TOKEND

Solution Brief

Collateral-based stablecoin for the network of banks

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Executive Summary

Why stablecoins became a trend

Cryptocurrencies have introduced a new way for maintaining the digital financial infrastructure—the one which presumes peer-to-peer transfer of ownership between users (via cryptographic signatures), lower expenses on the infrastructure maintenance as well as the new security standards (no physical protection of a server and no firewalls).

However, for obvious reasons such as the inability of regulation and highly price volatile, cryptocurrencies turn out to be ineffective in the real, business sector.

This gave birth to a new trend, stablecoins, which are simply digital assets backed by those with stable price (e.g., dollars, gold, etc.). It is noteworthy, however, that the breakthrough component lies not in the stability of the price, which is solely the feature of an asset that is being tokenized. But rather it is in the technological innovation of tokenization, which takes the best from cryptocurrencies and combines it with the new features, making it possible to be implemented in the regulatory, business environment, where transaction parties have to be identified, risk minimized, and actions should be traced and, if needed, limited.

Benefits of the stablecoin solution:

- Cryptographic protection of digitized ownership rights;
- Ability to transfer an asset in a peer-to-peer way and instantly;
- Regulatory compatible;
- Usage of smart contracts for resolving system conflicts upfront and not after the fact of them being happened;
- Reduced costs on the maintenance of the digitized financial infrastructure;
- Introduction of new security standards eliminate the single point of failure and protect digital data via cryptographic obligations.

TokenD is a white label blockchain software solution that contains modules which are necessary for building the stablecoins infrastructure: identity and wallet management, p2p transfers, asset exchange, role management, and deposit / withdraw gateways. The purpose of TokenD is to provide a way for startups and enterprises to build such a system fast, with minimal development expenses and risks.

Principles of tokenization of currencies

Being built based on the blockchain principles, TOKEND provides for an ecosystem for the secure tokenization of currencies: it includes ready-to-use toolsets and an api for a distributed ledger to interact with a bank or payment system. One way to provide this interaction is shown in Figure 1.

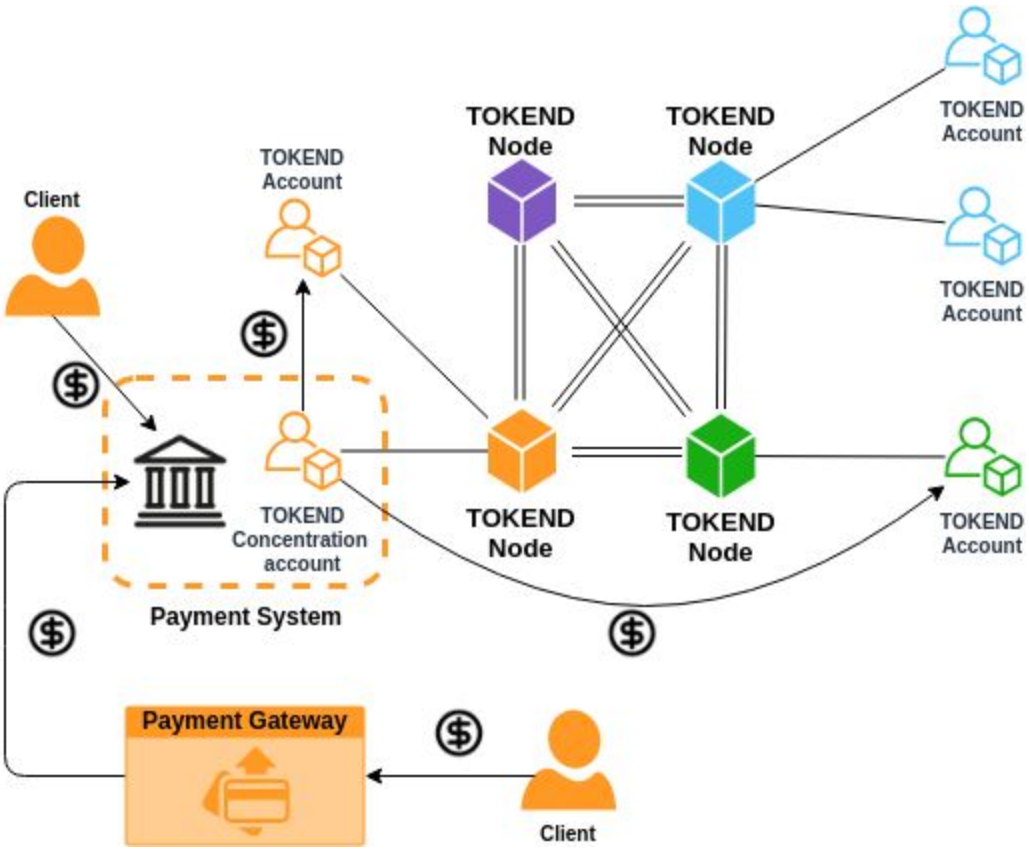

Figure 1. Using concentration account for deposits and transfers

The scheme presumes a concentration account which stores funds of all users in the payment system. Total amount of stablecoins should be equal to the amount of money stored on the concentration account.

When a particular user makes a request that he/she wants to deposit money to the distributed ledger, it is submitted on the concentration account of the payment system.

Next, using API the payment system sends a message to the TOKEND system after which the corresponding amount of stablecoins are issued on the concentration account in the TOKEND system. The next step is the transfer of stablecoins between users (Figure. 2).

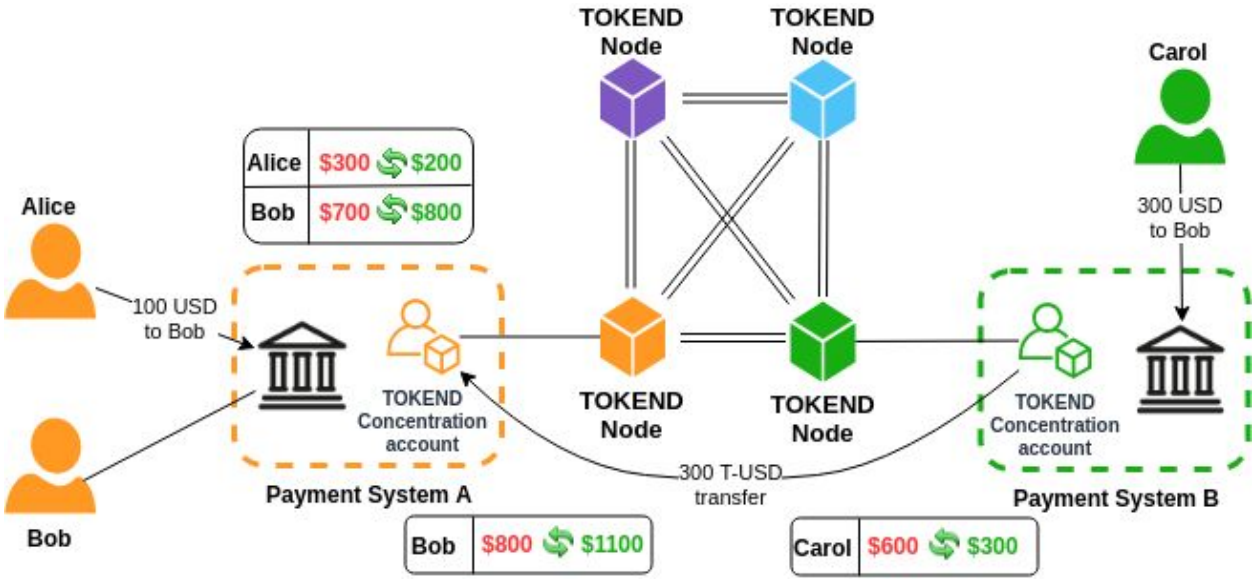

Figure 2. Transfer of stablecoins between users

If the transfer of funds is performed between users of the payment system, then the transaction in a banking system is not required (what actually happens is simply balance rewriting in the payment system's entry as in the case of Alice sending money to Bob who are both users of one payment system).

However, when it comes to sending money from Carol who is a user of the payment system B to Bob who is a user of the payment system A, then the benefit becomes evident: since both payment system A and B maintain TOKEND nodes with blockchain synchronized in real time, the reconciliation process for these payment systems becomes painless, real-time, and cost-effective.

The next step is the withdrawal of money from the distributed ledger entry (Figure 3).

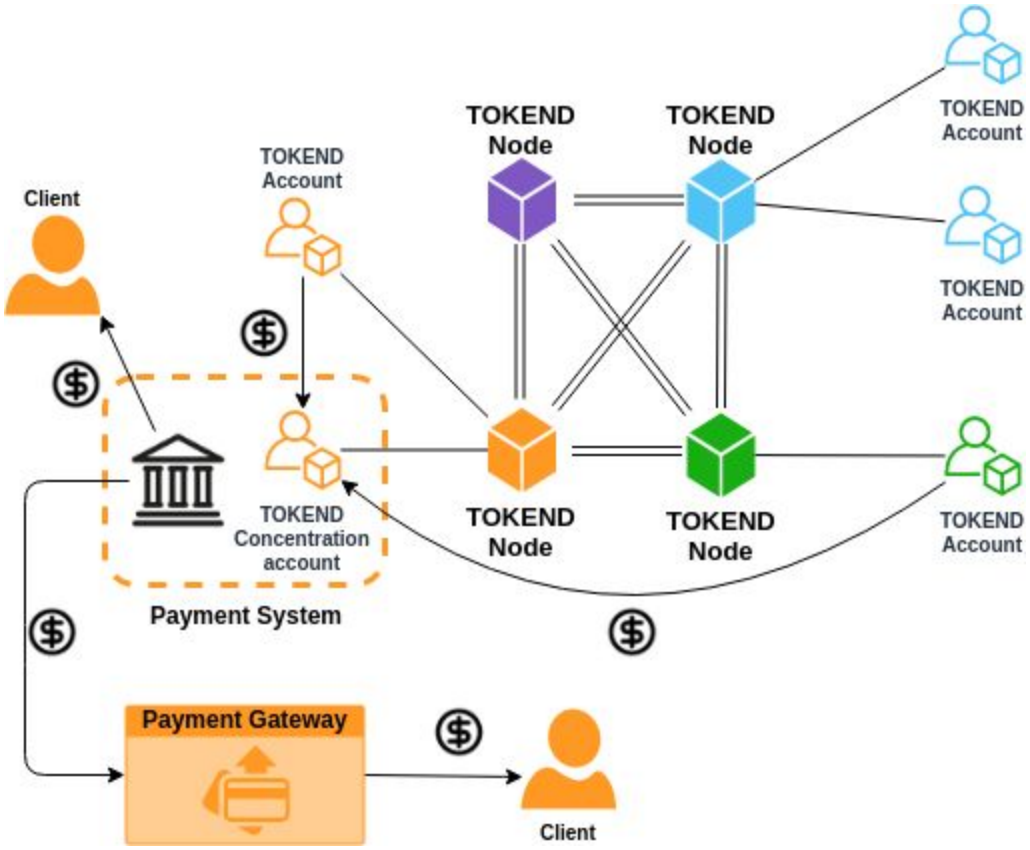

Figure 3. Using the concentration account for withdrawal

Once a user has made a withdrawal request, stablecoins are redeemed within the TOKEND ledger's concentration account, then, the corresponding amount of funds are unlocked on the concentration account of a payment system, and after that, they are sent on the personal user account in the payment system.

Reconciliation of stablecoins between banks-issuers

Alice who is the client of Bank 1 wants to send 100 USDs to Bob who is the client of Bank 2. If both these banks use TOKEND to maintain a shared stablecoins infrastructure where they account for a stablecoin backed by the US dollar (further referred to as T-USD), then it is no longer a problem for Alice to send money to Bob directly and with minimal fees (Figure 4).

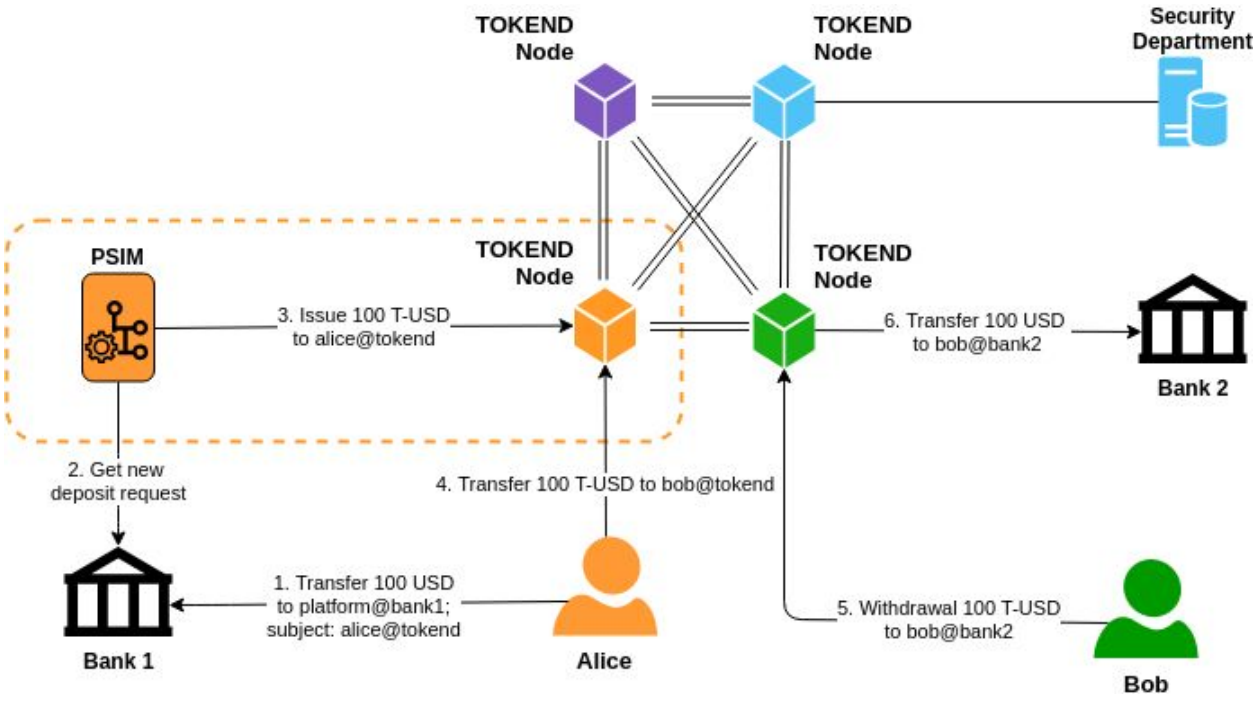

Figure 4. Alice sending $100 to Bob who has an account in a different Bank

1. Alice performs a deposit of $100 to her Bank.
2. TOKEND platform's payment system integration module receives a new deposit request that includes Alice's account identifier and deposit amount
3. Payment system integration module initiates the issuance of 100 T-USDs to Alice's wallet on the platform.
4. Alice transfers 100 T-USDs to Bob's account on the platform. **Noteworthy**. Compared to traditional systems, the most essential occurs at this very moment: the distributed ledger technology acts as a trustless bridge between the two payment systems, meaning that this transaction of Alice is real-time recognized and verified by both

banks and they have no problem with updating their own database entries correspondingly, with Alice having $100 less on her Bank 1 account and Bob having $100 more on his Bank 2 account. This process is now performed without intermediaries and in real time for the two banks.

5. Bob makes a withdrawal request for 100 T-USDs, and 100 USDs are transferred to Bob's bank account.
6. **Meanwhile**, the security department while not being able to interfere with the entire process, has an ability to explicitly audit the performed transaction and make sure that actions performed within the TOKEND platform follow the jurisdiction.
7. At the end of a certain period, Bank 1 initiates a wire transfer of $100 (or whatever is the netting result of users' transfers between Bank 1 and Bank 2 during this period) to Bank 2. The TOKEND ledger is considered the primary source of information about the state of correspondent accounts.

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Business Benefits of using the TOKEND platform for stablecoins:

For the platform owner:

- Simplified and authorized extension of the partner network;
- Flexibility of management of user roles/rights in the system for particular jurisdiction;
- User data is stored on the users' device and never transferred through the network.

For the End customer:

- Ability to explicitly prove what has and has not been done by a user in the system;
- Unlike traditional wire transfers, which normally take up one or more business days, money transfers within the platform are conducted in near-real-time;
- Lower transaction fees, which are a result of lower expenses on infrastructure maintenance;
- Ability to use any partner bank in the b2b network to deposit/withdraw stablecoins.

Learn More

https://tokend.io/

https://tokend.io/downloads/

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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.