Maverick Chain BAAS Platform

MVC BAAS   White Paper V 2.0

2019-4-25

Table of Contents

1 Backgrounds

1.1 The trend of cryptocurrency

Since Satoshi Nakamoto proposed the Bitcoin genesis block in 2009, the total market value of the global cryptocurrency market has soared from 0 dollar to today's $150 billion dollars. 2014 witnessed the birth of Ethereum made a even crazy vision with smart contract. Jointly with the block-chain technology, it has created a dramatic growth of the global cryptocurrency market. What's more, it was quietly developing the power that can transform the world.

Although cryptocurrency has undergone eight years of magnificent development, everything has just begun. It is expected that within 5 years, the market value of the cryptocurrency market will exceed the total global gold market value which is $ 7 trillion dollars with great possibility. However, the traditional assets that are directly circulated in the cryptocurrency market have credit consensus of the global unified market, more efficient trading mechanism and better liquidity due to the characteristics of the block-chain technology.

At the same time, as a form of financial innovation tools, "asset digitization" has also developed rapidly. The smart contract system based on the block-chain technology is applied to "asset digitization", which can greatly improve asset efficiency and increase liquidity while ensuring the openness, transparency, traceability and compulsory execution in asset transaction links. Besides, it can avoid such problems as under-the-table operations, delay and even payment

refusal in centralized organizations.

Therefore, the momentum to the convergence of block chain and internet assets will be irresistible, and the goal of the Maverick System is to become the leading force that can promote the combination of the two.

2 What is MVC BAAS platform?

2.1 MVC BAAS platform is a BAAS platform serves for global blockchain financial market

There are three main products/service in MVC BAAS platform right now:

- TTPay: Cryptocurrency payment & financial system

- TTBTC: crypto asset management service

- MVChain consortium blockchain network for asset liquidation

2.2 TTPay

2.2.1 Features of TTPay

TTPay is a cryptocurrency payment & financial platform for enterprises and individuals.

TTPay platform includes the following core parts:

- User interface for individual users (TTPay APP Wallet), Android and IOS

  supported

- TTPay payment SDK/API:
  - ✓ Cyptocurrency payment SDK/API for developers/enterprises.
  - ✓ Easy to integrate for developers.
  - ✓ Do not need any blockchain knowledge to integrate.

    ✓   Connect all enterprises which accept cryptocurrency through TTPay.

- Cold storage blockchain server for enterprises:

    ✓   Offline server that keeps numerous private keys.

    ✓   Encrypted private keys for double protection

    ✓   Disaster recovery backup

- Financial dashboard, risk control & security management system

    ✓   Balances, assets analytics, historical data

    ✓   Transaction control, rights management, channel management

For individual users:

1. Multi platforms supported

(1) Android, iOS, WEB multi-platform, can complete one-click payment through the computer and mobile.

2. Multi-currency support and currency exchange

(1) BTC ETH   BCH LTC ETC EOS XLM USDT XRP

(2) More currencies will be supported in the future

3. 0 cost quickly get started

(1) The use of Alipay and Paypal payment allows users to easily access cryptocurrency payments, eliminating the need to learn and worry about complex wallet management.

4. Cross-chain payment

(1) You can choose to pay for your order easily with different cryptocurrencies. The system will automatically redeem the payment at the time of payment, so you can avoid a series of troubles such as no corresponding currency or manual redemption, so that you can quickly pay between the fingers.

5. Payment, transfer instantly arrive, no need to wait, 0 handling fee

(1) In the past, cryptocurrency payment transfer required waiting for a few minutes or even a few hours to arrive, but the payment transfer between TTPAY accounts was instantaneous, completely avoiding the problem of slow crypto money transfer, and greatly improving the cryptocurrency experience.

6. Support account recovery

You don't have to worry about losing your account's private key and you can't recover your account. We use the KYC authentication service in the app to effectively protect your account from being safely and appropriately retrieved.

For developers/enterprises:

1. Fast and convenient full-platform BaaS service

(1) Before using TTPAY: Developers need to design and develop complex cryptocurrency payment systems

(2) After using TTPAY: Developers can easily implement a full-platform application crypto currency payment system with a few simple steps, so you don't have to set up a payment team, which greatly reduces the developer's R&D costs.

2. Keep your users safe and fast with cryptocurrency payments

(1) Before using TTPAY: The direct transfer confirmation on the chain is extremely slow and the transfer fee is very high. In the case of Bitcoin, a transfer requires a 10-60 minutes confirmation time. Each payment is

subject to a handling fee, and the transfer fee can be up to 34. USD/Pen, the average transfer fee is around $1/pen.

(2) After using TTPAY: Your users can complete one-click payment through the computer, mobile, WEB, etc., the money will arrive immediately, no waiting, 0 handling fee.

3. All assets are settled on the same day and operate efficiently

TTPay and developer can achieve the same day settlement of crypto assets, that is, developers can withdraw their daily settlement income to their own cold wallet.

4. Multi-region disaster tolerance cold wallet encrypted data storage system

(1) Before using TTPAY:There are many links in the crypto currency payment system. The deposits and withdrawals, asset storage, liquidation, recharge and cash withdrawals may all become targets of hackers and even internal attacks of the company. Once the losses are caused, they cannot be recovered.

(2) After using TTPAY: We are building a cold wallet encryption data center in many locations and working with the best security experts to keep your money safe

5. Efficient operation management dashboard

(1) Before using TTPAY: The ever-changing trading scenario is that the operations and finance staff face complex accounting management.

(2) After using TTPAY: The management platform fully presents multi-party transaction data, supports multi-role collaboration, centrally manages all business and accounting data, and analyzes business operations at multiple latitudes. Whether it is technical, operational or financial staff, you can have a one-stop management background with high efficiency, precision and excellent experience.

2.3 TTBTC

Considering the big fluctuation of prices of crypto assets, we cooperate with professional crypto asset management corporation TTBTC.com, which is our affiliated company, and provides professional financial management service for enterprises/individuals who accept & keep cryptocurrency.

TTBTC has multiple in-house quant trading teams and active strategy hedge fund teams. Team members come from tier 1 hedge funds.

TTBTC will use futures, options and other derivatives to hedge the risk and gaining profits for customers.

2.4 MVChain consortium blockchain network for asset liquidation

MVC Consortium Blockchain solution is the protocol layer which handles the TTPay's assets liquidation. MVChain can be used on financial assets liquidation between different corporations or different departments in one company. MVChain is focused on building a high performance blockchain financial BAAS platform for business. We help our business customers to use blockchain technology to reform traditional finance market. MVChain is a solution for financial assets liquidation between different corporations. Through this consortium blockchain, every member can verify data from the other membership corporations while the data keeper can keep their data in secret and encrypted.

Our core application TTPay is based on MVChain to do the liquidation.

3 MVC consortium blockchain technology scheme

3.1 Structure

MVC Consortium Blockchain adopts Hierarchical network structure. The network contains three layers: information layer; account booking layer; assets layer.

Three layers adopt different consensus algorithms to ensure network performance and data reliability.

- Information layer:

  Corporation node holds the unique private key and encrypted consortium key. The account information is encrypted by consortium key, the encrypted string will be the public key for this account on consortium blockchain. Through the consortium key, every consortium member can verify the account information while it remains encrypted. The data keeper corporation can share its data for verification to other members in consortium while the data stay encrypted and in secret. The password and other verification

information will be encrypted by node's unique encryption key. The encrypted string will be the private key for this account. When the account match the private key and decrypted the account information including the asset situation.

Through this mechanism, enterprises can complete the verification of data in a confidential state, and open up data exchange between enterprises and untrusted enterprises.

The advantage of this design is that once a user sign up an account of any of company belong to this consortium blockchain can log in all the products based on this consortium blockchain. Only the first-time registered enterprise of the user knows the clear information of the user's account information, and the remaining alliance chain enterprises can verify whether the account information is correct by keeping the account information encrypted by using the alliance chain key, thereby realizing an account universal platform and the enterprise does not need to share. The data not only ensures the data exclusiveness of the enterprise, but also realizes the versatility of the account. Through this mechanism, enterprises can complete the verification of data in a confidential state, and open up data exchange between enterprises and untrusted enterprises.

- Ledger layer:

The ledger layer adopts dBFT algorithm (random proxy node selection). The network will create specific tokens for the corresponding assets and store them in the corresponding addresses. This specific token will be used for settlement and transfer of funds between enterprises within MVC consortium blockchain. The book data and every transaction will be broadcasted to all enterprise nodes in the alliance chain

The billing right uses the proxy node to perform the dBFT algorithm (that is, the random proxy node selection) to determine the votes, and the proxy node is voted through all the enterprise nodes. The algorithm can solve the Byzantine fault tolerance problem and improve the processing efficiency, which is suitable for consortium blockchain to use.

- Assets layer:

The asset layer is managed independently from the information layer and the ledger layer by means of a multi-signature cold wallet between enterprises within MVC consortium blockchain. Only the books that have obtained the consensus of most enterprise nodes in the alliance chain can get the real transfer signature on the chain.

3.2 Cryptography basis for MVC consortium blockchain

The cryptography basis of MVC is the hash algorithm and the elliptic curve cryptography algorithm.

Cryptographic hash function is a kind of method to create a numeric "fingerprint" from any kinds of data and its output value is called hash value, and it is also called hashed value. Hash algorithm that is based on the hash function plays an important role in modern cryptography, whose purpose is often to achieve data integrity and entity authentication, while it also constitutes a security guarantee for a variety of cryptographic systems and protocols

The elliptic curve cryptography algorithm is an algorithm for public key cryptography based on elliptic curve mathematics and its security depends on the difficulty of elliptic curve discrete logarithm problem. The elliptic curve cryptography algorithm has the following 2 obvious advantages:

● Key length is short, and therefore requires less bandwidth and storage.

● All users can choose different elliptic curves on the same base domain, so that all users can use the same operation to complete the domain operation.
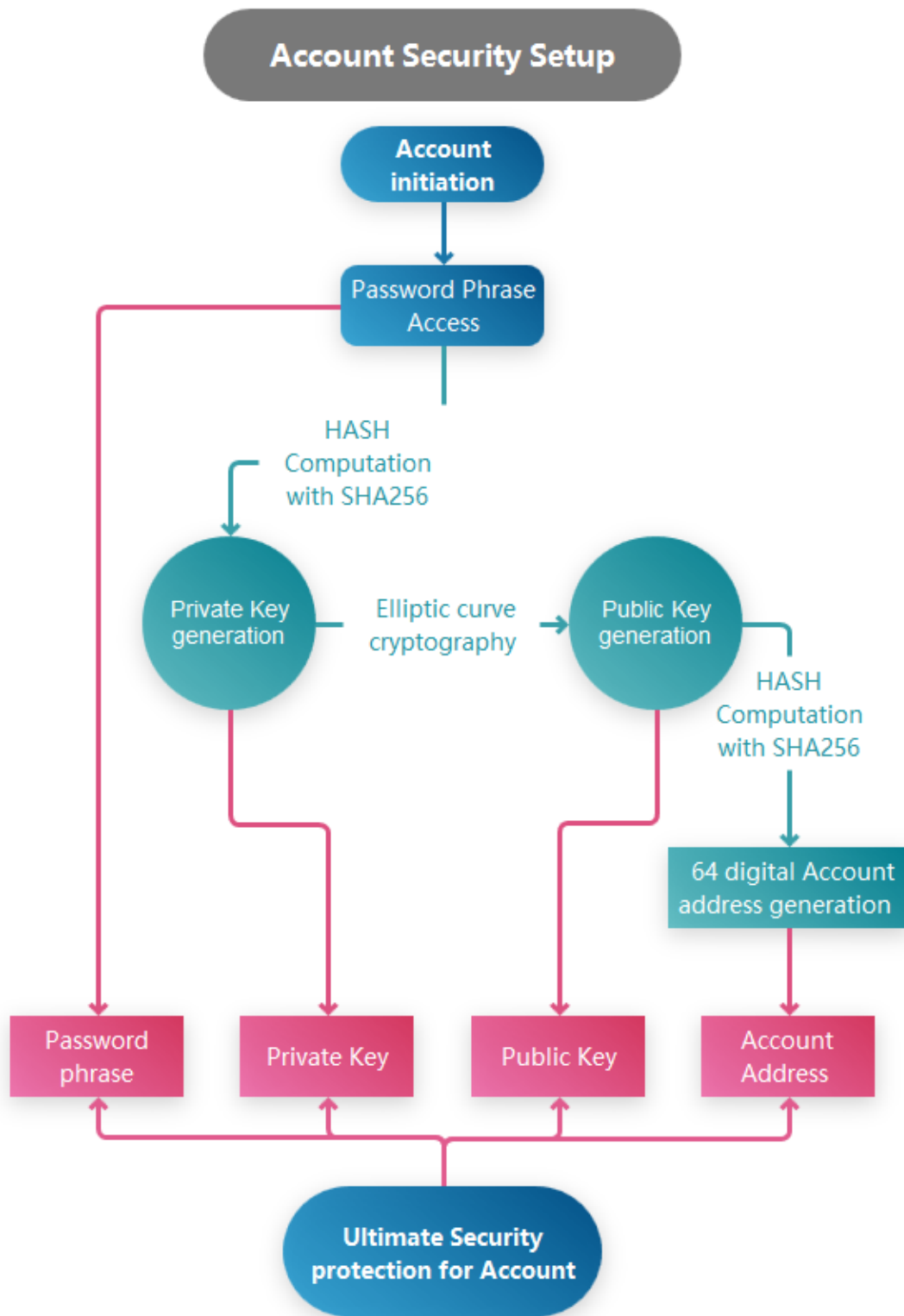

3.3 Account security design

All accounts are stored on network and each account has a private key, which is educed when account address generated by account passphrases adopts the combinatorial calculation of SHA256 hash function algorithm and elliptic curve cryptography algorithm..

Account addresses that have passphrases can be generated through the following calculations:

● Passphrases generate account private keys through the SHA256 hash operation.

● Private keys generate account public keys through the elliptic curve cryptography algorithm.

● Public keys generate account addresses through the SHA256 hash operation.

● The first 64 digits of the account address are the code of accounts.

When an account is accessed by a passphrase for the first time, the account is not protected by the public key, and when the account enters an external transaction for the first time, the 256-bit public key derived from the passphrase will be stored on the block, thereby ensuring the security of the account. Considering that the phrase password doesn't correspond to the account number, a collision is possible. We use the following methods to detect and prevent collisions: Once an account has been accessed by using a specific passphrase and the account has been protected by a 256-bit public key, other combinations of public key- private key are not allowed to have access to the account.

Account Security Setup

Account initiation

Password Phrase Access

HASH Computation with SHA256

Private Key generation

Elliptic curve cryptography

Public Key generation

HASH Computation with SHA256

64 digital Account address generation

Password phrase

Private Key

Public Key

Account Address

Ultimate Security protection for Account

-

5   ICO detailed rules and token allocation

The ICO has 100 million MVC Tokens in total.

ICO is divided into three stages:

Early-bird stage:

Time: From 20:00 on August 8, 2017 to 20:00 on August 15, 20:00

Exchanging rules: 1 BTC can exchange for 58,000 MVC Tokens, 1 ETH can exchange for 4,800 MVC Tokens, and 1 LTC can exchange for 800 MVC Tokens.

The first stage:

Time: From 20:00 on August 15, 2017 to 20:00 on August 30, 2017

Exchanging rules: 1 BTC can exchange for 55,000 MVC Tokens, and 1 ETH can for exchange 4,500 MVC Tokens, and 1 LTC can exchange for 760 MVC Tokens.

The second stage:

Time: From 20:00 on August 30, 2020 to 20:00 on September 15, 2017

Exchanging rules: 1 BTC can exchange for 52,000 MVC Tokens, 1 ETH can exchange for 4,350 MVC Tokens, and 1 LTC can exchange for 720 MVC Tokens.

Token allocation

The total issue volume of MVC is 200 million, subject to no increase forever.

● The exchangeable proportion of MVC Token to ICO is 50%, and BTC / ETH mentioned by the ICO will be saved in the open account supervised by MVC Token community. In the future, it will be used for operating MVC Token community, including technical development, auditing, legal affairs, business implementation, financial adjustment, the third-party supervision and asset management.

● 15% is use for user incentive & POS reserve, and dividends are handed out through the POS consensual mechanism, in order to build a well-developed community, award currency holders and develop MVC Token community and POS.

● 15% is reserved for business landing & market promotion, mainly used for the listing fee of the partnership exchanges, rewarding business partners, and creating

and maintaining the ecological Maverick Chain.

● The Maverick Chain development team holds 10%, which is unlocked in four years, and 2.5% is fixedly unlocked each year from the first day after the end of ICO. During the locking period, the part of MVC Token owned by team members can't be sold in any form, which will be written into the contract in a coded form for compulsory implementation.

MVC Token sets aside 10%, which is assigned to the Maverick Chain consultants and angel investors/institutions, whose purpose is to provide financial resources and technical support for the early-stage development of MVC Token.

6   Team introduction

Li Mingzhao is the founder and team leader, who once worked in Beijing Jingcheng Machinery Electric Holding Co., Ltd., a large state-owned enterprise, whose responsibilities mainly were strategic mergers and acquisitions in Europe, and in this position, he completed strategic mergers and acquisitions projects of two European leading enterprises. He was deeply involved in management works after acquisition. He was well versed in equity investment and M&A business and have a good command of 4 languages. Ever being a serial entrepreneur, he founded the AR equipment company, and   he was an early Bitcoin investor.

Lin Qingrui is the founder, the technical partner and the senior programmer, who has more than 10 years of development experience. Having founded an Android game studio in 2010 in the university, he once became a top three game developer in terms of the number of google play users in China. he became the second engineer in the company of Mr. Luo Yuanhao(head of Smartisan) after joining the founding team of Smartisam Technology Co.,Ltd. key person in Smartisan OS development team with job number 009. Being a Ripple seed user and an early investor in block chain, he developed several block-chain open source projects after leaving Smartisan Technology.

Advisor & investor: Chandler Guo

Guo Hongcai is the founder of Cryptocurrency Academy, and a well-known angel investor in the block-chain industry and has unique insights on the trend of global cryptocurrency trading and rich information resources.

7 Roadmap

2017.03 Start the MVC project

2017.06 Whitepaper 1.0

2017.11 Private-sale

2018.03 Cold storage server for enterprise

2018.07 TTBTC crypto assets management project

2018.09 TTPay for business & enterprises

2018.12 TTPay cryptocurrency payment SDK/API

2019.03 MVC consortium blockchain for enterprises

2019.04 TTPay wallet APP

8 References

a) Bitcoin: a Peer-to-Peer Electronic Cash System. (n.d.). Retrieved July 06, 2014, from https://bitcoin.org/bitcoin.pdf

b) CryptoCurrency Market Capitalizations，from https://coinmarketcap.com/charts/

c) BlackCoin's Proof-of-Stake Protocol，from https://blackcoin.co/blackcoin-pos-protocol-v2-whitepaper.pdf

d) "*Block-Chain Technology Manual*" written by Zou Jun, Zhang Haining, Tang Yi and Li Lei, Machinery Industry Press, the first edition in April 2017.

e) https://nxtwiki.org/wiki/Main_Page

f) ODIN(Open Data Index Name)
from http://bizhongchou.com/index.php?ctl=project&act=downfile&file=https://bizhongchou.com/public/attachment/201609/08/11/57d0d7fcbc65e.pdf

f) ODIN (Open Data Index Name)-identification technical specification of open data index name, from http://bizhongchou.com/index.php?ctl=project&act=downfile&file=https://bizhongchou.com/public/attachment/201609 /08/11/57d0d7fcbc65e.pdf

g) The Well Deserved Fortune of Satoshi Nakamoto, Bitcoin creator, Visionary and Genius. (n.d.). Retrieved July 06, 2014, from http://bitslog.wordpress.com/2013/04/17/the-well-deserved-fortune-ofsatoshi-nakamoto/

h) "*Bytom-a Multiple Ethereum Interactive Agreement*", from

Http://bytom.io/BytomWhitePaperV1.0.pdf

i) Losing to win. (2014, June 23). Retrieved July 03, 2014, from http://www.economist.com/blogs/schumpeter/2014/06/bitcoin