



# Solution Brief: Blockchain-Based Payment System

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## Solution Overview

Blockchain technology allows facilitating fast, secure, low-cost payment processing services through the use of distributed ledgers which are secured by cryptography and which provide for the real-time transaction verification, audit, and backups.

Implementing a secure account and identity management requires a vast amount of time and money expenses for financial institutions that spend millions of dollars all reinventing the wheel. TokenD is a ready-made blockchain software product that contains all the necessary modules for identity and wallet management, p2p transfers, asset exchange, role management, and deposit / withdraw gateways.

### Solution Benefits

#### For Platform Owners

- Business opportunity in economic environments where wire transfer is the only feasible option.
- Platform can be a bridge for money transfers between mature economies with a swarm of banks and advanced payment systems on one end and emerging economies with traditional banks and wire transfers on the other.
- Platform has a rich API which allows it to be included as a payment method in existing businesses.

#### For Platform Users

- Compared to traditional payment systems where fees are usually imposed on each subsequent transaction (especially when it comes to international transfers), the platform allows saving a substantial amount of money because users could not be imposed with fees for the transfers within the system
- Unlike traditional wire transfers, which normally take up one or more business days, transfers within the platform are conducted in real-time.

### Functionality Overview

- Platform provides a wallet (web, mobile) for multiple currencies.
- Users can deposit and withdraw fiat funds.
- Users can make peer to peer transfers.
- System administrator can set up different tiers for platform users, effectively putting into effect custom access levels that vary depending on the legislative permission of an individual.



- System administrator can set up daily / weekly / monthly / yearly limits for deposits, withdrawals, and transfers within the system.
- System administrator can set up internal system fees.

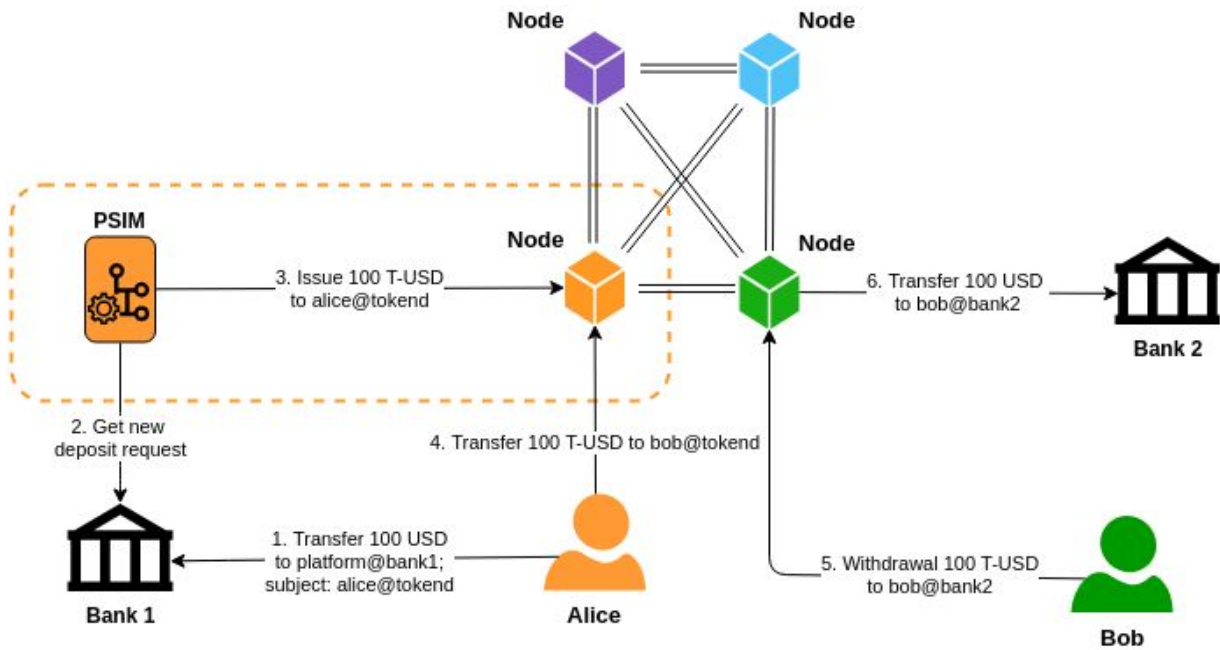
## Business Application

The solution that provides a service for participation in foreign car auctions has been successfully implemented for a client. Participating in such auctions requires a money deposit from participants before they can start bidding. In case a lot has been lost or its participation canceled, deposits are returned to the participants. Depositing/withdrawing money to/from the client's service had been done via wire transfers and required service fees by banks. In the case of frequent auction participation, this could induce a substantial amount of service fees for the bidders.

To address the problem, a payment system on top of TokenD has been developed and integrated into the client's auction bidding service. This allowed avoiding the approach of depositing money to participate in a particular lot. Instead, users can now deposit money into the system once and participate in multiple lots or cancel their participation without having to pay bank service fees which are imposed for each new deposit or participation cancellation.

## Business Workflow

The figure illustrates how payments between users of the TokenD-based payment system are conducted.



**Figure 1.** Tokend Payment System Workflow

1. Alice deposits 100 USD to the platform’s bank account adding platform-generated identifiers to the transaction comment.
2. Platform’s payment system integration module receives a new deposit request with a transaction identifier that is attributed to Alice’s wallet on the platform.
3. Payment system integration module issues 100 Tokenized-USDs to Alice’s wallet on the platform.
4. Alice transfers 100 Tokenized-USDs to Bob’s wallet on the platform.
5. Bob makes a withdrawal request for 100 Tokenized-USDs to his bank account.
6. 100 Tokenized-USDs are transferred to the Bob’s bank account.

# Functionality Details - User

## Operations with Funds

The platform allows integrating with bank accounts (wire transfers) and cash card services for deposit and withdrawals.

**Deposit fiat** ×

C A R D    B A N K

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Asset  
**United States Dollar (USD)** ▼

Balance is 64843.552049 USD.

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Amount (USD)

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External network fee	Unknown
Fixed fee	0 USD
Percent fee	0 USD
<b>Total fee</b>	<b>0 USD</b>

---

Card number

---

Card expiration date (mm/yy)

---

Card CVV3

---

Card holder

---

Deposit

**Withdrawal fiat** ×

C A R D    B A N K

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Asset  
**United States Dollar (USD)** ▼

Balance is 47209.304529 USD.

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Amount (USD)

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External network fee	Unknown
Fixed fee	0 USD
Percent fee	0 USD
<b>Total fee</b>	<b>0 USD</b>

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User full name

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Bank name

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Bank BIC/SWIFT code

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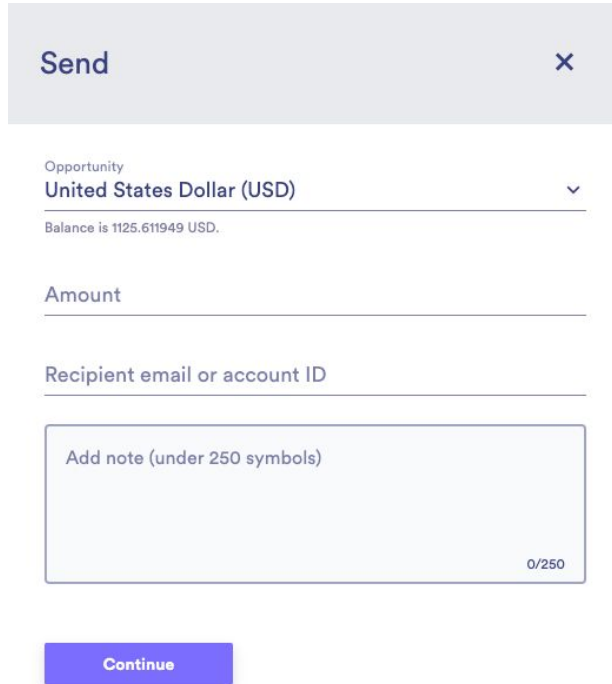
International Bank Account Number (IBAN)

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Withdrawal

**Figure 2.** Fiat deposit and withdrawal screens

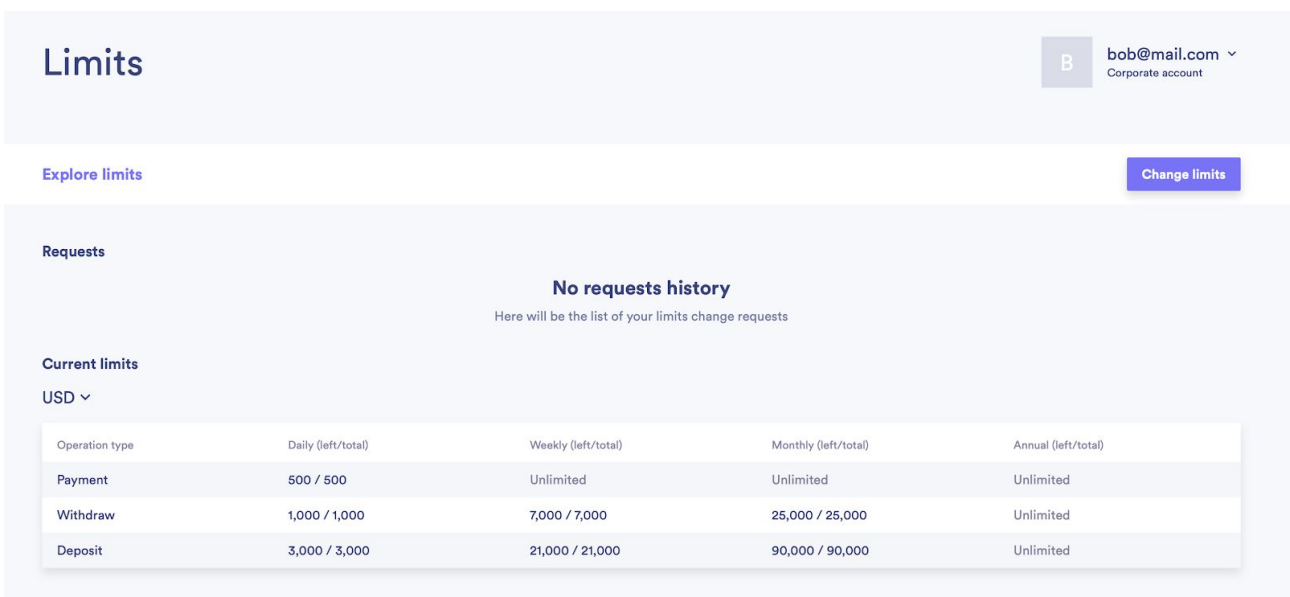
The platform allows sending funds between platform users.



**Figure 3.** Sending funds between platform users screen

## Operations Limits and Fees

Platform users have a *Limits* screen, where they can see their current operation limits and submit a request for the limits update.

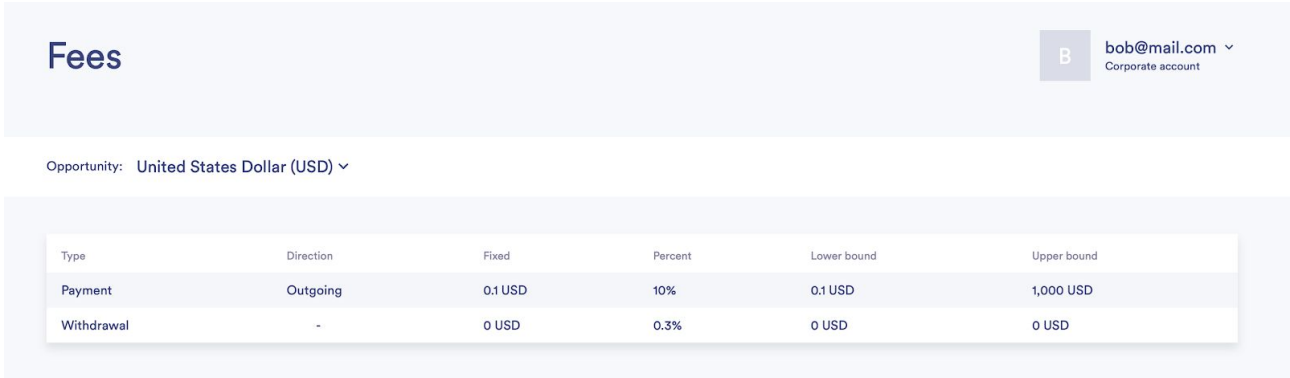


**Current limits**  
USD

Operation type	Daily (left/total)	Weekly (left/total)	Monthly (left/total)	Annual (left/total)
Payment	500 / 500	Unlimited	Unlimited	Unlimited
Withdraw	1,000 / 1,000	7,000 / 7,000	25,000 / 25,000	Unlimited
Deposit	3,000 / 3,000	21,000 / 21,000	90,000 / 90,000	Unlimited

**Figure 4.** User’s operation limits screen

Platform users also have a *Fees* screen that shows the fees which are currently set for their account by the administrators on the platform.



**Fees** B bob@mail.com  
Corporate account

Opportunity: United States Dollar (USD) ▾

Type	Direction	Fixed	Percent	Lower bound	Upper bound
Payment	Outgoing	0.1 USD	10%	0.1 USD	1,000 USD
Withdrawal	-	0 USD	0.3%	0 USD	0 USD

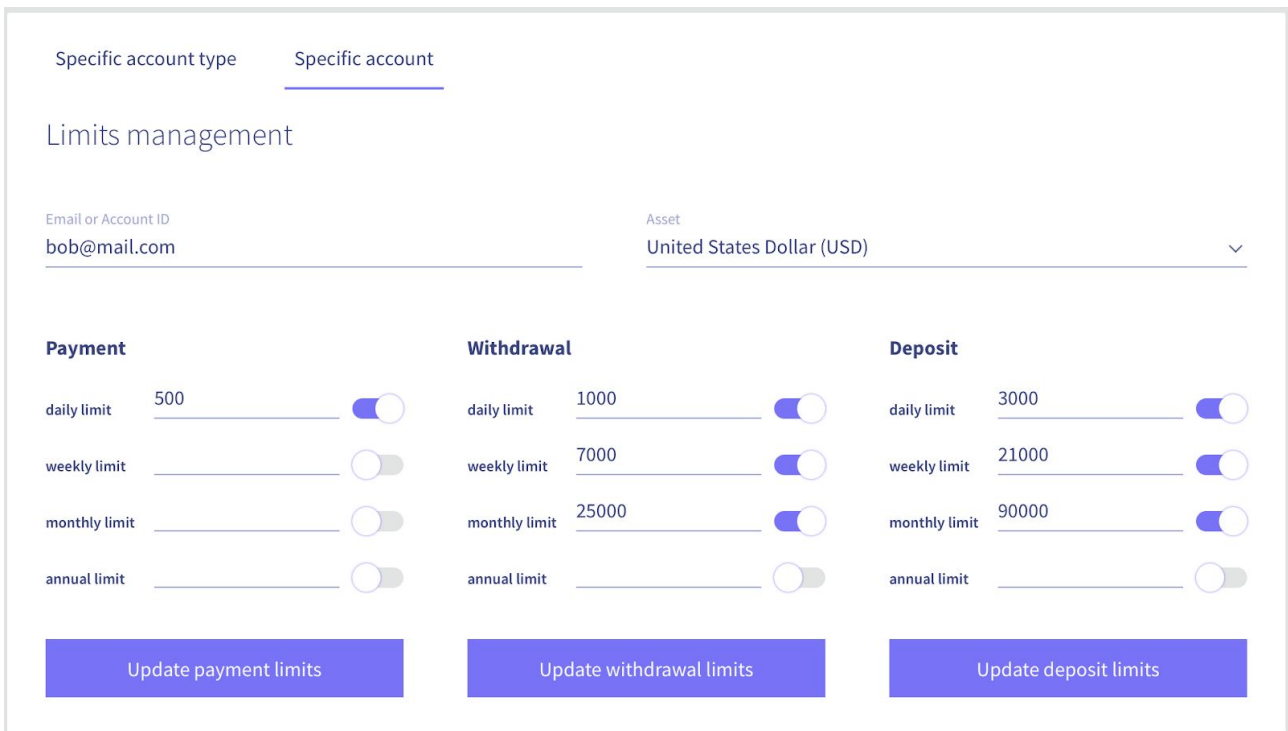
**Figure 5.** User’s operation fees screen

# Functionality Details - Administrator

## KYC/AML

The platform offers a toolkit for configuring the KYC flow that, since customizable, can be made in a way to match the KYC/AML regulations of a particular country. The toolkit also allows integrating with third-party verification services such as IdentityMind, IDnow, etc.

## Operation Limits Management



**Figure 2.** TokenD Payment System Limits Management Screen

Limits management allows platform administrators to define limit ranges within which users perform the activity on the platform.

Limits can be imposed on:

- User Accounts;
- User Assets;
- Time Bounds (daily, weekly, monthly limits).

## Accounts

Operation limits can be imposed on a type of account (e.g., unverified; verified; all users under 21 years old; all users without insurance documents; etc.) or a specific account.



### Assets

Operation limits can be imposed on a particular asset type (e.g., when there is a lack of liquidity of one of the currencies on the platform, transactions with this currency can be temporarily limited).

### Time Bounds

Operation limits can be imposed on specific time bounds (e.g., allow unverified users to deposit no more than 100 USD per day).

## Operation Fees Management

Fee management

Scope: 
Type: 
Direction:

Asset:

Lower bound	Upper bound	Percent fee	Fixed fee	
<input type="text" value="0.100000"/>	<input type="text" value="1000.000000"/>	<input type="text" value="10.000000"/>	<input type="text" value="0.100000"/>	<input type="button" value="Update"/> <input type="button" value="Delete"/>
<input type="text" value="0"/>	<input type="text" value="0"/>	↑ <input type="text" value="0"/>	<input type="text" value="0"/>	<input type="button" value="Create"/>

**Figure 3.** TokenD Payment System Fees Management Screen

The platform has a flexible and feature-rich set of tools for the fees management that allows creating custom fees imposition rules by choosing and combining the following parameters and modes:

- Account (type of account, any specific account, group of accounts, or all);
- Asset;
- Operation Type (deposit, withdrawal, transfer).

Also, it is possible to choose whether a fee is flat or percentage and define the range in which the imposition of particular fee-charging scenarios takes place. For example, it is possible to specify that USD withdrawals in the range between \$0 and \$100 are imposed with a flat fee of \$0.5, and if the range is above \$100, then withdrawals are imposed with a percentage fee of 2%.



## Learn More

<https://tokend.io/>

<https://tokend.io/downloads/>

[enterprise@distributedlab.com](mailto:enterprise@distributedlab.com)

## About TOKEND

TOKEND is a white label blockchain software platform that consolidates best practices of tokenization solutions. It allows you to issue, transfer and exchange your assets with a high level of privacy, security, and auditability while following regulations of your jurisdiction. TOKEND is designed for enterprises who are willing to take advantage of tokenization or experiment with blockchain technology without the need for maintaining the expensive team of blockchain experts and within the shortest time to market.

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