadding 30
skinparam noteFontColor #FFFFFF
skinparam noteBackgroundColor #1C1E3F
skinparam noteBorderColor #1C1E3F
skinparam noteBorderThickness 1
skinparam sequence {
ArrowColor #1C1E3F
ArrowFontColor #1C1E3F
ActorBorderColor #1C1E3F
ActorBackgroundColor #FFFFFF
ActorFontStyle bold
ParticipantBorderColor #1C1E3F
ParticipantBackgroundColor #1C1E3F
ParticipantFontColor #FFFFFF
ParticipantFontStyle bold
LifeLineBackgroundColor #1C1E3F
LifeLineBorderColor #1C1E3F
}
participant "User" as user
participant "Customer App" as issuer
participant "IBAN Management" as ims
note right of user: In this case user authentication is Customers responsibility
user->issuer: Authenticate user
user<-issuer: Authentication success
user->issuer: Check my IBAN
issuer->ims: Get user IBANs
issuer-->ims: Provide x509 certificate
ims->ims: Validate certificate signature
issuer<-ims: Return user's IBAN
user<-issuer: Display IBAN to the user
user->issuer: Perform money transfer
note right of user: User provides receiver IBAN in Customer App
issuer->ims: Send funds on provided receivers IBAN
ims->ims: Order transfer
issuer<-ims: OK - Transfer ordered
user<-issuer: Transfer ordered
@enduml
```

IBAN generating

The process of generating IBANs can be divided into two stages. The first is to open an account with a payment institution - in this case it is Quicko. After opened an account you will receive an IBAN prefix, which allow to generate IBAN numbers for your users. The IBAN prefix is assigned to your account in the Verestro system during configuration and its editable. Each IBAN prefix is created in the context of a given currency, for example, if you want to have an account in PLN and USD, two prefixes will be assigned to your Customer account.

The second stage is to create a balance using the Antaca API service. IBANs are generated in response to the event of creating a balance for a given user and are a kind of identifier of a given balance. Depending on the implementation model, you can create user balances through our mobile SDK or REST commands. At this stage of integration, you should have already created a master balance account on the Antaca website. You can find more detailed information about balance creation in balance management service.

```
@startuml
skinparam ParticipantPadding 30
skinparam BoxPadding 30
skinparam noteFontColor #FFFFFF
skinparam noteBackgroundColor #1C1E3F
skinparam noteBorderColor #1C1E3F
skinparam noteBorderThickness 1
skinparam sequence {
ArrowColor #1C1E3F
ArrowFontColor #1C1E3F
ActorBorderColor #1C1E3F
ActorBackgroundColor #FFFFFF
ActorFontStyle bold
ParticipantBorderColor #1C1E3F
ParticipantBackgroundColor #1C1E3F
ParticipantFontColor #FFFFFF
ParticipantFontStyle bold
LifeLineBackgroundColor #1C1E3F
LifeLineBorderColor #1C1E3F
}
participant "Enduser" as user
participant "Customer App" as issuer
participant "IBAN Management" as ims
participant "Antaca" as antaca
note right of user: Enduser creates new balance
user->issuer: Create balance
issuer->antaca: Create balance for this enduser
note right of issuer: At this point KYC process takes place
antaca->antaca: Create balance
ims<-antaca: New balance generated event
ims->ims: Create IBAN number for new balance
```

issuer<-antaca: Balance created
issuer->ims: Get enduser IBAN
issuer<-ims: Return IBAN number
user<-issuer: Display IBAN number
@enduml

IBAN structure

Each IBAN has a specific structure. For presentation purposes, e.g. on printouts, the IBAN number can be divided into 4-character groups separated by a space character. Depending on the country, the number of characters that make up the IBAN may vary. It is also worth mentioning that the IBAN consists of few fragments which are described below:

Two-letter country code according to the ISO-3166 standard (for Poland these are the letters PL).
Two-digit control number and the BBAN bank account number according to the system selected in a given country and a given bank. The BBAN account number can be of any length (up to 30 characters), but the length must be fixed for a given country.
The account number may contain numbers 0-9 and capital letters of the Latin alphabet A-Z.

> **Example:** Polish IBAN numbers consist of 2 letters of the country and 26 digits according to the following division PL00123456789090909090909090.

PL	2 letters of the country.
00 12345678	2 digits of the checksum and 8 digits tracking a given bank and, for example, it's specific branch - IBAN prefix. Based on this number we will generate bank account numbers for every user in your context.
9090909090909090	16 digits tracking a specific account.

Supported currencies

PLN	Polish zloty
EUR	Euro
USD	American dollar
GBP	British pound sterling
CHF	Swiss franc

AUD	Australian dollar
CAD	Canadian dollar
CZK	Czech koruna
DKK	Danish krone
NOK	Norwegian krone
SEK	Swedish krone
HUF	Hungarian forint
JPY	Japanese yen
MXN	Mexican peso
ZAR	South african rand
TRY	Turkish lira
BGN	Bulgarian lev
RON	omanian leu
CNY	Chinese yuan
THB	Thai baht
ILS	Israeli new shekel
HKD	Hong Kong dollar

Transfer funds

After creating a balance and generating an IBAN number, you can perform funds transfer operations. Funds can be transferred in two directions: sending funds to the recipient's IBAN and receiving funds on the balance using the IBAN assigned to it.
Depending on the IBAN origin and the country from which the account of the sender and recipient of funds comes from, the transfer may be sent as a internal, domestic, SEPA or SWIFT transfer. Depending on the transfer path, the transfer time may vary. Additional fees may also apply.

Transfer type	Condition	Additional fees	Potential transfer time
Internal	The sender's IBAN and the recipient's IBAN indicate the Antaca balance.	No	Instant
Domestic	The IBAN currency of the recipient and sender must be PL. The funds must be in Polish zloty.	No	Max 1 day Can be instant
SEPA	The IBAN currency of the recipient and sender must be the currency of a European country. The sender's and recipient's banks must support the SEPA system, otherwise the transfer will be made via SWIFT.	Possible occurrence	Max 1 day Can not be instant
SWIFT	Global transfer. The recipient's or sender's IBAN does not have the currency of a European country or the bank of one of the parties does not support the SEPA system.	Possible occurrence	Max 5 days Can not be instant

Integrated Banks

Our cooperation with the payment institution, allowed us to open integration with below listed banks. This allows us to make transfers ordered by your end users who have an account generated in Antaca. The list of integrated banks is growing regularly and we invite banking partners to such cooperation. Contact us in case you want to cooperate with us in IBAN offering.

Integrated bank	Domestic	SEPA	SWIFT
ZEN	Not available	Available	Not available
Pekao S.A.	Available	Available	Available

Use cases

This chapter contains the description of the processes taking place in the IBAN Management Service from the point of view of the Customer and the end user. Information on how to integrate with the solution has also been added.

Bank account number prefix

After signing the agreement with the Payment Institution, an IBAN prefix is assigned to your Verestro account in the context of a given bank per currency. Each user creating a balance in the context of your IBAN Management Service implementation will have an IBAN number generated based on this prefix. Regardless of which bank the prefix was generated for you - your transactions will be settled between bank and the Payment Institution, thus exempting you from the responsibility of account operations.

Technical balance

When you create an account in Antaca, a technical balance is also created for you. It is a very important element of the solution because it contains funds that, for some reason, did not reach their destination and should be returned to the person ordering the transfer. The technical balance will be created during the process of creating an Antaca instance for you.

Display bank account number

The user who logs in the Customer application sees his balance and the IBAN that is assigned to this balance. This allows him to share such IBAN to a potential payer so that the payer can make a transfer to the user's account. Having a visible IBAN, the user can also top up his balance by making a bank transfer from his external account. The IBAN can be displayed by using the `getIban` and `getIbanMobile` methods depending on the implementation model used by the Customer. The implementation model also defines the method of Customer authorization in the IMS service. In the case of the Mobile SDK implementation model, the Customer authenticates using a session token received from Mobile DC. In the case of the REST API implementation model, the Customer authenticates through signed x509 certificate.

Transfer

Funds can be transferred in many ways. One of the most popular is a transfer using the recipient's account number. In the context of the IBAN Management Service solution, the transfer can be made in two directions.

The first is to receive funds on the account number provided to the entity ordering the transfer - this is an incoming transfer. The receiving domain is responsible for this type of transfer.

The second direction is to send funds to the indicated account number belonging to the recipient - this is an outgoing transfer. The sending domain is responsible for this type of transfer.

Receiving

This functionality allows end user to receive transfers. End user which is using your application is able to share his IBAN to potential payer. This type of transfer is a transaction that top ups enduser's balance. As receiving an incoming transfer requires only to provide IBAN to his potential payer the public part of this domain contains only getting balance owner bank account number.

Sending

This functionality allows both Customer as a corporation and end user to order outgoing transfers. End user which is using your application is able to sends money on a given IBAN. The outgoing transfer is a transaction that charges balance which spiecified IBAN is connected with. The sender must provide the recipient's IBAN number for the transfer to be initiated. Depending on the recipient's IBAN, the transfer will be made using the appropriate transfer type - internal, domestic, SEPA or SWIFT. The types of transfers and their conditions are described here. SEPA and SWIFT transfers may be charged with additional costs. When ordering a transfer, PIN or biometric authorization may be required.

> **Important!** Implementation work in progress...

Authorization

For security reasons, a transfer order requires authentication of the ordering entity. Depending on the type of integration you are performing, authentication can be done in different ways.

For mobile integration, our mobile SDK will provide authentication via biometrics or end-user PIN. This type of end-user authentication takes place when logging in and making a transfer.

In the case of server to server integration, we only authenticate the instance of a given Customer as the corporation ordering the transfer in the context of a given user. End user authentication in this case is your responsibility.

There is also a case in which you, as a corporation, want to order a transfer directly from your master balance. In this case, we authenticate you using a pre-signed x509 certificate.

Transaction result

After making each transfer, it is important to have information about its status. For this reason, we provide the ability to get information about the result of each transaction made. Our application provides two types of notifications: notification to the Customer and notification for the end user.

Notification to the Customer

One of the additional functionalities offered in the IMS solution is sending transaction notifications to the Customer. The notification is sent in the form of an event that should be handled by the Customer. The Customer should create POST type endpoint to allow us to send such an event.

```
POST https://example-customer-site.com/transaction-event


{
  "id": 20,
  "timestamp": 1665557034
}
```

Transaction event contains the transaction identifier as has been shown in example above. Using this identifier, the Customer can get the details of a given transaction using the appropriate method. It is also possible to get a list of all transactions. Implementation details are available in the technical documentation of the Transaction History Core service.

Expand to see UML diagram presenting notification process

```
@startuml
skinparam ParticipantPadding 30
skinparam BoxPadding 30
```

```
skinparam noteFontColor #FFFFFF
skinparam noteBackgroundColor #1C1E3F
skinparam noteBorderColor #1C1E3F
skinparam noteBorderThickness 1
skinparam sequence {
ArrowColor #1C1E3F
ArrowFontColor #1C1E3F
ActorBorderColor #1C1E3F
ActorBackgroundColor #FFFFFF
ActorFontStyle bold
ParticipantBorderColor #1C1E3F
ParticipantBackgroundColor #1C1E3F
ParticipantFontColor #FFFFFF
ParticipantFontStyle bold
LifeLineBackgroundColor #1C1E3F
LifeLineBorderColor #1C1E3F
}
participant "IBAN Management" as ims
participant "Transaction History Core" as THC
participant "Customer's Server" as issuer
ims->THC: Report performed transfer
THC->issuer: Send notification event on the Customer endpoint
issuer->THC: Get transaction details by received transaction id
issuer<-THC: Return transaction details
@enduml
```

> **Note:** This is an optional feature, but we recommend using it.

Notification to the user

> **Important!** Implementation work in progress...

Admin Panel

One of the additional functionalities that Verestro provides is the creation of an administration panel that allows the Customer to track the history of users' transactions - individual banking operations such as debiting or topping up the account with the transfer IBAN are visible. The Admin Panel also provides information such what IBAN is assigned to the secified user and and which balance this IBAN refers to. The Admin Panel is configured mainly on the Verestro side. Each

instance of the Admin Panel is issued per Customer. Please visit Admin Panel documentation to see more detailed description of the service.

Expand to see UML diagram presenting filtering process and ordering transfer process

```
@startuml
skinparam ParticipantPadding 30
skinparam BoxPadding 30
skinparam noteFontColor #FFFFFF
skinparam noteBackgroundColor #1C1E3F
skinparam noteBorderColor #1C1E3F
skinparam noteBorderThickness 1
skinparam sequence {
ArrowColor #1C1E3F
ArrowFontColor #1C1E3F
ActorBorderColor #1C1E3F
ActorBackgroundColor #FFFFFF
ActorFontStyle bold
ParticipantBorderColor #1C1E3F
ParticipantBackgroundColor #1C1E3F
ParticipantFontColor #FFFFFF
ParticipantFontStyle bold
LifeLineBackgroundColor #1C1E3F
LifeLineBorderColor #1C1E3F
}
participant "Customer's employee" as issuer
participant "Admin Panel" as ap
participant "IBAN Management" as ims
participant "Transaction History Core" as thc
note right of issuer: Customer logs in Admin Panel
issuer->ap: Log in
issuer<-ap: Success
note right of issuer: Customer filter IBANs list
issuer->ap: Get IBANs
ap->ims: Get IBANs by specified query
ap<-ims: Return list of found IBANs
issuer<-ap: Show list of found IBANs
note right of issuer: Customer filter transaction history list
issuer->ap: Get transaction history
ap->thc: Get transaction history by specified query
ap<-thc: Return list of found transactions
issuer<-ap: Show list of found transactions
```

issuer->ap: Order transfer from Customer master balanse to specified IBAN
ap->ims: Order transfer
ap<-ims: OK - transfer ordered
issuer<-ap: Transfer ordered
note left of ims: This transfer will also be displayed in transaction history
@enduml

> **Note:** Process available for Admin Panel operetor with every type of Admin Panel operator roles.

Views

This chapter contains views and actions to be performed available to the Admin Panel operator regarding the IBAN Management solution. Depending on the role of the operator's account, various actions are available in the Admin Panel. The roles available in the Admin Panel are `EMPLOYEE`, `MANAGER` and `ADMIN`. More information about roles and their permissions are included further in Views chapter subsections.

> **Note:** Depending on the Customer's requirements, the permissions in the Admin Panel can be configurable. For example, it is possible that only `ADMIN` and `MANAGER` can add a new balance from the Admin Panel. `EMPLOYEE`, on the other hand, would only be able to perform `read` actions. Detailed information about roles and permissions configurations are available in the Admin Panel Service documentation.

Enduser details

Each role is entitled to `read` actions. This means that `EMPLOYEE`, `MANAGER` and `ADMIN` can filter their endusers and check their account details such as assigned balances and IBANs. The option of viewing end users is available in the `CUSTOMERS` / `End Users` tab and has been presented on the picture below:

image-1677147920306.png

Using to the available filters in `Endusers` tab, the Admin Panel operator regardless of his Admin Panel role can find a proper user by various filtering criteria - including the IBAN number. The entered filtering criteria can be cleared using the `Clear all` button in the upper right corner. Available filtering options have been presented on the picture below:

image-1676554736454.png

Such the Admin Panel operator is also able to view the details of a given end user by selecting end user's record from the list of all end users. In the end user details section, there are several tabs dedicated to various functionalities - including `Balances` tab with balances details and the same IBANs assigned to these balances. By selecting the `Reveal` option, the Admin Panel operator can view the end user's IBAN number. From the same view, it is also possible to add a new balance to the end user, which will also generate a new IBAN number. Generating a new balance is possible with the `+Add new balance` button in the lower left corner. The action of generating a new balance is also available for each role of the Admin Panel operator. The described posibilities available in `Balances` tab have been presented on the picture below:

image-1676555543719.png

Payment history

Each of the Admin Panel operators also has the ability to view the transaction history of all endusers. The option of viewing end users is available in the `CUSTOMERS` / `Payment History` tab and has been presented one the picture below:

image-1677150640402.png

Using to the available filters in `Payment history` tab, the Admin Panel operator regardless of his Admin Panel role can find a proper end user's transaction by various filtering criteria. The entered filtering criteria can be cleared using the `Clear all` button in the upper right corner. After specifying the filtering criteria, the operator can also generate a transaction report using the `Generate transaction report` button in the upper right corner.

image-1677151269746.png

Such the Admin Panel operator is also able to view the payment history of a given end user by selecting end user's record from the list of all end users. In the end user details section, there are several tabs dedicated to various functionalities - including `Payment history` tab with transaction details performed by selected enduser. The `Payment history` tab have been presented on the picture below:

image-1677149382343.png

Onboarding

As mentioned in the Overview chapter, the IBAN Management solution requires prior integration with the Antaca service and other necessary steps that must be performed. This chapter is intended to present you the requirements that will allow you to use the IBAN Management solution in your application. We have presented here what information is necessary to provide so that you can join the IBAN Management program and so that we can properly create the required Customer account for you in our system.

> **Tip:** Please remember to inform us on which environment you want us to configure an account for you. IMS offers two environments: *Test* and *Production*.

Business onboarding

To start using IBAN Management Service you need to go through a few on-boarding steps:
1. Please contact our sales - *salesteam@verestro.com*
2. Sign an agreement with the IBAN Issuing Institution - Quicko. We will actively you to go through this step.
2. Please respond to some introduction question that will let us prepare proposal for you.
3. You will receive offer for payments.
4. If you accept the offer you will be asked to provide some company documents required for the AML verification process.
5. After succesful AML process you will receive contract with our partnering acquiring institution.
6. You will be asked to provide account numbers for settlements and the data necessary to configure IBAN Management instance for you (see below)
7. And finally you will enable IBAN Management API on your website or mobile app to enable payments.

Technical onboarding

Below are listed technical requirements allowing you to use IBAN Management Service:

Make sure you have an created account in Antaca Service. This requirement is needed so that the Customer has his own dedicated space to generate and store his users' balances in the Verestro system.

After creating an account ine the Antaca Service, the Customer will receive the `externalId` parameter, which is mandatory to use the IBAN Management solution.

> **Note:** Basicly the `externalId` parameter is an Issuer's wallet name in Antaca. The value of the `externalId` parameter is usually the name of the Customer's company in lowercase.

Make sure you have created technical balance in Antaca Service. This is the balance to which failed and/or lost transfers will be credited. For example, an incoming transfer to an IBAN, which does not exist in the Verestro system.

Provide us the IBAN prefix. This step is directly related to signing an agreement with the IBAN Issuing Institution, which issues such a IBAN prefix to you. On its basis, IBANs of each user of the integrated Customer are generated.

> **Note:** Each base IBAN is created for a specific currency. For example, if the Customer wants IBANs to be generated in EUR and PLN, he must provide two base IBANs - one in EUR and the other one in PLN currency.

> **Tip:** Example IBAN prefix number: **PLxx24601018700219xxxxxxxxxx**

Provide us the common name of the x509 certificate. Required to authorize the Customer in IBAN Management Service.

> **Tip:** This step is only required for server to server integration. Mobile-server integrating Customers can ignore this point.

Integrate with Mobile DC secure. The Mobile DC service allows you to generate a session token needed to authorize the Customer and get the context of the appropriate user.

> **Tip:** This step is only required for mobile to server integration. Server-server integrating Customers can ignore this point.

Provide us the public key or list of public keys of the Admin Panel/Corporate Panel created for the Customer. This parameter is required to authorize every Admin Panel instance in IBAN Management Service.

> **Tip:** This step is only required if Customer has dedicated Admin Panel and/or Corporate Panel.

Technical documentation

Server to server integration

This chapter provides technical information about the integration with IBAN Management Service using REST API integration model.

> This API requires Mutual TLS authentication. You can use the same certificate for all mTLS-secured APIs exposed by Verestro. If you don't have one, follow this instruction: Connecting to server-to-server APIs

@swagger="https://iban-management.upaid.pl/doc/server.yaml"