Technical Paper

Blockchain as an Integral Technology for Betmatch

Since ICOs and related token issue activities have become mainstream, many startup companies have decided to integrate blockchain into their services to reach a more speculative value and attract additional money to their business. It is quite clear that the majority of these projects only make their core business more complicated and expensive. In designing Betmatch's business architecture, we carefully studied the advantages of applying this emerging technology to the betting process.

The primary areas where real value is added in betting through blockchain technology integration are:

1. Settlements

Cryptocurrency payments solve many issues related to fiat money transfers in the modern world both for the player and the betting provider.

2. Trustworthy Bet Execution and Payouts

Trust has real value, and in the betting industry, it is even more critical. Guaranteed by the computer code, fast and easy payouts for wins are necessary and desired by every customer.

3. Social System Establishment

A majority of B2C models currently focus on building an active community around the brand and their main business models. Trust is the first key to community building and the overall transparency, provided by blockchain, gives a unique opportunity to create a modern social system around the business. In betting, the social system is connected with who, when, how, bets placed, and results.

Blockchain, especially smart contract use cases, can provide a unique opportunity to create a new level of service for customers. Nevertheless, it is essential to take into account which part

of functionality can be executed in a centralized manner without severely affecting a decentralized role, thereby allowing the project to enter the market faster than competitors.

Technology needs to avoid being overused in cases where it may add more problems without adding any value. In Betmatch, this is the approach used in order to establish a successful, long-term business.

How Betmatch exactly works?
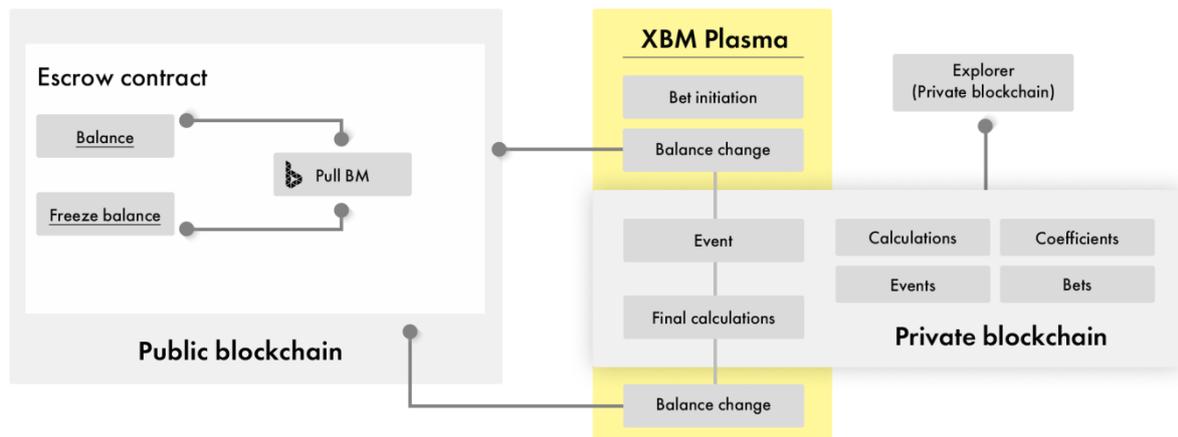
Picture 1

Classic blockchain has low performance. That is why Bitcoin has not yet become a popular mean of payment, like Paypal or Visa. To ensure high performance, care should be taken to scale up the network.

A new layer in the cryptocurrency architecture helps to avoid all the data confirmation when concluding a smart contract. No need for the complete history downloading and data verification.

The internal system of the private blockchain facilitates the operation of the platform since data with much greater frequency and volume (events, coefficients, executed bets, and calculations) will be added to it.

For comparison - Ethereum capacity is 40 transactions per second. Private blockchain will be able to conduct more than 4000 transactions per second.

This is the reason why the strategy of using a private blockchain based on EXONUM framework was chosen.

Comparative table of considered frameworks:

Criteria	Ethereum	Private Ethereum	Hyperledger fabric	Corda	EXONUM
Transaction speed	Low	Low	1000 transactions per second	500 transactions per second	1000 transactions per second
Commissions	Commission for any action must be payed	The difficulty of maintaining the chain.	No available unloadings on open blockchains, Low system trust	Focus on the financial sector, the complexity of working with smart contracts	Available unloading on open blockchains, ease of network maintenance
Reliability	There is the possibility of fork chain	Possible identification of critical bugs	Confidentiality is controlled by the owner of the blockchain.	Confidentiality is controlled by the owner of the blockchain.	Confidentiality is controlled by the owner of the blockchain.
Rate of changes	Slow	Slow	High	High	High
Consensus algorithm	Proof-of-work	Proof-of-work	By the creator's choice	By the creator's choice	By the creator's choice
Transaction rollback	Impossible without creating a fork	Possible	Possible	Possible	Possible

Table 1

The processes within the public blockchain work through "Escrow smart contract"

Only the data balance, which is completely publicly open, is entered in the blockchain.
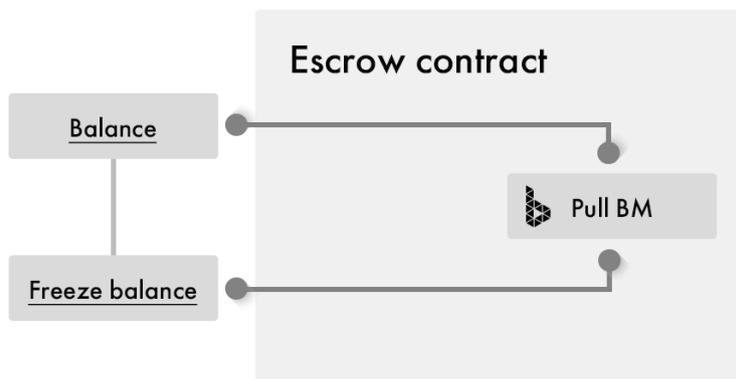
Picture 2

Examples of the process:

During the bet, funds from the user's balance become "frozen".

After the event is finished and the results are known, the tokens will be distributed between the players and the bookmaker.

In case of winning, the tokens, which were frozen before, return to the current balance and funds from our pool are being transferred according to the winning coefficients.

When a bet is lost, funds from the frozen balance will go into the pool.

The final implementation of the platform, in addition to scaling, implies extensions for business.

Package solutions offer:

- obtaining libraries necessary for work prepared for the main commonly used programming languages.
- receiving our dataflow concerning events and coefficients or using alternative ones (according to the specifications of our main network)
- Each individual business will have its own Escrow contract created for communication with an external, public blockchain, taking into account stated crypto-currencies

Technological White Label Solution for Third-party Companies and Services

Betmatch technological solution (business logic executed in decentralized environment, integrated with a source of betting analytics and system of risk management) can be used by third-party companies. In this case, Betmatch issues 7 options on a white label license - the license, which will help the owner to launch a full-fledged decentralized betting business based on Betmatch technology. Each option includes technological solution, a turnkey betting line coefficients and risk management tools. Detailed information about license features is provided in the fundraising section. The schematic diagram of the Betmatch architecture is presented below:
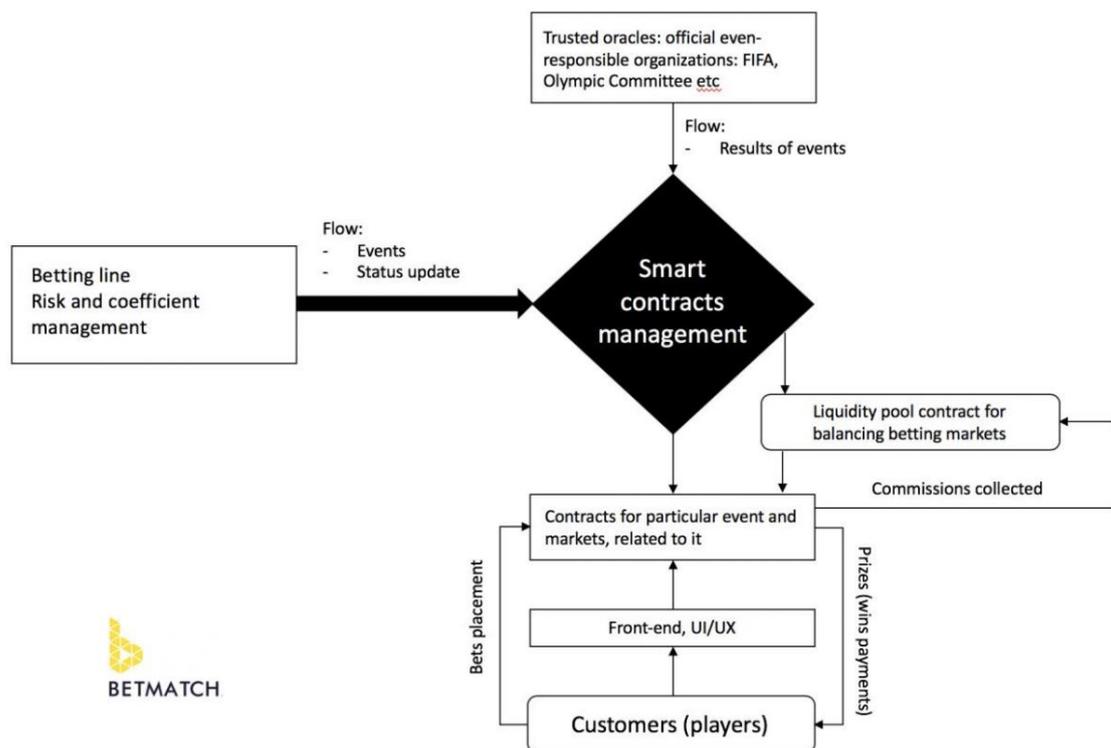
Picture 3

White Label Implementation

Illustration by the example of MVP

Minimum Viable Product was developed to demonstrate Betmatch betting processes and technical solutions. It's performance can be seen on Betmatch.io website. This version demonstrates:

- Bets acceptance with the test token of the ERC-20 model, and in the future, with the cryptocurrency;
- Bets records in the blockchain;
- Data view in the blockchain
- Demonstration of transparency, reliability and ability to work under high load

Implementation and connection procedure

In order to achieve technical implementation of the Betmatch blockchain solution with third-party services, a comprehensive integration solution is being developed, which will include:

- Access to Betmatch API
- Betmatch Blockchain Node:
- Node
- A kit of libraries for work with nodes
- Smart contract for betting;
- Escrow smart contract;
- Escrow libraries;
- Technical documentation.

Betmatch White Label will not provide design and externalities. If necessary, the design and external appearance can be customized by the solution integrator.

Betmatch API

Access to the Betmatch API will include a constantly updated line of events, coefficients and event results, which are an integral part of the smart contract betting payments;

Betmatch Blockchain Node

Betmatch Blockchain Node - this is a set of tools that carry out the work of smart contracts of betting payments on the blockchain. Namely

  - Node;

The local node for the functioning of the priority operation of smart contracts of local service.

  - A kit of libraries for work with nodes;

A set of libraries for working with nodes in a popular programming language, such as Python, Node.js, .Net, Java.

  - Smart contract for betting

The system of smart contracts, which provides acceptance of payments, storage of payments, winnings payouts.

Escrow smart contract

Escrow smart contract for Ethereum network (as well as for EOS, NEM in future)

Escrow libraries

Escrow libraries and services for blockchains that do not support smart contracts (on the start - only Bitcoin)

Technical documentation

Technical documentation with a description of the technology and solutions developed.