

MainstreamCodeWhitePaper

2018/07 V1.1



Innovative and Diversified Digital Asset Trading Platform

The next generation of digital asset trading pioneers

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1. Background

Since the birth of Bitcoin, digital assets based on blockchain technology have flourished. Today, the types and influence of digital assets are increasing. The formation of fair value for digital assets, exchange transactions between different digital assets, and related customer services, regulatory compliance, and even derivatives trading are all basic requirements. At present, a variety of digital asset trading platforms are required to carry this part of the demand. In the history of not long digital assets, these platforms have played a significant role and serious accidents have also occurred. These problems, rather than blame on the trading platform itself, it is better to say that the traditional model of the trading platform can no longer meet the requirements of the new era of digital assets.

The birth of digital assets based on blockchain technology makes it possible for assets and transactions to be transparent and self-certified. This will drive future corporate and regulatory governance changes. We believe that the direction of this change is that the company has evolved toward the community and that supervision has moved closer to technology. The digital asset trading platform itself has the ability and responsibility to lead this change. So we launched the MCC.

2. MCC's world's first autonomous digital asset trading platform

MCC trading platform

MCC is committed to creating an autonomous, efficient and transparent digital asset trading platform that allows traders and investors to confidently conduct transactions of any size without worrying about the fairness and transparency of the platform, and the reliability of data security and privacy protection. Sex, or the integrity and robustness of its order management system.

At the same time, MCC is not a traditional company. It has taken a key step in the evolution of digital asset trading platforms to the community. The MCC community is an open and transparent, Tokenized organization. The Mainstream Code currency Token represents all rights and interests of the MCC trading platform. The MCC adopts the “transaction-to-mine” model, and more than half of the MCC will be rewarded to community users in the form of processing fee mining. More specifically, the MCC community will allocate 50% of its income to MCC holders. We will distribute this income in equal proportions according to the composition of income.

MCC is a decentralized exchange that owns the main chain, and the MainstreamCode currency Token of this release will be upgraded to the backbone chain recognized by global chain exchanges (after the team completes the maturity of the main chain, it will launch the MCC main chain independently developed by the team. , can be 1:1 exchange of mainstream currency.) In addition, each MCC holder has the right to participate in community business decisions, team elections and other community activities. MCC is a community-based organization that is shared, shared, and shared by all holders.

3. Trading platform advantages

The MCC's mission is to create a fair and ideal environment for investors to invest in, trade and manage digital assets. Therefore, the goal of platform design is to fully guarantee the fairness and transparency of orders. It can meet the needs of regulatory compliance in safety, audit, reporting, and analysis in the safest and most effective way.

Open and transparent

The MCC will be the first real-time open and transparent trading community in the world. Traditional types of exchanges are unable to make the assets transparent and transparent. The main reason is that they are subject to technical constraints. The birth of blockchain technology makes this goal technically feasible. The MCC's mission is to translate this feasibility into real practice. MCC will establish a real-time asset and transaction data query verification mechanism and open it to the public.

Community-based autonomous organizations

MCC does not use the traditional centralized corporate structure and does not have a CEO or a board of directors. Relying on the blockchain technology and the concept of economic certification, MCC will be the first autonomous community-based trading platform in the world. The MCC awards 60% of MCC to the community through the "transaction, mining" model. At the same time, MCC allocates 85% of its revenue to MCC holders, and all MCC holders complete community governance through smart contract voting.

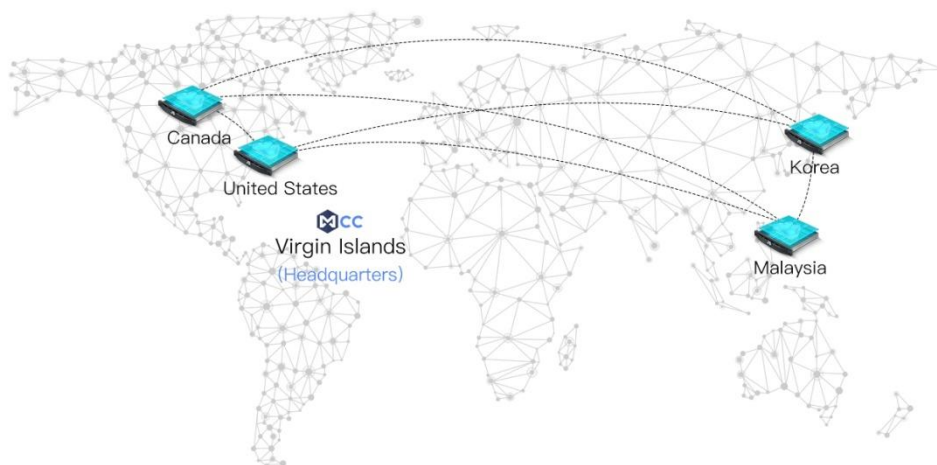
Financial trading system

MCC's trading system can achieve rapid and stable financial level, making transactions efficient and secure. MCC provides advanced securities-level algorithms and supports professional trading instructions such as GTT, GTC, FOK, and IOC. It provides professional quantitative support for traders, and draws on LMAXExchange's relevant experience to handle 2 million transactions per second.

Security

For digital asset transactions, security is a top priority. MCC uses a security design based on multiple signatures, offline signatures, and layered architectures to store 95% of digital assets in cold wallets. Unbiased zero-knowledge order encryption is done using the key provided by the PKI-on-blockchain service of CertEurope6. We will conduct regular external audits.

Four major global nodes Support exchange data



4. Digital asset screening criteria

The practical significance of the blockchain is to integrate technological innovation and financial innovation, and to use a set of new incentive systems based on mathematical algorithms to further liberate productivity by reconstructing collaborative relationships. In this context, a large number of real innovations will come to the fore, and at the same time it will inevitably be accompanied by a large amount of money and fraud.

We will combine the characteristics of digital assets with the experience of the world's top trading platforms and related regulatory agencies to form a set of standards and mechanisms for screening digital assets. Through continuous iteration and refinement of this

set of standards and mechanisms, MCC will jointly explore digital with market investors. Asset value. Our core philosophy is not to replace the market for value judgments, but to emphasize the transparency and governance structure of the project and to ensure the rights and interests of the community.

5. MCC(MainstreamCode currency Token)

What is MCC?

MCC is the abbreviation of Mainstream Code currency Token. It is an ERC20 standard token of Ethereum in the previous period (when the team completes the maturity of the main chain, it will launch a self-developed MCC main chain on-line and can exchange 1:1 major currencies). The MCC is generated through the "transaction or mining" method, which has a total volume of 5 billion and will never be added. Of these, 60% were excavated by miners, and the remaining 40% were pre-issued and frozen. The frozen portion was also thawed on a daily basis as the miners digging.

The MCC will allocate most of the revenue to the holders of the MCC in a timely manner. At the same time, MCC holders share the rights of the community in governance.

Mining detailed rules

Trading in MainstreamCode currency is considered as mining, trading users are regarded as "miners", mining output is platform coin MCC, MCC introduces intelligent adjustment mechanism, mining output is intelligently adjusted according to exchange trading volume.

You only need to trade in MainstreamCode currency, and the transaction fee generated will be converted into MCC, which will be issued every two hours and will be returned to your account.

MCC issuing mechanism

We use the "mine mining synchronous release" mechanism to complete the MCC release. As mentioned above, 60% of MCCs will be rewarded to community users through the "transactional mining" model, and 40% of MCCs are allocated to private placement agencies, strategic partners, foundations, and founding teams. These two parts of the MCC are called "community reward part" and "pre-release part" respectively (When the MCC starts to thaw and release, the founding team can extract Ethereum based on smart contracts.) .

MCC usage scenario

1. Dividend payment

Having an MCC is like having a dividend voucher for the MCC Exchange. You can enjoy daily dividends on the Exchange's earnings.

2. Publishing side chains

You can use MCC to pay miners' fees for opening their own digital assets, just as digital assets are issued on Ethereum.

3. Voting listing

When the digital assets issued are listed on the MCC Global Exchange, they can use the MCC to offset fees required for listing, and they can use the MCC to vote on the digital assets to be listed.

4. Expense deduction

When it is necessary to store information on the main chain to announce it to the entire network, MCC can be used to offset the cost of storage for miners.

5. Super League voting rights

Use MCC to vote for the mining of public chain super nodes.

MCC rights

Token as a circulated encrypted digital interest certificate will become the basic element of the future digital economy era. The MCC, as the representative of the Mainstream Code currency community interest, is the cornerstone of the Mainstream Code currency community governance.

Right	Instructions
Income Distribution	MCC trading platform revenue, the first month: 50% allocated to MCC holders, 50% used to repurchase MCC in the market; one month later: 50% allocated to MCC holders, 35% for back 15% of the MCC circulating in the purchase market is used for MCC development and operating expenses.
Participate in decision-making	The MCC community has engaged MCC holders in decision making on major business matters by initiating smart contract voting.
Election supervision	Members of the MCC Community Committee are regularly re-elected. MCC holders can participate in the election of committee members. They can also monitor the transparency of the platform and the degree of due diligence of the committee members.

6. The MCC Provisional Charter

What is an ad hoc charter?

This charter is based on the application of the advantages of blockchain. This statute is temporary and until the official charter referendum has been formulated and approved, it has validity.

What is a referendum?

When the national referendum is a referendum, the MCC adopts all referendum methods to resolve major issues that are inconclusive and the issues involved cannot be resolved.

Modify the conditions for the launch of the charter?

Referendum Initiation Conditions: 10 million MCCs have the right of origination, the mortgage initiates the voting, the MCC freezes during the voting period, and the frozen period does not benefit, and the voting is ended.

Section I Amendments to the Bylaws

This charter and its subsidiary documents may not be modified unless a national referendum is initiated and more than 51% of the token holders vote in favor.

Section II MCC Link

Exchange equity + public chain, every day after the activation of the mining industry, the daily commission fee for the dividend exchange, the miners of the public chain eliminated 10% of the total excavation flow. The total network wiped out 99.49%, and the remaining 21 million pieces remained.

Miner costs

Transfer	1 MCC (where miners receive 0.9 MCCs and 0.1 MCC is destroyed)
Distribution side chain	1000 MCC (Whether or not to increase dynamic billing through the referendum vote, the miners charged 900 MCCs and eliminated 100 MCCs)
SDK transfer API (Support Java/Go)	Late fee launch
Smart contract	Late fee launch
IPFS	Late fee launch

Section III MCC Exchange

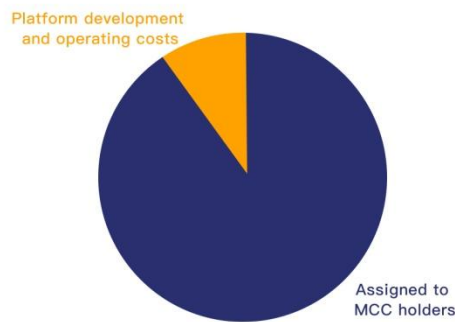
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Exchange Regulations

(DPOS mechanism)

Fees	Different trading teams charge different fees		
Listing (Digital Assets)	Mortgage 10 million MCC 1 month (or 3 months, Referendum decision)		
Dividend mechanism			
15%		85%	
5% MCC Fund	5% Referendum The world's four major service customer service	5% Referendum Development team rewards	Volkswagen with MCC

The first month of the MainstreamCode currency open transaction will reward 50% of the total platform revenue to users holding MCC, and 50% will be used to repurchase MCC in circulation. In the later period, 50% of the total revenue of the platform will be awarded as a bonus to the users holding the MCC; 35% will be used to repurchase the MCC circulating in the market; and 5% will be the operating cost of the four major nodes (US, Korea, Malaysia, Canada). 5% as platform development fee) (assigned by code contribution); 5% as MCC fund. 24 hours a day, take a snapshot of the MCC account every hour, count the red amount of each account, and distribute the bonus to the MCC holder account every two hours.



Dividend rules:

1. The dividend mechanism is the MCC holder's interest, and only the MCC holder can score red.
 2. Every two hours is a dividend period, and the platform distributes dividends on a periodic basis.
 3. Snapshots per hour, calculations should be distributed dividends, issued in two hours
 4. The currency of dividends is subject to the actual fee charged by the platform.
- *Only for MCCs who are in circulation can participate in dividends, un-unlocked parts do not participate

Calculation formula:

$$\text{Dividends per million MCC} = (\text{total revenue of platform} * 50\% / \text{total liquidity of MCC}) * 1,000,000$$

$$\text{Miner Dividend Income} = \text{MCC Holdings} / \text{MCC Total Liquidity} * \text{Total Platform Revenue} * 50\%$$

Repurchase MCC rules:

The platform will use 50% of the total revenue of the platform (change to 35% after one

month) for the MCC in the repo market. The repo address will be announced on the exchange website. The MCC of the repurchase belongs to all MCCs. In others, use requires a vote in the MCC community and more than half of the voting support.

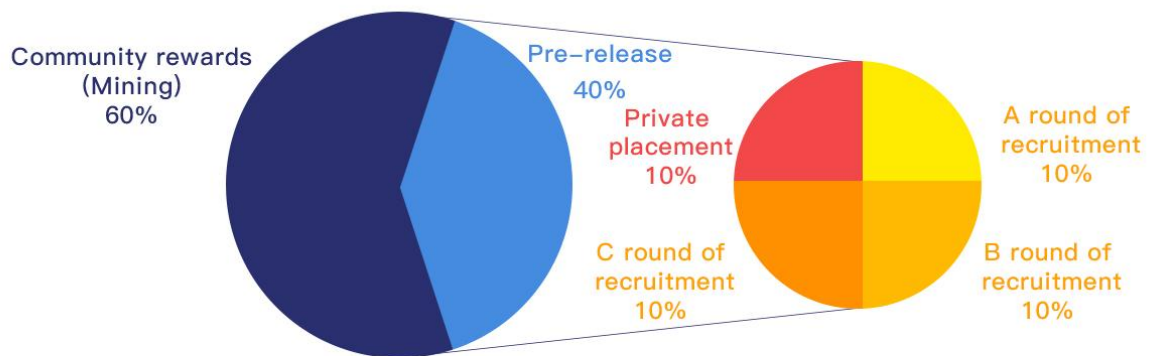
Section IV MCC Issue Mechanism

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Distribution mechanism

5,000,000,000 Mine pool				
Investment 2,000,000,000				Miner Pool 3,000,000,000
Private placement 5 Billion	A round 5 Billion	B round 5 Billion	C round 5 Billion	Daily Thaw Quantity = Total amount of pre-issued MCC* (total output of mining on previous day/total mining volume)
For early preparation	Mortgage issued ETH			
ETH and A, B, C rounds are released in the same proportion				

Total MCC:
5,000,000,000



Community rewards: 60% of the MCCs are gradually distributed to trading users through “transactions or mining” and distributed daily. (End of stay)

Pre-issuance: 40% of MCCs are held in advance by fund, team and private equity investors (along with mining thawing)

Pre-release partial thaw rules:

In order to ensure that all people receive equal income rights, the "pre-release section" is completely frozen and thawed according to the following formula:

Daily thawing amount = Total MCC issued in advance* (Total output of mining in the previous day/Total mining volume)

Section V MCC Union Exchange

The MCC Open and Win-Win Program will open 100 places in the first phase. The Open Exchange will support multiple rate models. The first 100 companies will adopt the platform currency operation mode. The details are as follows: MCC Open and Win-Win Plan will support each exchange operation. The party issues platform currency, 60% of the platform's “mining part” of each exchange, and 40% of the “distribution part”. Mining part: The mining part of each exchange is awarded to the trading user through the “transaction is mining” mode, which is issued in two hours. The trading platform will convert the transaction fee generated by the user on the exchange into platform currency for accumulation every hour. The conversion price is calculated based on the average price of the platform currency for the hour (the average price calculation method is the total transaction amount/total transaction volume). We will send back all accumulated platform coins every two hours. Part of the trading

platform fee: 50% of the income will be allocated as incentive money to the platform holders of the Exchange (only the part of the mining output and the “release part” that has been thawed). Issuance part: The part of the exchange is frozen in advance, and is thawed according to the proportion of the excavated part of the mining, and is distributed daily.

Application conditions (need to meet the following conditions):

1. Need to mortgage 10 million MCC for 10 years, and pay 1 million MCC to open the exchange fee to the four major nodes for use.
2. Please open the exchange.
3. The legal procedures in the country where it is located.
4. Same as the MCC exchange mechanism.
5. Consent to the Exchange Management Regulations.

Exchange earnings:

1. Exchange fees.
2. Platform asset issuance.
3. Asset listing rights.

7. Trading Platform Roadmap

Date	Jobs
March 2015	The MCC main chain version 1.0 was released, and smart contracts and custom programming interface standards were developed.
February 2016	Version 2.0 was released, and the data was quickly upgraded through an open API interface.
May 2017	The release of version 2.5 ended the era when the underlying version had only "chain" and no "certificate," and it began to enter the supply chain financial market.
July 2018	First crowdfunding.
Before August 2018	Exchange on the line.
August 2018	Open smart contract voting.
August 2018	Open up revenue distribution through smart contracts.
August 2018	According to the new digital asset evaluation system, the digital assets are listed for circulation and trading.
September 2018	Support the main chain to distribute digital assets with MCC.

8. MCC Main Chain Core Concepts and Components

MCC pioneered the concept of a global chain exchange and will open 100 chain exchanges in the future. The MCC main chain will be used to solve a series of demands for the distribution of digital assets from the main chain to the listing financing. The MCC main chain issued this time is a recognized chain of global chain exchanges.

MCC main chain core components

1. Consensus algorithm (PBFT)

The MCC chain adopts the current optimal decentralized consensus algorithm—Practical Byzantine Fault Tolerance (PBFT). This is a consensus algorithm based on message passing. The algorithm achieves consistency through three phases. These phases may be repeated because of failure.

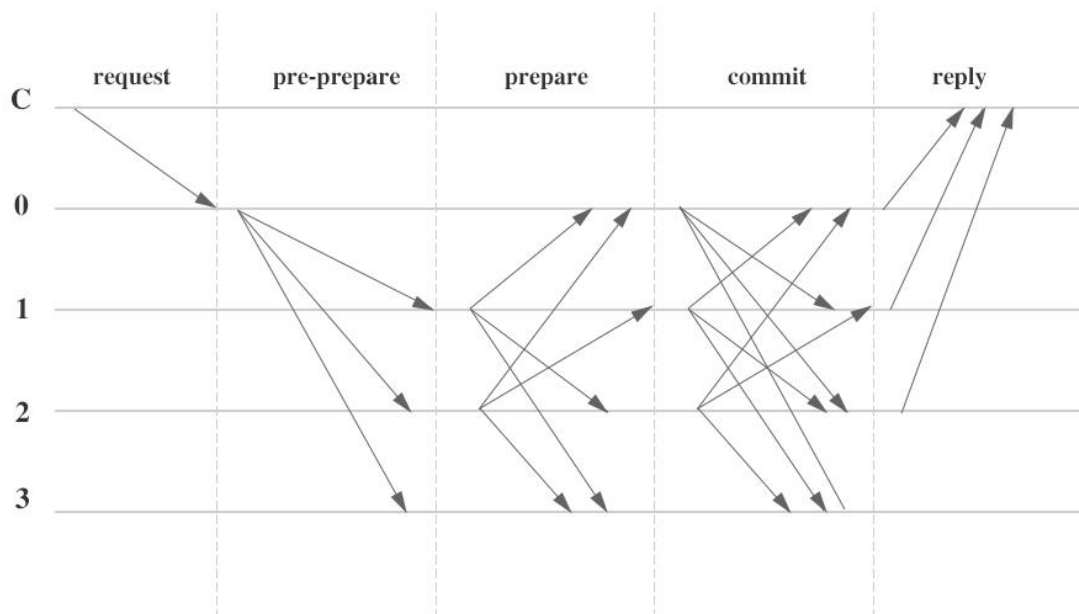
Assume that the total number of nodes is $3f+1$.

1) When the node finds that the leader is doing evil, it uses an algorithm to elect other replicas as leaders.

2) The leader broadcasts the value of its choice to other replicas through a pre-prepare message. Other replicas send prepare if they are accepted and do not send if they fail.

3) Once $2f$ nodes accept a prepare message, the node sends a commit message.

4) When the $2f+1$ node accepts the commit message, it represents the value. The following figure shows four nodes, 0 is the leader, and node 3 is the fault node. The node does not respond and send any message. When the status of the final node reaches committed, it means that the round of consensus is successfully reached.



Advantages: The above-mentioned consensus algorithm cannot depart from the existence of the currency. The normal operation of the system must have the reward mechanism of the currency. The security of the system is actually maintained by the holder of the system currency. When we apply the blockchain system to commercial applications, the value of the assets it carries may far exceed the value of the system-issued currency. If the security of the system is guaranteed by the holder of the currency, the stability of the system will be unreliable.

a) The operation of the system can be separated from the existence of the currency. The pbft algorithm consensus is that each node is composed of participants or supervisors of the business. The security and stability are guaranteed by the relevant parties of the business.

b) The consensus delay is approximately 2 to 5 seconds, meeting the requirements for commercial real-time processing.

c) Consensus has high efficiency and can meet the demand of high frequency trading volume.

According to this algorithm, people who hold a pass on blockchains built using MCC chains can choose block producers through an ongoing voting system. Anyone can choose to participate in the block production, as long as they can persuade the license holder to vote for it, they will have the opportunity to participate in block production.

The MCC chain allows blocks to generate one every 0.01 seconds. Only one producer is authorized to generate a block at any time. If there is no successful block at a scheduled time, the block is skipped. If one or more blocks are skipped, there will be a

gap of 0.01s or longer on the blockchain.

Using the MCC chain, the block generation is a cycle with 54 blocks (six blocks per blocker, multiplied by 5 blocks). At the beginning of each out-of-block period, five block producers are selected based on the number of votes passed by the permit holder. The order of the block producers selected will be based on the agreement of the producers of the five blocks, and the arrangement of blocks will be made.

If the blocker missed a block and did not generate any blocks in the last 24 hours, the blocker would be removed from consideration until they notified the blockchain to restart the block generation. This ensures the smooth operation of the network and excludes block producers that have proven to be unreliable from out-of-block scheduling, by which the number of missed blocks is minimized.

Under normal circumstances, the PBFT block chain does not experience any bifurcation, because block producers are not competitive and they cooperate to produce blocks. If there is a block fork, the consensus will automatically switch to the longest chain. This method is effective because the speed of adding blocks to the blockchain fork is directly related to the proportion of block producers with the same consensus. In other words, blockchains with more producers will grow faster than blockchains with fewer producers, because there are more producers in the blockchain fork and there are fewer lost blocks.

In addition, no block producer can produce blocks on both blockchain forks at the same time. If a block producer finds this, he may be voted out. Such cryptographic evidence of dual production may also be used to automatically remove perpetrators.

Compared with the traditional POS/POW algorithm, DM uses the Byzantine fault tolerance algorithm (PracticalByzantineFaultTolerance), all the blockers have to sign all blocks, in order to ensure that there is no block at the same time stamp or the same block height. Producers can sign on two blocks at the same time. A block has the signatures of five block producers, and the block is considered to be irreversible. Any Byzantine block producer would have to leave cryptographic evidence if he wanted to sign the same time stamp or two blocks of the same block height. In this mode, irreversible consensus can be reached within one second.

2. GossipData Transfer Protocol

MCC The Gossip protocol is used for state synchronization and data distribution

between nodes in the chain network. The Gossip protocol is a common protocol in the P2P domain and is used for data distribution or information exchange among multiple nodes in a network. Due to its simple design, easy implementation, and high fault tolerance, it has been widely applied to many distributed systems. For example, Cassandra uses it to implement cluster failure detection and load balancing. The basic idea of the Gossip protocol is very simple. The data sender randomly selects several nodes from the network and sends the data in the past. The receiver repeats this process (often only the sender's nodes are selected for propagation). This process continues, and eventually all nodes in the network (time complexity is the logarithm of the total number of nodes) will be consistent. The direction of data transmission can be sent by the sender or pulled by the acquirer.

3. Gossip protocol

Peer uses gossip to broadcast ledgers and channel data in a scalable manner. The Gossip message is continuous, and each peer on the channel is constantly receiving current and consistent ledger data from multiple peers. Each gossip message is signed so that Byzantines send forged messages that are easily identified and distributed to unwanted targets to be blocked. Due to delays, network partitions or other factors that cause lost chunks, the peer will eventually synchronize to the current ledger status by contacting the peer who owns the missing chunks.

The Gossip-based data propagation protocol performs three main functions on the Hyperledger Fabric: manage peer discovery and channel membership, continuously identify available peers, and finally detect offline peers. The ledger data is propagated on all peers on the channel. Any data that is out of sync with the rest of the channel can identify the missing block and synchronize itself by copying the correct data. By allowing the peer-to-peer status transmission of the reconciliation data to be updated, the newly-connected peer reaches the speed requirement. The Gossip-based broadcast receives messages from other peers on the channel through peers, and then forwards these messages to multiple randomly selected peers on the channel, where the number is a configurable constant. Peer can also perform pull mechanisms instead of waiting for messages to be sent. This cycle repeats with channel membership, and the ledger and status information are kept in real-time and synchronized. In order to propagate the new block, the leaderpeer of the channel extracts data from the ordering service and initiates the gossip transmission to the peer.

4. Gossipnews

Online peers indicate their availability by continuously broadcasting "alive" messages, each containing the public key infrastructure (PKI) ID and the sender's signature in the message. Peer maintains channel membership by collecting these alive messages; if no peer receives an active message from a particular peer, the "dead" peer is eventually cleared from the channel membership. Because "live" messages are cryptographically signed, malicious peers cannot falsify other peers because they lack the signature key that is authorized by the root certification authority (CA).

In addition to the automatic forwarding of received messages, the state coordination process synchronizes the global state via peers on the channel. Each peer continuously extracts chunks from other peers on the channel to fix its own state when differences are identified. Since there is no need for a fixed connection to maintain gossip-based data propagation, the process can reliably provide data consistency and integrity for shared ledgers, including fault tolerance for crashed nodes.

Because the channel is isolated, peers on one channel cannot send messages or share information on other channels. Although any peer can belong to more than one channel, the partitioned message subscribes to the message routing policy through the peer-based channel subscription to prevent blocks from being propagated to peers that are not in the channel. In the DM.IO network, the node regularly uses the Gossip protocol to send the latest data of the books it sees, and signs and authenticates the sent messages. By using this protocol, the following functions are mainly implemented:

- i. Detection of members in the channel: The newly added node can learn the information of other nodes and send Alive information to announce online; offline nodes can be perceived by other nodes after a period of time.
- ii. Synchronize data between nodes: Multiple nodes synchronize data with each other to maintain consistency. In addition, after the leader node pulls block data from the Orderer, it can also propagate to other nodes in the channel through Gossip.

5. Enterprise Blockchain Application System

The MCC main chain is researched and developed on the basis of the blockchain foundation support system, achieving a peak transaction volume of 100,000 times per second and a delay of no more than 0.03 seconds, which is in full compliance with the application of enterprise-level blockchain systems.

The blockchain basic support system supports secondary development for a variety of different application requirements, enabling efficient data exchange, improving the development efficiency of blockchain applications, and reducing development costs. Provides technical and platform support for the development of the industry chain of blockchain applications.

1) **Rich parameter configuration and rapid deployment**

Through the different parameter configuration, the function and performance of the blockchain are changed to adapt to the needs of different companies and achieve the requirements of complete customization.

The network is easy to deploy and maintain. It takes only 2-3 steps to quickly deploy a blockchain or join an existing blockchain.

2) **Complete development interface**

MCC main chain provides a complete API development interface, based on secure RPC communication mode, support GOLANG, JAVA, PHP and other mainstream development language calls.

The official provides standard development and testing tools, including Web block browser, APP blockchain browser, and all open source.

3) **Low corporate cost**

Mining is the basis for ensuring blockchain network and data security. MCC main chain improved mining algorithm, mining machine can use CPU mining mode, to avoid the waste of a lot of power resources, reducing the cost of enterprise construction and operation.

After industry evaluation, the overall equipment investment and maintenance cost of the MCC main chain is far lower than other blockchain platforms, and meet the requirements of energy conservation and environmental protection.

version

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