TransX

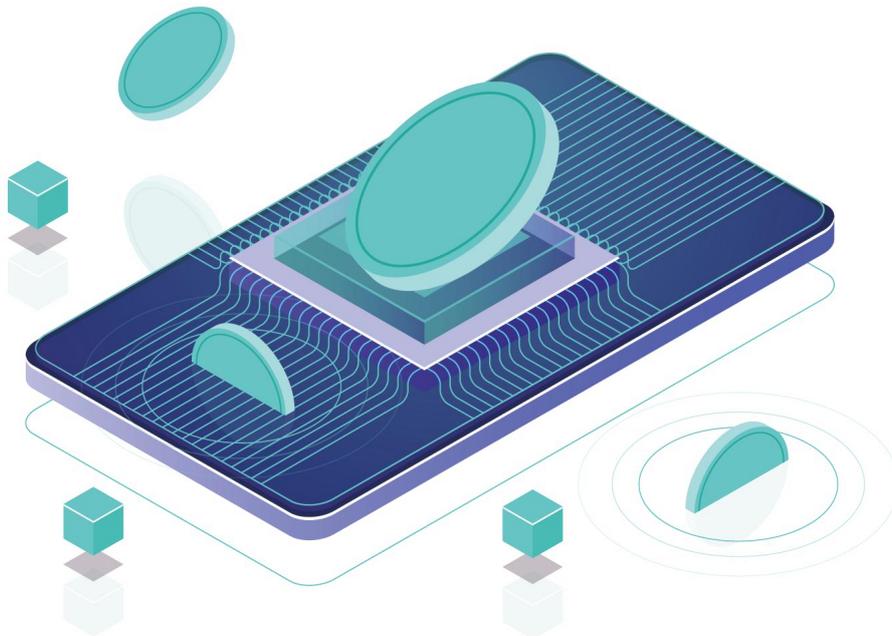## Transaction X

Digital Currency Aggregation Payment Platform

TransX, short for Transaction X, is positioned as the converged payment platform of digital currency and the Paypal of digital currency, promoting bitcoin to become the international trade settlement currency of the next era.

Contents

1. Background

After years of development, blockchain technology has been at a critical point of breakthrough, but the cryptocurrency community still indulge in playing the trade market. Most of the DeFi (Decentralized Finance) discussed in numerous summits are aerial towers, nothing changed. The blockchain industry urgently needs to change by applying more functions to make actually useful application, which can result blockchain technology is suitable to be used in on-chain and off-chain widely, and be good for ordinary people as well.

Just as mobile payment entered the life circle of ordinary people a few years ago, today, most users in China can use mobile payment to process almost all payment transactions. As blockchain technology becomes an important strategic mission, the digital currency (DCEP) by the Central Bank is likely to be issued soon. This is just the beginning. In other words, upgrading from the existing mobile payment portfolio to digital currency payment is the future trend.

In China where mobile payment is the most developed, people have been very convenient to use mobile payment on a daily basis. The new digital currency aggregation payment tool has a wide range of usage scenarios. For example, mining machine sales manufacturers in Shenzhen Huaqiang North, customers can pay with digital currency to purchase the product. The digital currency is good for e-commerce, cross-border payment and daily needs, and it can be provided with convenience, simplicity and anonymity.For another example, in the Asian and Asian markets, many countries do not have developed mobile payment systems, and the development of e-commerce business is limited. If there is a digital currency payment method, more users with only mobile phones can be brought to the fast and convenient mobile payment network.

1.1 The Crisis of Bitcoin

In any case, the crypto currency market cannot ignore the elephant in the room: bitcoin. With a market share of nearly 70%, ignoring bitcoin in the digital currency would be a desperate attempt to make payments.

When the time node came to 2020, bitcoin block reward halved for the third time, but the price performance of bitcoin did not meet the expected rise, most people's consensus of halved market collapsed. Not only is bitcoin no longer a halving market, it may also be a halving crisis. This halving crisis is my summary of the halving end effect, and the later the halving, this end effect is more and more obvious, and the logic is very clear.

Bitcoin design in the first place, the hearing in order to make the bitcoin in the software can run on low threshold of the device can also, put the currency block size is set in 1 m size, gives the bitcoin bearing capacity is very limited, the hearing at the outset of the currency may be defined as a point-to-point electronic cash, but the same is true in the currency of the white paper title definition of bitcoin, so in this our imagine the bitcoin in half at the end of time, as long as there is enough of the point-to-point electronic cash transactions, there will be enough to compensate for the poundage block reward halved after the loss. But now with the development of the currency, the entire industry positioning of bitcoin appeared deviation, the currency may be defined as digital gold and SoV (Storage of Value), the vast majority of people will be the currency in exchange and cold, in your wallet is no longer the bitcoin exothermic wallet to pay, make whole bitcoin the network has been growing poundage will not come up. Half as continued, that the entire mining depends on the currency block reward will soon be reduced, and the fee is growing so slowly, by the end of the block reward, add up the whole block rewards and fees are less than 1% of the total market value of the currency, it USES 1% of its value to maintain the currency of network security, there is a big problem in theory, such as only need to use the bitcoin 1/1000 of the total market value of capital, plus 10 times leverage, can try to attack is 51%, the impact the currency network security, and shorting the arbitrage.

Since bitcoin is a deflationary currency with a total value of 21 million, it is determined that the end of halving will always come. If the fees cannot increase rapidly, then the end of halving effect I described above will come as expected, and I believe that this effect will be obvious when the halving happens again in 2024.

1.2 Kardashev Scale and Entropy Increase

Many people have questioned whether bitcoin mining is a huge waste of energy, but that's just from the point of view of the average human being. From the perspective of a Martian, the earth USES energy to mine bitcoin, or USES energy to drive a car. It's the same entropy process.

If we can look at the problem from a higher perspective, such as the development and utilization of energy from the perspective of civilization, it is necessary to introduce the kardashev index, which is a hypothesis to measure the level of civilization and technological advancement according to the energy level that a civilization can use. According to this definition, our current civilization is still in a fairly early stage, with only type 0.724, which is not up to the stage of type I civilization, which can harness 10^16W of energy, and type I civilization, which can utilize all the energy of the planet. A type II civilization capable of harnessing all the energy of a planet would probably require the construction of a dyson sphere and, of course, a higher level of energy use, without further discussion here.

After Carl Sagan's optimization of kardashev index, the expression is:

$$K = \frac{\log_{10} P - 6}{10}$$

Where K is the kardashev index of a civilization, and P is the energy it USES. According to the formula, a 10-fold increase in the amount of energy used by a civilization is associated with a 0.1 increase in the kardashev index. On the other hand, from the oil crisis of 1973 to the 40 years of 2012, industry and Internet technology developed rapidly, but the increase in energy use was indeed pitifully small. According to martians, human civilization index increased by 0.032. We're a long way from a type I civilization, and according to the second law of thermodynamics, when we're in this isolated system of the solar system, the entropy increase is irreversible.

To incentivize humanity to develop an order of magnitude more energy requires unconventional means and a wealth stimulus that can be cashed in directly. The bitcoin mining industry would be perfect for such a role, as long as the planet's ecosystem is not destroyed before the next order of magnitude of energy use is developed. At present, the bitcoin mining industry has been promoting chip design and manufacturing, and the latest chip 5-nanometer technology will be used in the production of bitcoin mining chips. Next, the bitcoin mining industry is sure to invest in fusion energy.

1.3 p2p Electronic Cash and Global Settlement Currency

Some people have always questioned the limited carrying capacity of bitcoin, which is inappropriate as a peer-to-peer electronic cash. So many people have come up with solutions like second extension network, lightning, from the perspective of faster, more low fees to improve the currency, here, I am of the view is completely different, people don't think all the deal runs in the main currency (not left the poundage provids) improved solution COINS are consumption, rather than help the currency. According to the halving end effect above, if the fees on the bitcoin network do not increase, a huge crisis will be brewing for bitcoin, and it will explode one day.

People who say that the carrying capacity of bitcoin is limited only look at the problem from one perspective, that is, they think that the TPS of bitcoin is not high enough, so its carrying capacity is limited. But there is another perspective, that is, as long as the bitcoin network is safe enough and the single transfer is high enough, its total payment carrying capacity can be very strong. To single transfer amount is high enough, that is about to clear positioning of the value of the currency, international trade settlement, single transfer amount is high enough, if the currency can locate into international trade settlement currency, that will be the current centralized financial institutions charge fees, transfer to the COINS poundage, will be able to truly achieve the hearing at the beginning of the point-to-point electronic cash.

From another perspective, the current international trade settlement currency, basic it is dollars, all need through settlement center, New York, and the settlement center is centralized, the U.S. government can never other countries out of the settlement system, such as north Korea and Iran, but these countries trade with other countries, also can use the settlement currency, the root cause is because of the currency dimension is too small, its $200 billion less than the size of the huge amount of international trade, currently use COINS into the gold will be a huge risk of price fluctuations. To enter

the international trade settlement currency family, the us M0 is a reference indicator, which means that the total market value of bitcoin has to increase by at least an order of magnitude.

When the current bitcoin is positioned for the next stage, it needs a strong driving force to make the commission of bitcoin increase rapidly, so as to promote the further energy consumption of bitcoin mining industry and continuously build the bottom of higher bitcoin price. The TransX project is acting as an external force that cannot come from the bitcoin network itself.

2. Introduction to TransX

TransX (Transaction X) is a digital currency aggregation payment platform, which will take the lead in supporting major cryptocurrencies, including DCEP, USDT, BTC, ETH, EOS, DOT, ADA, Dash, etc.

The focus of TransX is to maximize the simple function of aggregate payment for both merchants and ordinary users, and make more third-party wallets compatible with the payment QR code. Just like the innovations made by Alipay and WeChat in the field of mobile payment, a small QR code distributed to all corners of the life circle, it can form a huge network effect.

TransX runs on a network with blockchain enabled and provides the transaction services for digital currency payment. Users and merchants as miners can earn token rewards when the payment process be completed.

TransX will use Substrate to build the application-specific blockchain. Substrate, as a next generation blockchain framework, has already been used in Polkadot network and so on, and becomes a blockchain operating system. In particular, Polkadot is a project initiated by the Web3.0 Foundation that founded by the Parity Technology led by Dr.Gavin Wood, who was the former CTO of Ethereum.

Polkadot is committed to the realization of arbitrary message communication between blockchains, which will solve the scalability and interoperability problems for the multiple blockchaind. Polkadot is developed with the Substrate that realizes hybrid PoS consensus, on-chain council governance, WASM virtual machine, smart contract native execution, efficient light client protocol, etc.

TransX's vision of aggregating digital currency payments can cooperate with Polkadot's cross-chain, and digital assets can cross-chain and interoperate with the Polkadot ecosystem. At a practical level, people need an aggregate payment portal to facilitate the use of digital currencies. Polkadot is the implementation of digital asset interoperation on-chain, and TransX is a digital currency platform that helps users off-chain to aggregate payments through blockchains.

3. Economic Model

3.1 Issuance Model

TransX issues a total of **21 million** encrypted digital tokens called **DCAP** (Digital Currency Aggregate Payment), which is halved every **4** years. 10% of DCAP will be distributed to the founding team and the operation team for engineering, ongoing development, marketing, and more.

In order to comply with most national laws and regulations, TransX does not conduct public offering, private placement or ICO.

3.2 Transaction Mining

Irving Fisher, a well-known economist, formulated the identity equation Equation of Exchange in monetary economics: $M * V = P * Q$.

Among them, M stands for the total money supply, V is the velocity of currency transactions, P means the price level (price index)of goods, and Q is the total value of goods and labor transactions in society. Irving Fisher believed that the change Q was small.

John Maynard Keynes, an early 20th-century British economist, questioned the constant currency velocity and established a new theory of money demand, which is called Liquidity Preference Theory, which explained the role of the interest rate by the supply and demand for money.

Nowadays, digital currencies still cannot fully apply the classic financial formula. but basically, judging

from the fact that most digital currencies are still in the stage of exchange hype, it fully illustrates the lack of digital currencies in the trading scene. The currency transaction circulation speed, which is V, is relatively small. Most of the time, digital currency is a security token, and blockchain technology at this stage is still difficult to allow this security token to generate real value.

According to the research of the TransX team, as long as a digital currency does not fully have the security token attribute, there will be a need to increase the circulation speed of digital currency, V. and P is the price level, which in turn is the embodiment of the currency price. The greater the V is, the more support there is for the currency price. *The following sections will explain how TransX quantifies transaction activity and defines computing power.*

Digital currency trading activity is quantified into computing power, and DCAP rewards are obtained according to the proportion of computing power. By collateralizing the DCAP free and open registration method, the network consensus is guaranteed to be secure and no computing power attacks will occur.

Transaction activity is quantified into computing power. There are two basic indicators to measure transaction, one is frequency, another one is the amount. TransX mainly uses these two as indicators, and also assists other indicators, such as transaction fee models for different digital currencies, transaction frequency and transaction amount of each account in a unit of time.

It cannot be denied that zero cost mining activity is harmful in market. There are two value supports for DCAP:

- The transfer requires a fee. Users consume the fee and get DCAP incentives. (similar with the EOS requires CPU)

- Effective transfer activity is part of the transaction, and the transaction itself generates value.

In addition to the basic value support of DCAP, it can also be used by all users to build a digital currency payment network. The development of this payment habit will eventually create a huge value network, and all of this will deposit value on DCAP.

4. Mining Model

In order to incent transaction payment activity, TransX introduced a mining model that allows asset transactions on the major blockchain to be quantified, so as to calculate specific computing power and earn DCAP rewards for mining.

There are two dimensions to transaction activity, one is the frequency of transactions, and the other is the amount. TransX respectively sets the weights of both to α and β. The ratio of a single transaction to the total number of transactions per unit time (24 hours) times α equals the frequency computing power, and the ratio times β equals the amount of computing power.

- Total computing power per mining = Frequency computing power + Amount computing power.

This is the simplest calculation logic for computing power. Of course, it is necessary to consider the market share of different currencies in payment transactions that have different fee models. The transaction costs are also different. For example, it has almost no cost in the payment process in EOS network.

Therefore, the attack cost of TransX should be high enough. It needs to set a deactivation constant to different currencies. And the deactivation constant means that if your computing power exceeds the average N times, the power exceed can only be counted as 1 / N.

For example, the average hashrate is 0.001, and the miner's hashrate is 0.002. After deactivation constant scheme, the hashrate is processed as (0.002-0.001) / (0.002 / 0.001) + 0.001 = 0.0015.

5. Technical Architecture

The Substrate framework is used to build the underlying layer of TransX. The digital currency aggregation payment QR code is the core of the TransX client, and TransWallet is a TransX integrated multi-chain payment wallet.

The underlying consensus of the Substrate adopts the Babe + Grandpa combination consensus, and TransX will support the development and deployment of WASM virtual machines and smart contracts. After Polkadot's mainnet is launched, TransX will access the Polkadot ecosystem to achieve cross-chain, and more importantly, the consensus engine connected to Polkadot provides pooled security for TransX.

5.1 TransX Client

In a broad sense, any devices with TransX client installed are the TransX miners, such as a mobile phone with the TransX client, can become a digital currency aggregation payment terminal, and payment for major digital currencies can be completed through such an aggregate payment QR code.

Users can send and receive currencies with TransWallet. If TransWallet is successfully registered on the TransX blockchain, the trading activity of digital currencies will be defined as mining, thus users can earn token rewards.

In the narrow sense, the TransX miner is a dedicated hardware with TransX client installed, which has the security reinforcement and supports NFC (Near Field Communication), and can use NFC technology to complete transactions for customized digital currency credit cards.

5.2 Registrate to TransX Client

It is an unrealistic task if all digital currency payment activities can be included in the range of computing power statistics, and it is by no means a task that can only be completed by single application-specific blockchain.

TransX's positioning is very clear. The transaction activity of digital currency needs to be incented, but it must also be able to form a closed loop of the economic system. The client of the mining machine needs to register in order to ensure the security of TransX's consensus. TransX positioning is to make an aggregate payment channel for digital currency. Any device installed a client can use this aggregate payment function. However, in the early days, if you want to allow payment transaction data to participate in mining, you need to register with the mining machine. The process requires the user to pledge a certain DCAP as collateral to increase the cost of doing evil, but the user can withdraw the collateral token at any time.

TransX's miner registration is completely open and anyone can participate. TransX is a public blockchain. No centralized node can authorize registration. As long as the registration is successfully completed, users can participate in mining.

5.3 Computing Parameters

Parameter	Function	Expression
TW	Total computing power in the past 24 hours	$TW = sum(TW_{token})$ $token \in \{BTC,ETH,EOS,...\}$
TC	Total transactions in the last 24 hours	$TC = sum(TC_{token})$ $token \in \{BTC,ETH,EOS,...\}$
TA	Total amount of digital currency in the past 24 hours (in USDT)	$TA = sum(TA_{token})$ $token \in \{BTC,ETH,EOS,...\}$
AvW	Average calculation over the last 24 hours	AvW = TW / TMN
TMN	Total amount of mining machines	Number of miners successfully registered on the blockchain
ArC	Average number of transactions in the last 24 hours	ArC = TC / TMN

ArA	Average transaction amount in the past 24 hours	$ArA = TA / TMN$
PW	Cumulative computing power of miner P in the past 24 hours	$PW = sum(PW_{token})$ token $\in$ {BTC,ETH,EOS,...}
PC	Cumulative transaction times of Miner P in the past 24 hours	$PC = sum(PC_{token})$ token $\in$ {BTC,ETH,EOS,...}
PA	Cumulative transaction amount of Miner P in the past 24 hours	$PA = sum(PA_{token})$ token $\in$ {BTC,ETH,EOS,...}
TW_{btc}	Total computing power of BTC in the last 24 hours	$TW_{btc} = TW^1_{btc} + TW^2_{btc} + ... + TW^n_{btc}$
TC_{btc}	Total BTC transactions in the last 24 hours	The number of BTC transactions in the miner exceeds LC_{btc} is no longer counted
TA_{btc}	Total transaction amount of BTC in the past 24 hours	The BTC transaction volume in the miner exceeds LA_{btc} and is no longer counted
AvW_{btc}	Average computing power of BTC over the past 24 hours	$AvW_{btc} = TW_{btc} / TMN$
AvC_{btc}	Average transactions of BTC in the last 24 hours	$AvC_{btc} = TC_{btc} / TMN$
AvA_{btc}	Average transaction amount of BTC in the past 24 hours	$AvA_{btc} = TA_{btc} / TMN$
PW_{btc}	BTC cumulative computing power for miner P in the past 24 hours	$PW_{btc} = PW^1_{btc} + PW^2_{btc} + ... + PW^n_{btc}$
PC_{btc}	Cumulative BTC times of Miner P in the past 24 hours	The number of BTC transactions in the miner exceeds LC_{btc} is no longer counted
PA_{btc}	Cumulative BTC amount of Miner P in the past 24 hours	$PA_{btc} = PA^1_{btc} + PA^2_{btc} + ... + PA^n_{btc}$
ρ_{btc}	The highest share of BTC computing power	$0 < \rho < 1$, This is a parameter that can be modified
PPC_{btc}	The deactivation constant of Mining machine P calculates BTC frequency computing power	$PPC_{btc} = ((PCbtc + 1) / AvC_{btc}) \% 10$
PCW_{btc}	The computing power frequency of single BTC transfer of Miner P	$PCW_{btc} = \alpha *1 / TC / PPC_{btc} (PC_{btc} < LC_{btc})$
PPA_{btc}	The deactivation constant of Miner P while calculating BTC, amount	$PPA_{btc} = ((Price(BTC) * m_{btc} + PA_{btc}) / AvA_{btc}) \% 10$

PAW_{btc}	The computing power of single BTC transfer of Miner P	$PAW_{btc} = \beta * m * price(BTC) / TW / PPA_{btc}$ ($PA_{btc} < LA_{btc}$)
α	Percentage of frequency computing power in total calculation	$\alpha + \beta = 1$
β	Percentage of currency amount computing power in total calculation	$\alpha + \beta = 1$
LC_{btc}	Total number of BTC transactions allowed by a single miner in the past 24 hours	The parameter will be constantly modified
LA_{btc}	Total limit of amount of BTC transactions allowed by a single miner in the past 24 hours	The parameter will be constantly modified
MLA_{btc}	Maximum amount for a single transfer	Parameter MLA can be optimized
price(BTC)	BTC price based on USDT	Accepts the price data from the Offchain Worker trusted node, or from the trusted chain, such as ChainX with the X-BTC price data
SR	The percentage of the wallet-initiated transaction in total computing power	SR+RR =1
RR	The total computing power of transaction receiver	SR+RR =1
SSR	Share profit percentage to tier-1 sponsor	0<SSR<1, Parameter can be optimized
OSR	Share profit percentage to tier-2 sponsor	0<OSR<1, Parameter can be optimized
MR	Minimum rewards per day	Parameter MR can be optimized
MSR	Miner reward fee obtained from mining share	Parameter MSR can be optimized

Example: Miner P initiates one transfer mining and transfers m BTC.

$PCW_{btc} = \alpha * 1 / TC / PPC_{btc}$

$PC_{btc} < LC_{btc}$ or 0

$PAW_{btc} = \beta * m * price(BTC) / TW / PPA_{btc}$

$PA_{btc} < LA_{btc}$ or 0

$PW^1_{btc} = (PCW_{btc} + PAW_{btc}) * SR$

5.4 Mining Reward and Halving Mechanism

The starting point for calculating computing power according to different digital currencies is that each

digital currency has a different share in the transaction payment market and transaction fee models are also different. For example, EOS does not require transaction fees, and its transfer cost is almost zero. If its computing power does not have a limit on the proportion, it can initiate a large number of transactions on EOS, which becomes a cost-free attack. In order to support major digital currencies payments and prevent zero cost attack at the same time, TransX uses a compromise solution.

The mining reward is from: the computing power calculated based on a transfer in the past 24 hours, and then multiplied by the number of DCAPs that can be minted on that day to calculate the number of reward tokens. There are two situations that need to be considered after calculation:

- If the referrer (mining machine owner) is promoted by the tier-1 sponsor, he needs to share the profit (SSR) to the sponsor.

- If the referrer (mining machine owner) is promoted by both the tier-1 sponsor and tier-2 sponsor, it is necessary to divide the shar profit (OSR) to the tier-2 sponsor.

TransX is halving every 4 years. In the early days, in order to subsidize the operation, a part of the transaction fee on TransX will be given to the block creator nodes. When the number of mining reward tokens per day is less than MR, the proportion of the processing fee (MSR) can be given to the block creator nodes, and the remaining (1-MSR) will be given to the block generating node.

In addition,10% of DCAP will be used as the block creation reward to all participating nodes. The block creator nodes are responsible for distributed ledger maintenance and block data storage and are the most important part of the entire TransX consensus network.

5.5 Verifiable System

Blockchain technology provides a decentralized and distributed technical paradigm, but many business application scenarios always need to pursue efficiency. In a decentralized system with many distributed nodes, pursuing perfect consensus and high efficiency simultaneously is literally impractical. But there is one technical point that blockchain technology is worth pursuing, and that is "verifiable".

The "verifiable" logic refers that running the code or smart contracts based on the open data of the blockchain ensures the same result.

In regard to the TransX's verifiable logic, there are two meanings.

- The transaction is verifiable. No matter which blockchain's transactions, any third party can verify them, and any transaction needs to enter the irreversible block to confirm that the transaction is completed before you can participate in TransX's transaction mining.

- The computing power calculation is verifiable. The entire computing power calculation logic has been open and transparent above. The entire code will also be open source. Verifiable transactions to calculate the corresponding computing power, can get the same results.

5.6 Collateral and Penalty

Block creator nodes need to pledge a certain amount of DCAP   as collateral to avoid cheating, especially when calculating computing power to input data that does not conform to the facts, such as exaggerated transfer amounts, fake transaction data.

Once the block creator node is found to be cheating, other nodes can report it, and then the parliament will review it. Once the review is passed, the block creation node will be punished. The penalty rule set by TransX is to punish the block node's Collateral token and a reward (the initial setting is 5,00 DCAP) will be given to the node that reported the cheating, and the remaining DCAP in this round will be directly destroyed.

5.7 Catch Cheating and Reporting

TransX uses Substrate's Offchain Worker to capture cheating and complete reporting, but the TransX blockchain mainnet will open channels for third-party reporting. Substrate's Offchain Worker can independently perform some tasks with uncertainties and uncertain execution times, verifying transaction activity and computing power calculations. At the same time, it is also possible to report

cheating nodes and misconduct. When a node or any third party makes a report, it needs to pledge a certain token (the initial setting is 1,000 DCAP) as collateral. If the TransX Council determines that it is a malicious report, the pledged token will be destroyed.

5.8 Architecture Diagram
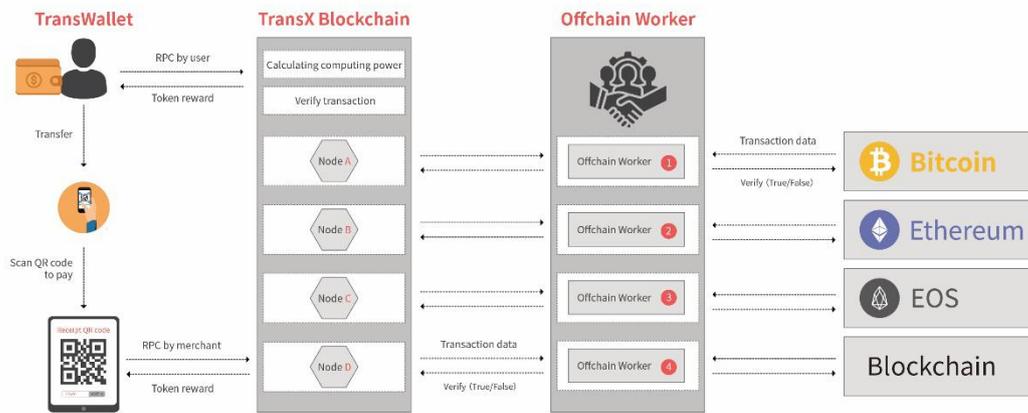
5.9 Initial Value

Initial value of each digital currency (based on the USDT as the unit).

Type	Percentage(ρ)	LC	LA	MLA
BTC	70%	100	100,000	100,000
ETH	10%	200	50,000	40,000
EOS	8%	1000	50,000	10,000
USDT	50%	100	100,000	50,000
DCEP	50%	2000	1000,000	5,000
DOT	10%	500	50,000	20,000
Dash	5%	50	20,000	5,000
TUSD	70%	4000	2000,000	50,000

6. TransX Stablecoin Framework

6.1 Two Stablecoin Schemes

Currently there are two schemes for issuing stablecoin. One is a centralized approach by firstly pledging the reserves (traditional currency, cash, loans and equivalents assets) to a bank or other centralized financial institutions as collateral to issue the stablecoin. For instance, every Tether USDT is also 1-to-1 pegged to the dollar, so 1 USDT is always valued by Tether at 1 USD. Another scheme is MakerDao, which also uses a secured mechanism by pledging other digital currency other than cash as collateral to

issue stablecoin and it no longer needs to rely on a centralized institution.

Each of the above two schemes has advantages and disadvantages. It is not a good choice if there is no collateral or use unstable assets as collateral to issue stable coin. And it is difficult to guarantee security and transparence when using the traditional currency as collateral and relying on centralized institutions to issue stablecoin.

6.2 TUSD Issuance Structure

TransX uses a multi-asset module, which can convert fiat currencies into digital currencies to issue multiple stablecoins for most countries.

TransX will support the use of fiat currencies as collateral when issuing stablecoins. For example, TransX's USD backed stablecoin, TUSD, involves participants such as centralized banking institutions, coinmakers, TransX Foundation, and TransX Member of Parliament.

The stablecoin TUSD issuance process is as follows:

> 1. The coinmaker purchases 1 million US 30-year long-term government bonds and deposits them to any of the 9 largest US banks designated by TransX. The TransX Foundation is the holder of the bonds.

> 2. The bank issues a certificate and regularly asks a trusted third party for auditing and information disclosure.

> 3. The coinmaker initiated a proposal to mint 1 million TUSD on the TransX blockchain by submitting a certificate from the bank.

> 4. The TransX Council verifies the bank's certificate to vote on whether coinage is allowed. With the majority of the votes of the members, the vote will be passed. Members of Parliament and the Technical Committee have a veto power.

> 5. The proposal passed by the TransX Council will automatically call the minting process and issue 1 million TUSD to the coinmakers. (The process also involves the destruction of TUSD, which will be described later)

The issue of TransX stablecoin involves so many entities, and the reasonable distribution of benefits is the key.

● The bank helped the coinmaker to issue a certificate and will get 1/3 of the national debt proceeds.

● The coinmaker will receive a certain percentage of DCAP as the commission from the state treasury.

● The TransX Foundation will hold the national debt on behalf of with the tripartite agreement between the bank and the coinmaker, the TransX Foundation will receive 1/3 of the proceeds of the national debt.

Destruction process of TUSD: Users who hold a certain amount of TUSD can go to the bank to apply for stop-dated treasury bonds. The bank reviews the TUSD transfer to the destruction wallet address, completes the information disclosure, and then delivers the US dollar T-bonds. The remaining 1/3 of the proceeds will be given to the first coinmaker.

7. Wallet Entrance

7.1 TransWallet

After TransX successfully builds a digital currency aggregation payment platform, it needs a specific product to accept users who need to pay. A multi-chain wallet will be a necessary foundation. In order to incent users to use the wallet, they will earn mining reward while complete a digital currency payment transaction.But first, they have to register to activate TransWallet's mining function.

As a digital currency wallet, TransWallet has the following three innovations that make it special.

- Supports the function of mining within transaction receipt on TransX.

- Supports Web3.0 ecosystems such as Polkadot.

- Supports access to cross-chain, decentralized exchanges and cross-chain asset gateways, such as ChainX.

Thinking deeply about the role of centralized exchanges in the blockchain industry today, it has two functions:

- Value storage platform. Many users are worried that digital assets are stored in their wallets and it is difficult to ensure asset security. They rely on centralized exchanges to save digital assets.

- Asset trading channels. Whether it is fiat currency access channels or currency exchange, centralized exchanges can provide this part of the function.

But a centralized exchange has problems. The digital assets of a large number of users are stored in a centralized exchange. Under the premise that the exchange can change the user's assets easily, it is clear that the cost of evil is almost zero. Despite that the centralized exchange provides currency exchange channel and fiat currency access, it has caused many security and transparence problems, which beyond control for the user.

TransX's wallet positioning is value storage, helping users to hold digital assets in their own hands, and then accessing multi-chain decentralized exchanges in TransWallet, providing a layer of currency exchange channels. Finally, the OTC function is connected to TransWallet, and a fiat currency channel is supported.

7.2 Cold Wallet

TransWallet is a hot wallet that is connected to the internet, it is more suitable to for small-amount payment and is easier to use. However, a large amount of currency needs to be stored using a cold wallet that is not connected to the internet. By being connected to TransWallet via Bluetooth, cold wallet protects that the private key from the internet connected device, thereby ensuring the security of digital assets.

7.3 TransCredit Card

TC card（TransCredit Card）is a credit card that supports the storage of small amount of digital assets, combined with TransX client and TransWallet to initiate transactions and pay via NFC technology. This leads the acceleration of the implementation of digital currency payment scenarios.

8. Community Governance

TransX is a decentralized application-specific blockchain, the community governance is a necessary for the ecosystem.

The TransX Council is the core organizational unit of governance and will accommodate community nodes and ecological nodes, such as nodes powered by major digital currencies connected to TransX.

In order for the parliament to efficiently reach consensus, TransX has set up 13 parliamentary seats. The top 13 honest nodes who have voted and intend to join the parliament will serve as members. Any node that has rebates for bribery will not be able to participate in parliamentary elections.

Since the total number of votes from nodes often changes, the parliament needs to maintain a certain fixed group for a period of time, the term of each parliament is 3 months. At the end of each term, members of the next parliament will be elected based on the new total votes and node integrity. All 13 members of Parliament can collect community opinions and submit bills to Parliament.

The members of the parliament vote on the proposal by one person, one vote. If more than half of the members agree, the proposal passes the preliminary examination. After the initial review, the referendum process is entered. The required voting approval rate is determined based on the adaptive quorum deviation algorithm. After passing, the TransX development team will be responsible for implementation and deployment.

Because bribery elections and rebate behaviors seriously affect the credibility of the total votes obtained and increase the risk of evil in the later stages, parliamentary seats obtained through improper means will seriously hinder the overall interests of the community. Therefore, the parliamentary fund launches bribery fishing awards. The bribery standards are clear. There can be no rebates. Any community member can anonymously submit screenshots or transfer records to prove the bribery and rebate behavior of a node. If more than half of the parliamentary members believe the evidence is valid, their election qualification of the next parliament member will be removed, and the reporter will be rewarded from the parliamentary fund as appropriate. In addition, the parliament will have the right to punish the self-collateral of the bribe-elected node. Nodes that claim not to participate in parliamentary elections are outside the scope of the report. The members of the parliament serve the community, and there will be no more rewards for block creation to avoid malicious competition caused by short-sighted rebates.

8.1 On-chain Governance

TransX's on-chain governance process draws on Polkadot, proposes motions, votes, passes or rejects, and executes. The governance process on the entire chain is deterministic. The manifestation of the proposal on the chain is a piece of code. The implementation of the proposal is a function call to the *set_code* method. This method has the supreme right to do anything and directly change the state of the blockchain. On-chain governance is a process in which the perfect human group consensus thinking and machine execution logic are closely coordinated.

The basic principles of on-chain governance are: all changes to the agreement level must pass a referendum. The main body of on-chain governance consists of a referendum, parliament, and financial system. The implementation rules include voluntary lock-in to enhance voting power, delayed implementation of proposals, and self-adaptation quorum deviation, etc.

There are roughly three phases to a complete governance process:

- At the national proposal stage, a certain number of tokens are pledged for proposal.

- In the referendum phase, every once in a while, the proposal with the highest collateral amount will enter the referendum phase.

- In the implementation stage of counting votes, the proposal received sufficient support to implement the proposal in accordance with the mechanism.

During the voting phase, users can increase their voting power by voluntarily locking token for a longer time. A token locked for six days is equivalent to six tokens locked for one day.

Adaptive quorum bias algorithm: The simple understanding is that when the voting rate decreases, the voting approval rate required to pass the proposal also increases.

8.2 Functions of Parliament

Parliament has two main tasks:

- Initiate a referendum.

    The majority of the members of the parliament agree, without any objection, the parliament can directly launch a referendum.

- Cancel the referendum.

    Members of the parliament all agree that certain referendums may cause the danger or risk to the system, they can decide to cancel the referendum.

9. Development Roadmap

- Phase Ⅰ, 2019.08 to 2020.03

    Development and testing on the TransX blockchain mainnet.

- Phase Ⅱ, 2019.08 to 2020.04

development and testing of mining client and mining machine hardware.

- Phase Ⅲ, 2019.11 to 2020.05

  Cooperate with third-party wallets and make them be compatible with TransX's aggregate payment QR codes.

- Phase Ⅳ, 2019.08 to 2020.06

  Multi-chain wallet development and testing.

- Phase Ⅴ, 2020.06 to 2020.12

  Issuance of the stablecoin TUSD on TransX.

- Phase Ⅵ, 2020.08 to 2021.12

  Cross-border payment and access to Polkadot ecology.

10. Application Ecosystem.

10.1 Cross-border Payments

One of the most near perfect solutions for cross-border payments was observed this year, which is Facebook's Libra, but Libra cannot achieve a high probability event. The main reason is that Libra's positioning is directly related to the world's universal currency and the major sovereign currency collision, and the legal resistance encountered was too large. The forthcoming DCEP of the People's Bank of China is also a good solution for cross-border payments, but it is not a perfect solution, because DCEP is backed with RMB that is not a universal currency in the world right now. It may play the function of clearing and settlement in the Belt and Road, but Resistance may be encountered in more other countries. TransX's cross-border payment function will complement DCEP.

TransX supports stablecoins such as DCEP and USDT. At the same time, the TransX blockchain will also first issue its own stablecoin TUSD, and users can freely choose a convenient currency for transaction payment. TransX will have a framework for issuing stablecoins and will also be able to issue stablecoins equivalent to fiat currencies in multiple countries.

A more extensive scenario of cross-border payment occurs online, and the confirmation time of digital currency payments is relatively long. It is difficult to change the status of online orders in a timely manner, but TransX can still extend the monitoring time and detect that the payment is confirmed at this time, by sending asynchronous messages to merchants, merchants can complete cross-border e-commerce transactions.

Merchants can recommend users to use digital currencies with shorter confirmation times to pay, such as EOS and TUSD, whose confirmation time can reach several seconds to one or two hundred seconds.

In order to serve these cross-border e-commerce businesses, TransX will launch this digital currency aggregation payment service with no fees and commissions, and it will be easier and more convenient to access the SDK.

The traditional online payment solution process is as follows:

Let's start with the traditional online payment solution. The abstract process is as follows:

> Generate unpaid orders online -> User clicks to pay -> User completes payment -> Centralized server detects payment completion -> Notifies customers / Notifies merchants at the same time -> Merchant receives notification to change order status

TransX supports online payment scenarios with a different process:

> Generate unpaid order online -> User clicks payment -> TransX JS SDK generates coin QR code -> User scans code and clicks confirm payment -> Merchant center server verifies payment on the chain and completes TransX mining -> Change order Status

TransX's payment process also includes roughly 6 steps, and it does not need to interface with centralized payment institutions, and there is no various review and censorship. You only need to interface with TransX's front-end JS SDK and server-side authentication software and then deploy the back-end verification software to the server. After receiving the completed payment request from the front-end, the server submits it to the verification software to complete the verification. After the verification is completed, it will asynchronously communicate with the set interface to notify the server to change the order status. And the software can also help merchants complete mining on the TransX blockchain.

10.2 Trusted Computing and Personal Blockchain Credit Points

Payment data, balance data, by lending data, investment data, shares Token data, etc., is a personal privacy data, based on the TransX client and TransX Wallet will not malicious collect user privacy data, such as TransX have docking third-party trusted computing party (Phala network, for example), under the premise of can ensure the data security preservation, TransX client and TransX Wallet encryption local user privacy data, stored in a decentralized network at the same time, combination of trusted computing, A credible personal credit score can be calculated based on these data.

The current personal credit system is all centralized architecture, not only the data is centralized preservation, and the calculation process is also centralized untrusted, most importantly, the value generated by these data is completely controlled by the centralized Internet giant.

Based on TransX implementation is decentralized, based on the decentralized data storage is a complete data decentralization, based on trusted computing is decentralization, to calculate by combination of these tools, using block chain tamper-resistant features, construction of personal credit is the foundation of the future more block chain products, at the same time can also be in the process of trusted computing, users with more personal privacy data calculation, makes the individual credit points more persuasive.

10.3 Cross-chain Payment Channel

TransX will issue a stablecoin,TUSD. and using the stablecoin on TransX to pay in TransX ecosystem, can obtain higher computing power. The use of stablecoins in the digital currency aggregation payment field is very extensive. Compared with other stablecoins, TUSD has the following advantages:

- Faster confirmation time.

- Higher TransX computing power reward.

- Stronger cross-chain settlement capabilities.

10.4 Accessing Polkadot Ecology

Accessing Polkadot network not only makes it helpful to build internet of blockchains, but also allows assets to complete simple payment operations through aggregate payment. When TransX accesses Polkadot, it will be able to access Polkadot's verification node, allowing it to provide consensus-level pooled security for TransX. With this layer of security support, transactions on TransX and stablecoin issuance can have sufficient security guarantees.