Commercial Infrastructure Blockchain Solution based on SWTC Public Chain

SWTC Whitepaper

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V1.0

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ABSTRACT

1.1 BACKGROUND

Since Satoshi Nakamoto introduced Bitcoin in its "A Peer-to-Peer Electronic Cash System", Bitcoin, the decentralized solution for the blockchain 1.0 technology, has generated tremendous repercussions around the world. People talk about the technical possibilities of total deregulation and decentralization are obsessed with the vision of “absolutely decentralization”. However, returning to the essence of technology, Bitcoin is a highly coupled chain of applications and underlying technologies. Its technical scalability cannot support most of the applications which is really needed to use decentralized solution. Although all kinds of colored coins have tried, none of them was commercially successful. The POW consensus allows only a throughput of 6-7 transactions per second that is far away from commercial applications.

As a result, Ethereum suggested the idea of building a public blockchain infrastructure, commonly known as “smart contract”. It is believed that building a public blockchain kernel which can establish DAPP on top of it, application scenario can be established easily. At the same time, Ethereum also suggest a revolutionized idea based on smart contract concept, which is "Code is Law". However, due to technical design limitation, the Ethereum cannot fulling support application operation. The largest application now in Ethereum is using Erc20 interface to issue tokens.

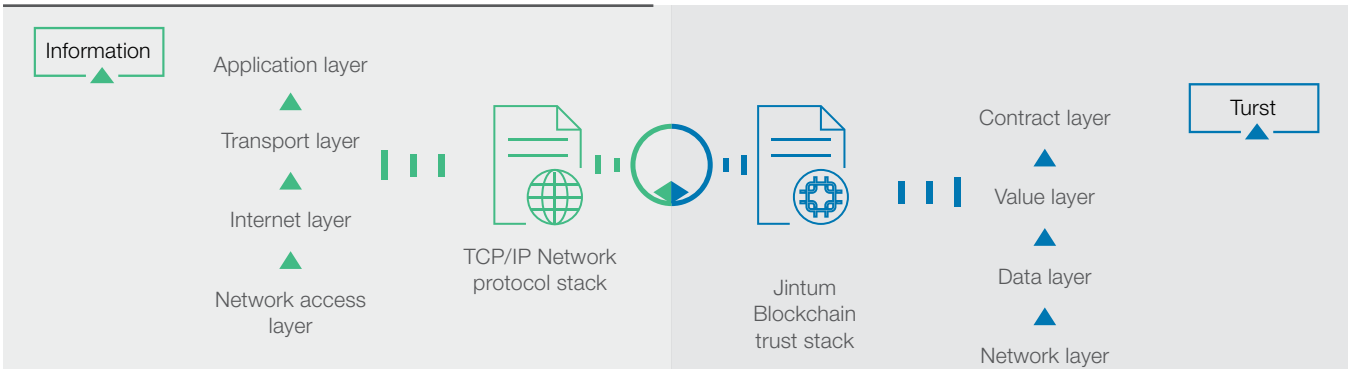
On the other hand, Ripple runs blockchains technology on traditional application scenarios. By issuing XRP, Ripple provides a new technology implementation for cross-border payment and redemption. By comparing with Bitcoin and Ethereum, Ripple has become a financial technology solution for traditional financial organization. It is not a public chain for scenarios application. The application scenario is also limited to apply cross-border payment only.

1.2 VISION AND MISSION

In 2011, Bitcoin was first introduced, and SWTC's entrepreneurial team studied Bitcoin's kernel technology “blockchain” as an emerging technology for changing the way of human society is organized in the future. In 2014, the SWTC Public Chain was launched to the market.

SWTC Public Chain had operated successfully for 4 years already, 10 million blocks height (as of June 2018), 5000 TPS in commercial public chain could be met. The vision of SWTC Public Chain is to provide a safe, valid, credible commercial blockchain environment. At the same time, The SWTC Public Chain is also positioned as a decentralized trading platform that accommodates a variety of digital assets.

· **Blockchain is the future value sharing network**



▲ SWTC Public Chain layer description

Classical Internet was greatly improved the convenience of information sharing in between people. However, when value sharing occurred between two strangers, they must rely on third parties for arbitration and intermediary and corresponding costs was needed to pay.

Blockchain technology firstly solved data source from multiple parties to be trustable and allow different data assets could be transacted. It could help to prevent “double consumption” problem, which could greatly reduce the cost of mutual trust in multi-party and boost the sharing of value in low cost. Value sharing scenario is similar to TCP/IP when comparing form knowledge sharing in classical Internet.

· Blockchain = Distributed Technology + token

Distributed technologies include distributed ledgers, distributed storage, etc., which are blockchain technologies that provide untamperable and multi-party trustable technical supporting. which shows blockchain adjust and improve in productivity. The token based on blockchain technology is to adjust all the relationships between natural people, institutions, objects (through the Internet of Things and sensors) linked into the blockchain. This includes the valuation of fuel and computing resources by the underlying public chain, as well as the processing medium for a series of relationships such as incentives, penalties, contribution measurement, and community building of various parties involved in economic activities. Token is an important way for blockchain technology to improve production relations.

Therefore, the SWTC Public Chain adopts a distributed technology based on the concept of effective decentralization and designs a natively supported SWTC (System Working Token China) token. In the SWTC Public Chain, it is the Gas and general token, while the SWTC Public Chain also supports the access to the real-world assets through the banking system and the corresponding distribution of multi-digital assets.

· Effective decentralization vs absolute decentralization

As the spreader of blockchain technology and the first successful application of blockchain technology, Bitcoin's pursuit of “absolute decentralization” has become the standard in the blockchain world. However, in real application scenarios, such as finance, philanthropy, food safety, transaction matching, etc., services provided by the centralized node (including government supervision, financial KYC, real name of charity, proof of origin of anti-counterfeiting, etc.) are part of the entire closed loop and indispensable. An absolutely decentralized blockchain can only serve a limited underground economic scenario. When more application scenarios are combined with blockchains, the application layer still needs to consider a variety of cooperation with real-world centralization organizations.

At the beginning, SWTC has been adhering to the philosophy of “effective decentralization” and has maintained cooperation with regulators in various technical designs, thus making real business applications more convenient.

· **SWTC Public Chain community prosperity is the core goal of public chain operation**

The SWTC Public Chain is open to all large corporations, SMEs, entrepreneurial teams and individuals, and these will be the backbone of the SWTC community. According to the characteristics of the SWTC Public Chain, all public chain-based applications will have the same SWTC wallet kernel technology and technically support the mutual sending of transactions and token. As a result, every new application scenario, newly-launched business, and newly joined individuals will be able to share value with users in existing communities.

The prosperity of the community relies on the possibility of facilitating the interaction between community members by using the SWTC Public Chain (through the SWTC wallet), establishing rules (through smart contracts), issuing token (through the gateway), and mutual diversion. The prosperous SWTC community will be the core goal of SWTC's public chain operations and will continue to propose and optimize various measures to achieve this goal.

1.3 TECHNICAL ADVANTAGES

· **Maturity: SWTC Public Chain is a maturely developed blockchain which main net is launched**

The kernel layer of SWTC Public Chain has been developed and launched, rather than just staying at the conceptual level. The design concept outlined in the technical architecture section has been implemented and effectively supports the underlying business applications. The SWTC Public Chain has been launched for 4 years and currently reaches a block height of more than 10 million.

The consensus mechanism of the SWTC Public Chain adopts an optimized BFT scheme — RBFT, which adopts a layered design in the architecture design to support the gateway system and smart contracts. Currently, tens thousands of times of cryptocurrency transaction can be supported, 10-second transaction rate, which facilitates the transaction confirmed in quickly. At the same time support SM series. The SWTC Public Chain can reach 5000 TPS in laboratory performance test.

Below is the blockchain technology comparison table between the SWTC Public Chain and other mainstream blockchains technologies,

	BTC	ETH	Hyperledger	Ripple/Stellar	SWTC
Consensus mechanism	POW	POW	Dip type	Consensus	RBFT
Multi-asset	×	Contract	Contract	Native support	Native support
Asset exchange	×	Contract	Contract	Native support	Native support
Smart contract	×	√	√	×	√
System performance	Weak	Weak	Good	Fair	Good
Number of nodes	Very much	A few	No public chain	Fair	Fair

▲ Comparison table of different blockchain technology

· Wallet and Transaction Gateway system: Supports the issuance of tokens

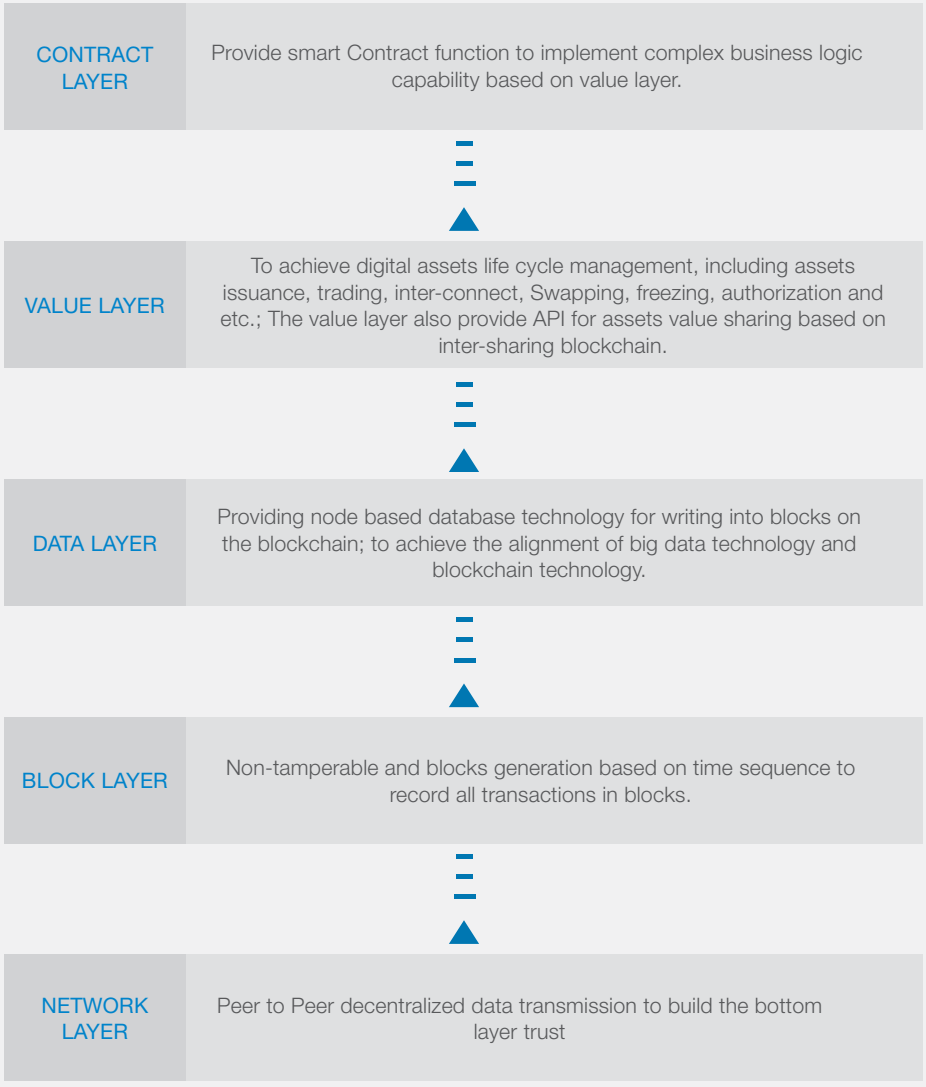
The SWTC Public Chain's transaction gateway system supports applications on the public chain can issue tokens themselves if they meet the creditable level. It should be noted that all the tokens issued from the SWTC Public Chain are natively supported by the SWTC wallet, and the transaction between tokens on SWTC Public Chain is also supported by the SWTC kernel, without the supporting from smart contracts. This greatly enhance the system operation which is one of the examples to show SWTC Public Chain provide a value sharing network in blockchain technology.

· Security: Prevent "DAO" events effectively by division of layers structure

The blockchain trust stack of the SWTC public can be divided into five layers, network layer, block layer, data layer, value layer and contract layer to fulfill the different business scenarios by using blockchain technology. The maturity of the development of blockchain is also a multi-level development maturity, not a single mature path. The blockchain itself is based on a layered design, and the maturity of each level is different. The corresponding blockchain products can be launched according to the maturity of the layer.

The “DAO” incident was happened in 2016, is a disaster in which the technology has not been fully tested and it was overload with too much commercial capital. This was caused by the smart contract leakage which was attacked from hackers and caused huge losses.

So, the SWTC Public Chain's multi-layer architecture can set up a firewall between the value layer and the contract layer. Even if there is a leakage on the contract layer, the value of the large amount can be protected by the value layer and prevent the loss.



▲ Diagram of SWTC Public Chain multi-later architecture

· Efficiency: Improved BFT consensus a lgorithm can improve transaction confirmation rate effectively

Blockchain is strong at decentralization, a transaction requires that most nodes in the blockchain network confirm that if they are valid before they can be packed into the block. This process is called the consensus of different nodes. The POW adopted by Bitcoin is commonly known as mining consensus, guaranteeing consensus and coping with the high cost of block generation and the algorithm that always recognizes the longest chain. The price is that a bitcoin transaction requires at least six blocks for an hour to be confirmed, and technically it is not the final confirmation.

Due to the introduction of the Ethereum smart contract, the consensus has become a key technology for smart contract confirmation. Since the Ethereum smart contract execution adopts the synchronous mode, using the transaction trigger or automatically triggering the contract call, when the contract is executed, the consensus mechanism of the blockchain must wait for the contract before executed, and return back to the result then resume the operation.

The SWTC Public Chain uses the improved BFT, RBFT to make a consensus on the transaction, by recalling the smart contract asynchronously at the same time. Through the use of these two technologies, each transaction is finalized and obtained within 10 seconds. This is the technical guarantee on commercial application.

	BTC	ETH	SWTC Public Chain
Transaction confirmation time	10 min	15 min	10 min

▲ Table of showing block generated time by different technology

· Open: The SWTC Public Chain provides complete jingtum-lib, API and SDK interfaces

The SWTC Public Chain provides complete jingtum-lib, API and SDK interfaces, which enable third-party organizations can quickly access to the SWTC Public Chain. After accessing, the “transaction” records on the chain can be visited, including other services accordingly.

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TECHNOLOGY ARCHITECTURE

2.1 CHARACTERISTICS OF COMMERCIAL PUBLIC CHAINS

· Reliable performance

TPS In order to implement the application of the business scenario, the TPS of the blockchain should meet certain standards. Performance metrics have always been the advantage of a centralized solution, but the underlying blockchain needs to be technologically innovative. Improve TPS without sacrificing decentralization. Possible technologies include fragmentation, asynchronous processing of smart contracts, selection of consensus algorithms, etc.

Concurrency: In a commercial scenario, multiple simultaneous users should be allowed to log in and use without performance latency issues.

· Final confirmation of the transaction

In the business environment, the confirmation of each transaction can no longer be modified. Untampering is the advantage of blockchain over centralization solutions. However, under the POW consensus algorithm, in order to become untamper, needs to go through six blocks for Bitcoin to obtain a probability confirmation, which means that the confirmation time for each transaction needs an hour. This is unacceptable for commercial scenarios. Therefore, the problem that the commercial blockchain should solve the final confirmation time which long will a transaction take which also mean, the transaction is accepted by the consensus algorithm and written into the block.

· KYC Regulatory and Privacy protection

Although Bitcoin appears as a completely anonymous aspect of “absolutely decentralize,” in the commercial environment, regulators, project operators, and users want their transactions to be under legal and regulatory protection. In this case, the completion of the corresponding KYC, especially in the financial industry, is an essential step. On the other hand, a mature blockchain also needs to greatly protect the privacy of users, to avoide the traditional

centralization and make the user data itself a controllable and monetizable asset of the user. The design of commercial public chains should be a balance in between.

Furthermore, a public chain is like an infrastructure. The operators in different application scenarios should be able to choose whether to share their user data with other application scenario operators when accessing and obtain the best services in both cases.

· Native support for digital asset issuance

It is believed that digital assets will become the most of revolutionary application scenarios on blockchain technology. Through the incentive and punishment mechanism, the distributed technology of blockchain and smart contracts will create a new way in human society production. Therefore, the native support of the public chain to the issue digital assets (referring to the underlying layer support, rather than through the smart contracts to execute) is an important feature in the public chain.

On the other hand, risk management is needed for token issuance through technology and operations management, such as possible credit pledges, issuance review mechanisms etc.

· Cross-chain function compatibility

Based on the previous, digital assets that are issued and traded on different blockchain platforms need cross-platform transactions and settlements. Therefore, cross-chain function supporting will become the standard configuration of the underlying technology of blockchain public chain in the near future.

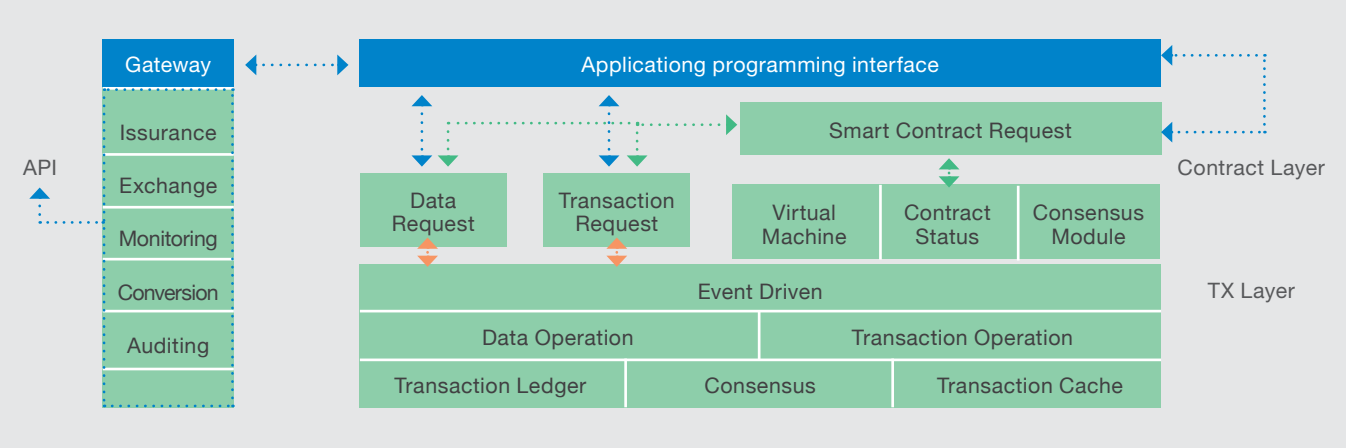
2.2 SWTC PUBLIC CHAIN DESIGN GOALS

The focus of SWTC Public Chain technology is a general-purpose blockchain platform for applications. It is designed to be a stable and user-friendly platform for enterprises and users. Thus, enterprises may easily access and enjoy the benefits of blockchain technology, without fully delving into the details of the underlying technology. Further, enterprises get a flexible option to choose if they share with their customers. Each new application will attract new customers to enter the ecosystem, and at the same time, applications exposure will be increased and in order to attract more customers. Such an ecosystem will lead to a positive that cycle realizing “all for one and one for all”.

2.3 THE ARCHITECTURE OF THE SWTC PUBLIC CHAIN

The born of SWTC Public Chain is to solve the problem of current blockchain technology. Different from Bitcoin, the SWTC Public Chain integrates smart contract originally. Different from Ethereum, the underlying blockchain adopts a more reasonable multi-layer method, which separates the execution of the smart contract from the transactions; this would avoid the problem of contracts affecting the whole system and allowing more flexible implementation of smart contracts.

The SWTC Public Chain technology architecture is shown as below,



▲ tructural diagram of SWTC Public Chain

The architecture of SWTC Public Chain is as follows:

1. Instead of using POW, which results in wasting of resources, SWTC Public Chain adopt RGFT to reaches TX consensus; besides, it has high-speed parallel processing capability and supports mass users.
2. SWTC Public Chain is multi-layered, the underlying layer is called TX Layer, which is responsible for handling the most basic transactions. The layer above, called the Contract Layer, deals with contracts. The elements of the contract (code, state, storage, transaction) are separated: the transaction part is transferred to the TX Layer and executed; Other parts are executed in the Contract Layer. This architecture can help to separate the execution of the contract from the resulting transactions, hence allowing the contract and transaction to match the corresponding protocols due to corresponding characteristics to achieving maximum efficiency and security.
3. To meet the increasing of requests for data supporting in blockchain applica tions, the SWTC Public Chain support BLHR (block level hash record), which enables users to save data identification to the blockchain easily.
4. In order to improve the processing power in the whole system, sharding is adpoted to the consensus node, so that not all nodes are required to do the same thing. Instead, for each transaction, a node is selected automatically and randomly to process the transaction. Not only increased processing power by using many nodes, which can maintain sufficient fault tolerance, but also, this significantly reduces the information flow between networks and improves the overall efficiency of the network.
5. When a contract is created, the user can identify the number of consensus nodes and the conditions. A user can manage the balance flexibly between the cost and reliability. Besides, the Contract Layer could be more efficient to handle more contracts. By this sampling, the security of the contract system will not be affected.
6. The execution speed of the smart contract is coupled with the ledger close speed in the TX Layer. The change in contract status depends on the consensus rate of the contract nodes.

2.4 DATA PROCESSING

Blockchain is tamper-proof. All blocks are linked together to become a single chain by historical correlation - once a data is recorded, it cannot be tampered. Direct modification of the data results in invalidation of subsequent blocks. Thus, this feature is widely used in areas of data security, identification etc.

The typical usage of this feature is to store some of the information in the metadata. Once a transaction is executed and stored into the blockchain, those metadata is also permanently recorded. However, there are several disadvantages with this method:

1. Execution needs transactions, some of the amount must be transacted, on the other hand, the transaction requires a digital signature. Therefore, the data record must correspond to a user account or wallet, and the corresponding private key information needs to be accessed.
2. The stored macro information is dispersed in every transaction, and every transaction must be traversed to search for it.
3. The process of data storage must be confirmed by transaction confirmation to process.

According to this, SWTC Public Chain supports BLHR (block, level, hash, record). Users may submit information that needs to be saved directly to the block. Each block has a single location to hold dedicated information. If a user's information is historically correlated, description of this correlation is needed to be provided by himself - the block does not need to understand the application logic and just merely needs to record the storage request. When each block is closed, the system automatically records all the BLHR information into the block.

2.5 RBFT CONSENSUS ALGORITHM

Traditional transaction relies on provision of trust and cryptographic signatures between third parties from third party. However, in a distributed system, there is no such trust because all the identification in the network is in a state of mutual unknown. In an ideal distributed system, the consensus mechanism is constrained by CAP.

According to CAP Theorem, in a distributed system, Consistency, Availability and Partition Tolerance cannot be obtained at the same time. Therefore, it is important choose a proper consensus in different applications. Data consistency can be obtained by consensuses. The common consensuses for blockchain-based systems are POW, PBFT, POS, etc.

· Proof of Work (POW)

Bitcoin and other similar coins use “mining” to ensure that each node selects the same blockchain. Their approach is to make the generation of each block very expensive, meanwhile, the protocol guarantees that all nodes agree to choose the longest chain, so even when the blockchain has broken, the system can still converge to the longest one and abandon the shorter ones quickly. For long term, the blockchain is unique.

· Proof of Stake (POS)

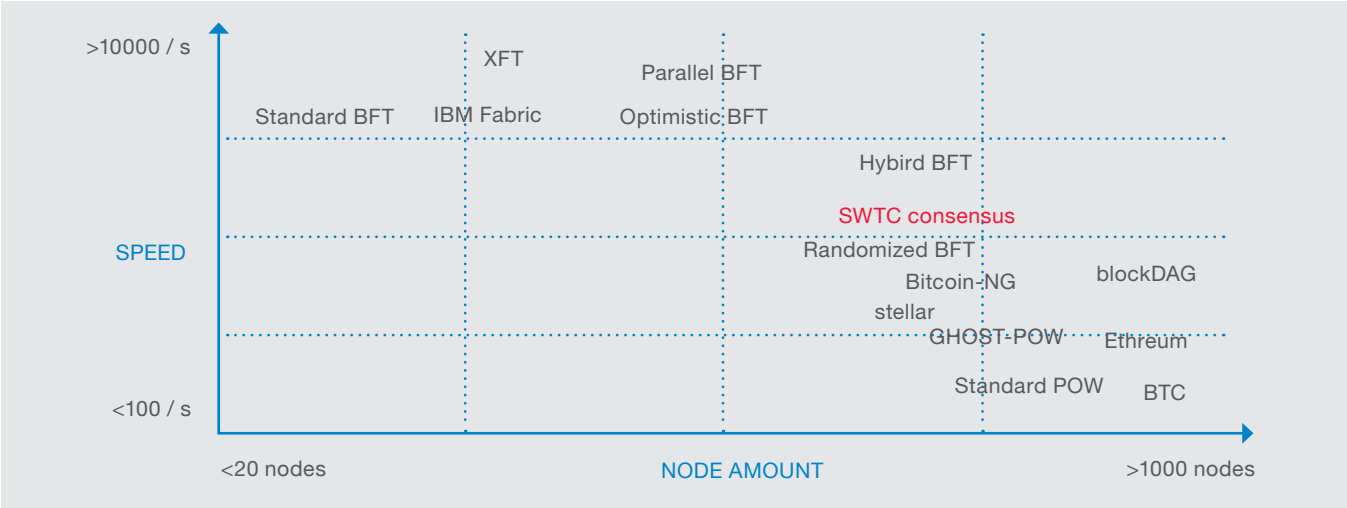
Considering POW's high consumption and other weakness, as an alternative solution, POS is being attended. Peercoin was the first cryptocurrency to use it, which approach is that each node verifies the transactions in the system by the proportion of shares held by each node. It is because everyone is a stakeholder in the system, the rational participants should maintain the system operation. The exact details of each implementation of POS are different.

· Practical Byzantine Fault Tolerance (PBFT)

Multiple nodes consensus method is adopted to ensure that each block is voted by everyone. The problem of Byzantine Generals can be mathematically solved. Theoretically, 1/3 fault-tolerant rate in the system can be guaranteed.

· SWTC Public Chain consensus algorithm — RBFT

The SWTC Public Chain technology uses a self-owned proprietary BFT consensus algorithm. Under PBFT mechanism, there is a concept called view. In a view, there will be primary node (replica), and the rest of the nodes are called backups. The primary node is responsible for ordering the requests from the client and then sending them to the backup nodes in order. This primary node of PBFT has more rights than other nodes, and if it has a problem, it will cause a relatively large delay in the system. In RBFT, this point has been improved. Referring to the mechanism of election in RAFT, voting is adopted, and there is no need to snatch the accounting right to ensure the fairness of the rights of each node.



▲ Comparison diagram of showing node performance from different blockchain technology

Subject to the real environment in commercial use, the objective physical environment and subjective commercial willingness and goals are constrained: The SWTC Public Chain refers to the external field early evaluation (identification module, supervision sandbox module) and network real-time monitoring (risk probability model evaluation), which can theoretically guarantee the fault tolerance rate of 1/25 in the system.

· Consensus node

The consensus protocol of SWTC Public Chain adopts Randomized BFT. However, SWTC Public Chain selects the validating nodes by POA (Proof of Application). The core part of SWTC Public Chain contains several validating nodes that maintain the underlying validating network for the system. This network opens for every application on SWTC Public Chain access. DAPPs on SWTC Public Chain refer to the applications based on SWTC Public Chain for specific users. These applications can directly access to the public SWTC Public Chain through the API provided by the SWTC Public Chain. These applications can help to validate.

Two functions may be implemented:

1. It is involved in the consensus of public nodes in the network on the SWTC Public Chain. It allows applications to connect to the network of the SWTC Public Chain. If the application itself deploys a private chain, this node can convert the user's private token to SWTC tokens.
2. If an application only uses API to access to the blockchain, there is no need to deploy a single authentication node.

When a user's private chain is connected to SWTC Public Chain, usually, a gateway is required to implement the issuance and conversion of the user's token.

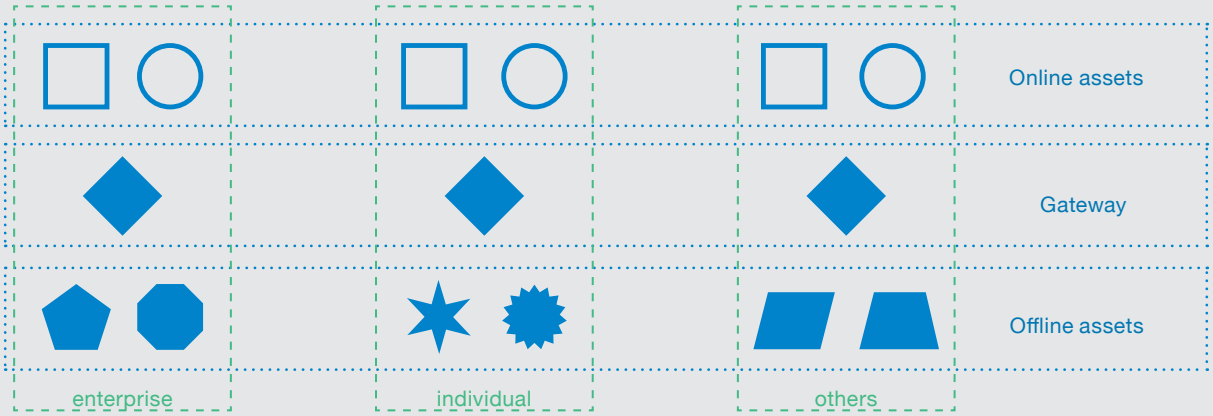
2.6 GATEWAY AND USERCOIN

· Support for digital asset qissuance and trading

The SWTC Public Chain supports not only the SWTC token, but also "usercoins". A usercoin can be regarded as a user-defined token of digital asset, and its issuance is initiated by a qualified third party, which is required to pass a compliance and risk assessment of the SWTC Public Chain. After that, the third party is eligible to issue its usercoin on the SWTC Public Chain. The usercoin is issued through the gateway. The issuer is responsible for its conversion. Once the usercoin has issued - it can be paid, circulated and transferred freely within the ecosystem on the SWTC Public Chain, similar to SWTC tokens, without further intervention by the issuer. However, the con-version of usercoin must be done through the gateway.

The SWTC gateway is the interface for a third party's assets on the SWTC Public Chain. The assets from the third party may enter the network to the SWTC Public

Chain through the gateway, and the corresponding usercoins are issued. If users wish to convert their assets, this is also done through the gateway.

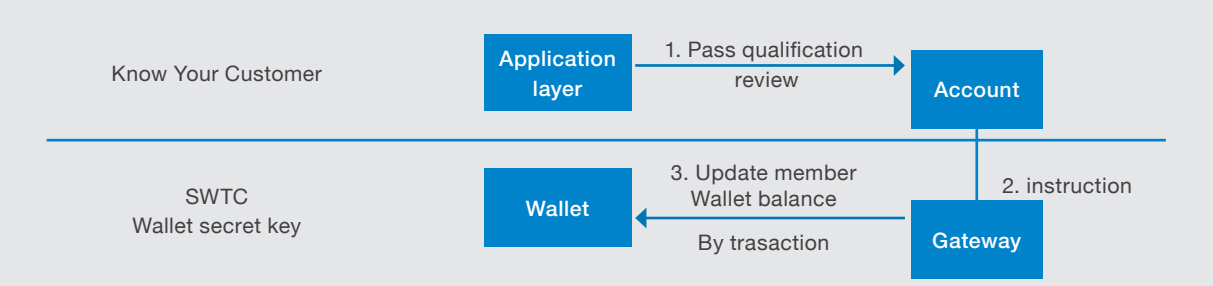


▲ Diagram of SWTC Public Chain Gateway and Usercoin

· Support for KYC and anonymous transactions

Another usage for gateway, is to provide a barrier between the application scenario operator and the underlying SWTC blockchain. Operators can choose whether they need to share customer information with other applications. Therefore, under the overall technical framework, the operator will complete the user KYC work and map it to the SWTC wallet public addresses on the SWTC Public Chain. Its mapping relationship is saved in the application layer.

Under this architecture, user privacy is still anonymous and protected at the block-chain level for users. Similar anonymous transactions can be made if needed. But when regulations and laws are needed, investigations can be made through the gateway supervision against money laundering or under other financial and legal regulations.



▲ Diagram of showing asset issuance

2.7 SMART CONTRACT

Due to the introduction of the Ethereum smart contract, the consensus has become a key technology for smart contract confirmation. Since Ethereum smart contract execution uses a synchronous approach, using transaction triggers or automatically triggering contract calls. When the contract is executed, the consensus mechanism of the blockchain must wait for the contract to be executed and after returning the result, it can continue to operate. Thus, completing a consensus on the current block.

On the other hand, the SWTC Public Chain's smart contract implementation uses three mechanisms: hierarchical, asynchronous, and fast execution. The purpose is to ensure the efficiency of the consensus implementation of smart contracts and thus to ensure the commercial viability of the SWTC Public Chain.

· Hierarchy and smart contract

The implementation of the smart contract system on the SWTC Public Chain is as follows:

1. The TX-driven approach is adopted. Transactions initiate the contract deployment and contract function call. If a user's balance needs to be modified during the execution, a transaction will be initiated and sent to the TX Layer. All these transactions will be executed and validated in TX Layer, and recorded in the underlying blockchain.
2. Transactions in the TX layer are not affected by contracts.
3. Transactions between TX layer and Contract Layer store the code status of contracts. The status of contract refers to the call and parameters of the corresponding contract function. The TX Layer status ensures the consistency of information in Hash.
4. The execution of the Contract Layer is performed by multiple contract nodes (contract validator), to ensure consensus can be executed in a deterministic way.
5. Each contract node uses VM to execute codes.
6. The contract node preserves the storage of the contract execution.

Based on this hierarchical design, the SWTC Public Chain is further optimized by using asynchronous contract calls. Based on this concept, the SWTC Public Chain implements fast call and return of contracts and allow users to perform smart contracts with sharding. Not all the nodes are required to do the same thing, which improves the processing capability of the whole system.

· Asynchronous call of smart contract

The current execution of Smart Contract is synchronous, and the contract call is triggered by transaction or automatically. During the execution of the contract, the consensus mechanism of the blockchain must wait to complete the current block until all contracts processed and callbacks are returned.

This method of execution for smart contracts has the following weakness:

1. The speed of contract execution seriously affects the generation time of the block:
   Since the block consensus depends on the contract execution results, each node must reach a consensus about the consistency of the contract results. Therefore, the speed of the contract execution directly affects the subsequent operation, and any delay in contract execution would also delay the block generation time.
2. The speed of contract execution severely affects contract concurrency supported by the blockchain:
   If the generation frequency of the blockchain is fixed, in the same period, the execution speed of a contract will directly affect the execution of the other contracts in the same block. In extreme cases, a malicious contract may cause the system unavailable to other contracts, and the number of concurrent processing contracts could be greatly reduced.
3. The ability of fault tolerance is limited during the execution of contracts:
   Since adopt the synchronous execution method, during the contracts execution, a variety of error situations should be considered, and the fast processing of all kinds of time-sensitive operation should be proceeded. For example, the timeout situation of a variety of operations should be processed accordingly.

Some of the existing solutions, such as Ethereum, adopts a “gas” method, estimating computational demands of every contract, thus controlling the total amount of computation supported by the current block according to the gas

limit. The total number of execution supported by the system is restricted by the gas limit. As the contract gets more and more complex, the number of contracts supported by the whole system is decreasing - in addition, the Ethereum consensus time is limited, and the gas limit cannot be significantly increased.

According to the problems in the existing Smart Contracts executions, SWTC Public Chain provides a block-crossing asynchronous call contract system, which does not depend on the contract execution results. It can increase contract executions and the number of contracts supported by blocks, i.e. improving the capability of fault tolerance.

SWTC Public Chain's asynchronous call contract system includes the following units:

1. The distributed system validating unit:
   It consists of one or more service nodes and several validating nodes that receives the transaction request set TX submitted by users, including the contract call request TX and the payment request TX.
2. The distributed contract execution unit:
   The local or remote distributed system execution unit communicates with the distributed system validating unit through a predefined protocol, to obtain the information required by the contract execution, and return the results to validating node when the execution of the contract is done.
3. The contract execution cache unit:
   It includes receiving the contract calls from the validating node; sending contract call request to distributed contract execution unit; receiving the contract execution results; returning the execution state of the current contract to the validating node, and completing the asynchronous contract call.

The system is implemented as follows:

1. The service node receives the transaction request TX submitted by the user. Each verification node collects the mentioned TX and aggregates them into a set of transaction requests {TX}i;
2. The contract call request contained in {TX}i is sent to the contract execution cache unit. The contract execution cache unit returns the current contract execution status immediately after receiving the above request;
3. After all the verification nodes receive {TX}i, {TX}i completes the consensus on all verification nodes. Block i is generated. The verification node verifies the {TX}i after that, and the verified state will be written into the block i; At the

same time, each verification node creates a query contract TXq and adds it to the transaction request set {TX}(i+k) of the block (i+k);

4. When performing 1~2, the contract execution cache unit sends the contract call request to the distributed contract execution unit by means of asynchronous call and background processing. After the execution is completed, the contract execution cache unit obtains the final result of the contract execution and waits for processing;

5. The block (i+k) processing period begins, and the contract call request contained in {TX}(i+k) is sent to the contract execution cache unit. The contract execution cache unit immediately returns the current contract execution status. At the same time, the verification node extracts the contract related information from the query contract TXq and issues a query request to the contract execution cache unit. The contract execution cache unit returns the execution result of the contract call request of the block i to the verification node, and updates the query contract TXq;

6. After all the verification nodes receive {TX}(i+k), the updated query contract TXq and {TX}(i+k) are combined to form a new set. After all the verification nodes complete the consensus, the block (i+k) is generated, the verification node verifies the consensus TX, and the verified state is written into the block (i+k).

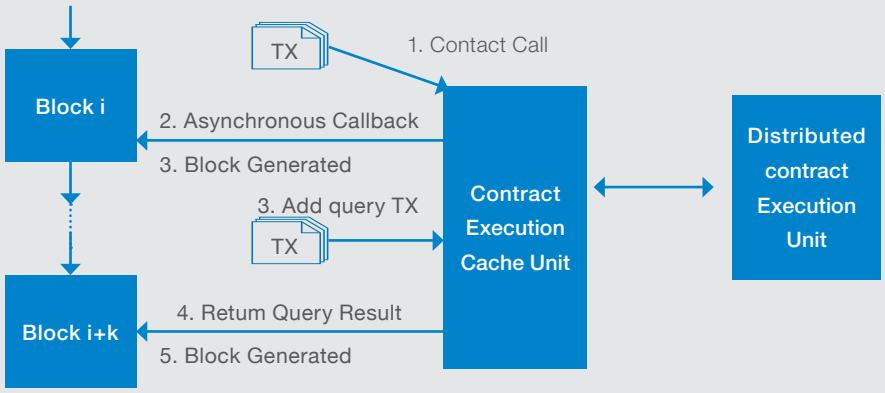
The blockchain system of SWTC Public Chain uses asynchronous calling as its back-end core technology. Compared with the existing Smart Contract execution technologies, it has the following advantages:

1. It isolates the contract execution from the system consensus unit, the execution of contracts can be remoted, so that the execution of contracts no longer holds the resources of the system consensus;

2. It decouples the contract execution unit and the system consensus unit, to make the contract execution module and consensus module relatively independent and support pluggable.

3. It sets up the contract execution cache unit between the consensus validating unit and contract execution unit, adopts the asynchronous execution mode in the whole execution of the contract innovatively, implements the contract call and cross-blocks execution (between blocki and blocki+k), with the consensus among validating nodes. This asynchronous contract execution mode improves the executions concurrency of contracts, avoids waiting for the execution results of the contract during the consensus process, greatly increases the number of contracts supported by the block.

4. It improves the fault tolerance of the whole system. the system can set up an appropriate timeout handling mechanism to deal with the delay of the contract; on the other hand, the user could configure appropriate K value in the contract call to ensure it can be handled appropriately under long term execution.



▲ Diagram to show asynchronous usage of smart contract

· Fast smart contract transactions

The existing Blockchain-based distributed transactions are restricted by the consensus protocol, the generation time and the size of blocks. Blockchain-based transaction speeds are usually measured in seconds or even minutes. Below are some other disadvantages:

1. The transaction requests delay is happened in the distributed system, i.e., the transmission delay between the single node initiation and propagation of the whole network.
2. The consensus process delay is happened. The update of data must be written to the ledger after the completion of consensus, this kind of writings is intermittent, and each validating cycle is updated. The update of data requested by users must be responded and returned after the cycle update.
3. The existing smart contracts are not only affected by the two points above, but also by the delay in contract execution.

Some of the existing solutions, such as lightning network and tunnels on Bitcoin to speed up the processing of trade request, either their protocols

are complicated, or the non-Byzantine fault tolerance is adopted. Hence, the extensive application of these solutions is limited.

SWTC public blockchain implements a fast-smart contract transaction system. Based on the asynchronous calls of contract, it divides the contract nodes into two types: normal transaction contract node and fast transaction contract node. The former one communicates with the validating nodes by a predefined protocol, then accesses required information in contract execution, and returns the results to the validating node after the execution of the contract is completed; the latter performs fast transaction request and returns results to the smart contract access server.

The implementation of fast smart contract call is as followings:

1. Fast transaction initialization
   Two or more users who want to use smart contract make the agreement and create a smart contract, initiate a fast-smart contract initialization transaction request tx, smart contract access server propagate the transaction to validating nodes, and create a transactions group. Then validating nodes start to make the consensus and send this transactions group to all the contract nodes after the consensus process is finished. According to the predefined PBFT protocol, a Fast Smart Contract Transaction Node (FSCTN) will be selected by the distributed randomized algorithm.

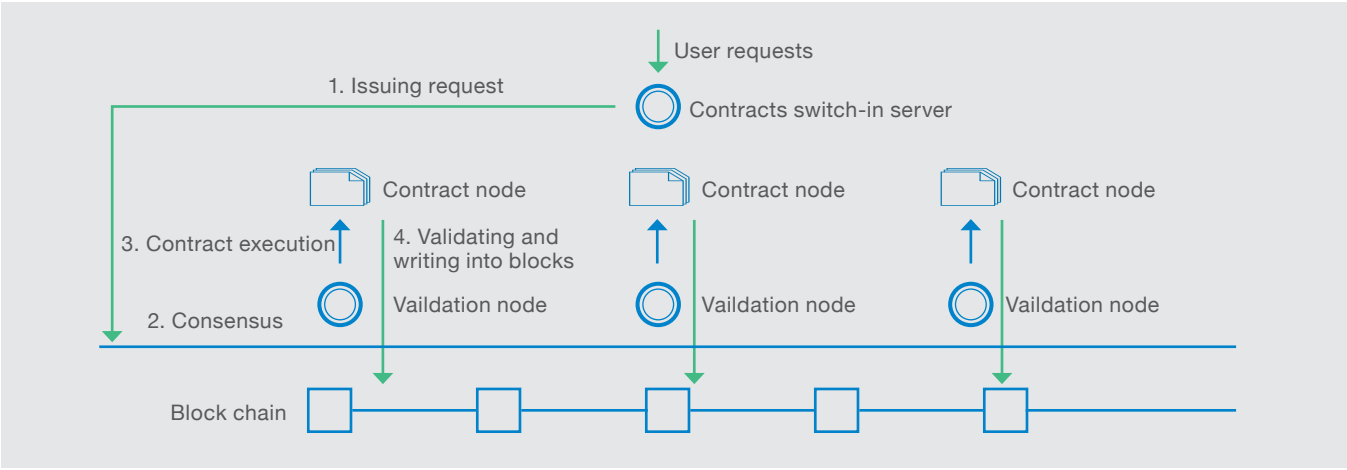
2. Fast transaction implementation
   A user initiates a fast transaction execution request, smart contract access server forwards the request directly to FSCTN, the node will execute the request, and return the transaction result to smart contract access server. At the same time, the server will record the transaction status, and store the transaction history since last confirmation. The transaction message with FSCNT could be asymmetrically encrypted or symmetrically encrypted in order to hide the transaction information except for the user and the current FSCNT. A user can send enquiry to the smart contract access server for the transaction status and history.

3. Decentralized Confirmation of fast transactions
   Under multi-signature confirmed transaction, user can send confirmation request tx to unconfirmed transaction periodically (e.g., 10 min, 1 day, or 1 week) or non-periodically. The confirmation transaction is combined with unconfirmed smart contract transactions history, which changes the state since last confirmation and generates a state-exchange transaction.

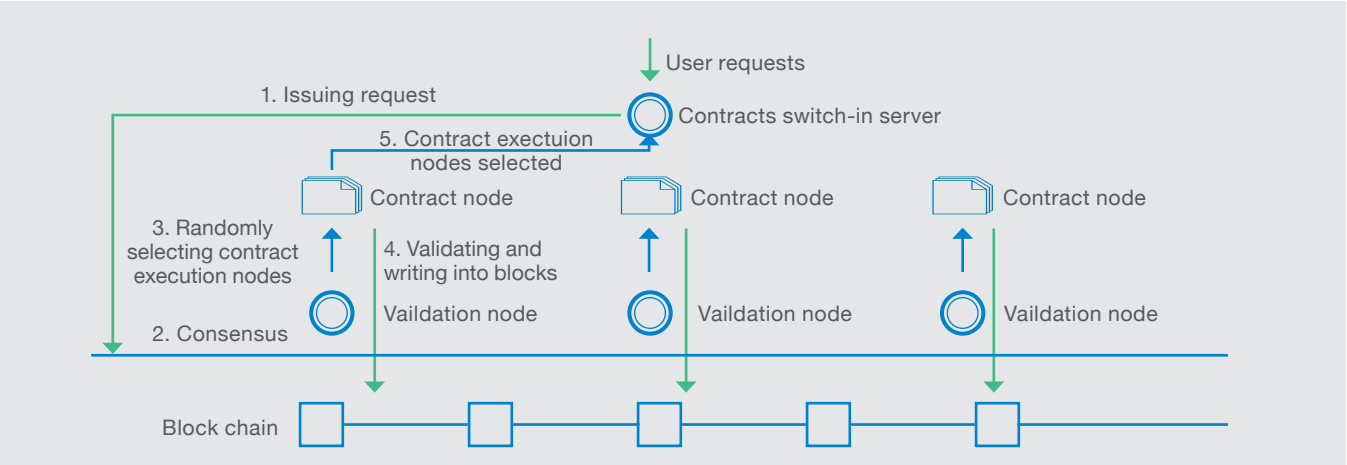
Smart contract access server sends the state-exchange transaction to the validating node, then validating node will do the consensus with all the transactions, and then send smart contract transactions to correspond contract node. The finished execution result will be confirmed by the validating nodes and written into the blocks with other transactions. Then the execution result will return to the user, realizing Byzantine Fault Tolerance since the validating nodes achieve the consensus based on transaction history.

When the user repeats step (2) and selects the next fast trading contract node, the transaction history of the original fast trading contract node will be cleared.

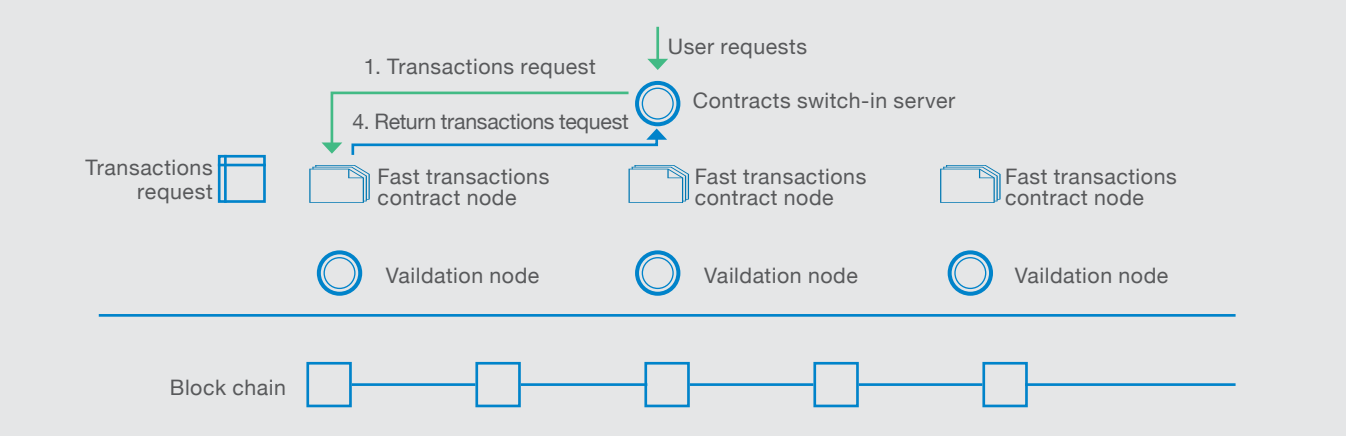
So, SWTC public blockchain is divided into independent Contract layer and the underlying TX layer. Fast transactions are initiated in the Contract layer and are executed there. The fast execution results are returned to the underlying layer, TX Layer, and then be validated and written to the blockchain periodically or non-periodically. The transaction execution is not affected by the closing time of the block, the block size, and the distributed network communication. SWTC public blockchain has the inherent advantages of distributed blockchain, overcomes the delay phenomenon existing in the transaction process and communication, consensus and contract execution process of the current blockchain transactions. As a result, it realizes rapid support for trading in near real time, maintains the Byzantine fault tolerance in the trading system, as well as hide and encrypt the transaction details, and maintain the consistency and integrity.



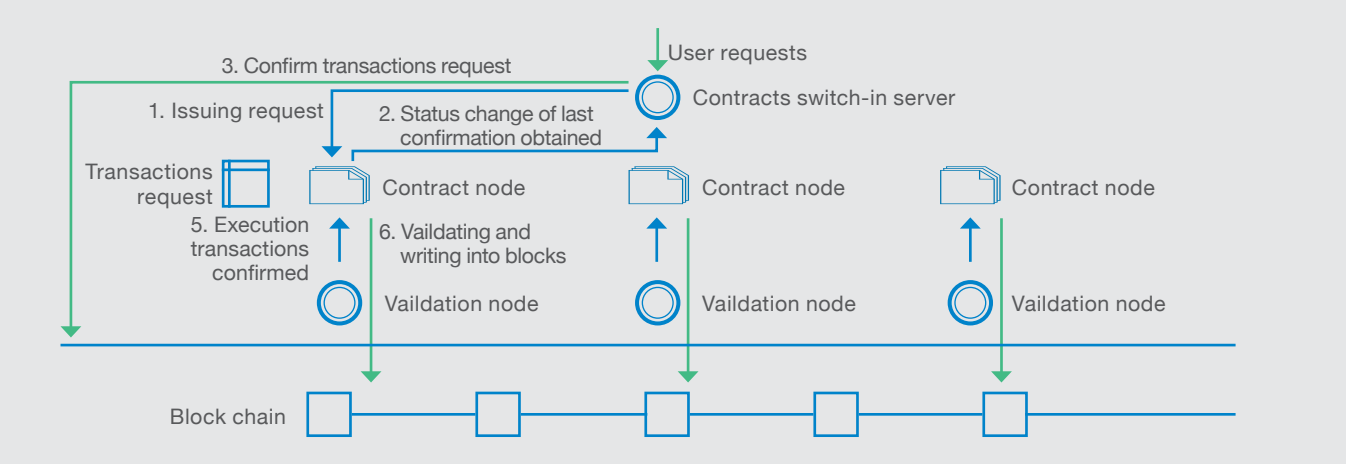
▲ Diagram to show fast transaction initiation



▲ Diagram of to show fast transaction execution



▲ Diagram to show historical fast transaction sharding confirmation (1)



▲ Diagram to show historical fast transaction sharding confirmation (2)

2.8 SHARDING

The fast transaction in smart contract can be regarded as a particular case of sharding. In general, the selection of the execution nodes of smart contract is an implementation of sharding technique.

In addition to the fast transactions described above, if the information synchronization between multiple smart contract nodes is implemented by predefined BFT protocols, then the consensus can be reached among them. Of course, if it is adopted, the processing efficiency of the smart contract will be reduced, but when comparing with the usual situation that all nodes deal with a contract at the same, there is still a significant improvement.

2.9 CROSS-CHAIN TECHNOLOGY

This section will introduce the details of the SWTC blockchain and Ethereum collaboration and how do they implement atomic exchanges between tokens from these blockchains.

Assume that in the SWTC network, there is a user who wants to use the token J on the SWTC Public Chain to exchange Ethereum's pass token T. The specified format for price, quantity, and recipient address: Order: J->T, p, v, T2.

This request is submitted to Smart Contract SC1 with appropriate authorization and submitted to the ledger.

A user in Ethereum wants to sell token T to obtain token J from the SWTC network. The parameters are as follows: Order: T->J, p, v, J2.

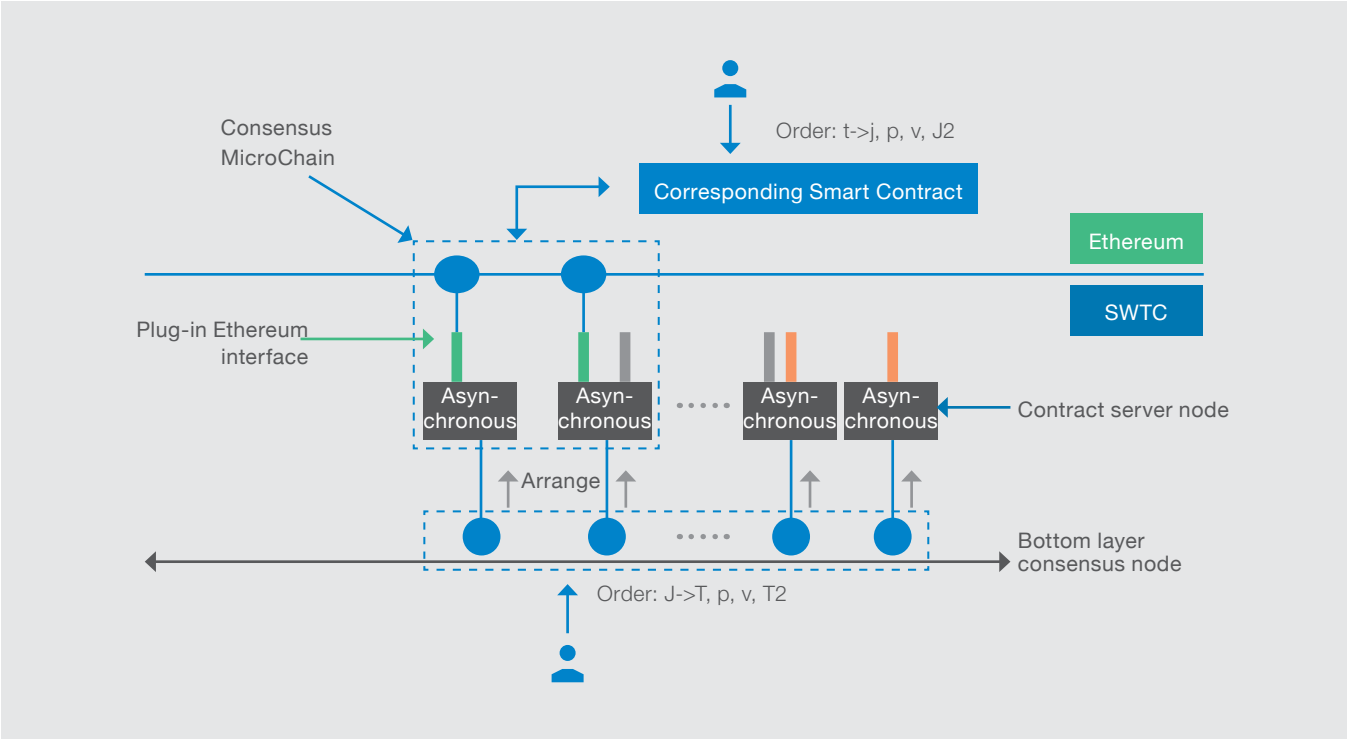
The order is submitted for deployment to Ethereum, Smart Contract SC2 with appropriate authorization.

SWTC Public Chain asynchronous contract server has pluggable stubs connected to the Ethereum public chain. These servers will use an optimized consensus algorithm to form a consensus MicroChain. These contract servers will monitor Ethereum's activities and add orders to the artifact.

The verification node in the SWTC Public Chain system will find the matching transaction T < - > J. It will generate a proposal {J1-> Js int Js-> J2 T1-> T int Ts-> T2 Js is the address of SC2 and Ts is the address of SC1. int( ) is the intent transaction to be executed.

J1> Js will be traded on the SWTC Public Chain network, and T1->Ts will be traded on the Ethereum network. The MicroChain will ensure that the two transactions have occurred and can be verified, which can be done by the nature of the asynchronous call. It is usually necessary to wait for the block to confirm the time period, which can be defined by the user.

Each contract has to wait to ensure that the transactions on both sides are completed, and then each will complete the Ts->T2 or Js->J2 transaction. This is done in a deterministic way. At the same time, for any reason, if the system is unable to match the transaction, the contract will be refunded to the original user. The illustration is as follows:



▲ Diagram of showing cross-chain transaction (SWTC / Ethereum)

2.10 MAIN PERFORMANCE INDICATORS

By using the above technologies, the technical performance of the SWTC Public Chain can achieve the following indicators:

- Nearly 10,000 TPS (concurrent laboratory test)
- 4 million concurrent users
- Usually a block of 10 seconds, the limit state can be achieved in seconds

SWTC FOUNDATION

III

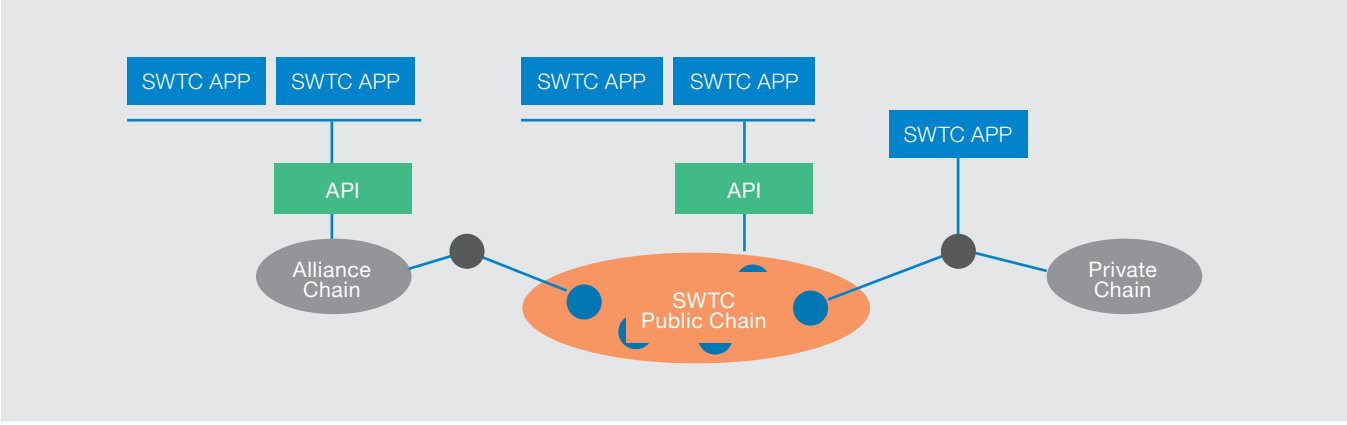
SWTC PUBLIC CHAIN ECOSYSTEM

3.1 SWTC PUBLIC AND MICROCHAIN

As the blockchain technology is gradually accepted by the society, it can help to show the technical realization of social governance, internal management, information sharing and value sharing among enterprise alliances, and different types of blockchains have emerged. Beside Public Chain, there is consortium blockchain and private blockchain, which is similar, will have their own application scenarios.

The consortium blockchain is suitable for the scenarios involving the nodes in large-scale enterprise involving confidential data interaction and high-value asset exchange. The private blockchain is suitable for the multi-international enterprise to share information and incentives in different nodes internally. Comparing with network technology, the consortium blockchain and the private blockchain are similar to the LAN and the intranet accordingly. Data will be exchanged in between public chain sometimes.

By using the SWTC technical architecture, consortium and private blockchain can be built under the SWTC Public Chain. During that time, SWTC token will become the GAS for consortium and private blockchain and transaction unit for cross-chain settlement serving. By using the gateway technology and other cross-chain technologies, the SWTC public blockchain, the consortium blockchain, industry blockchain, special application scenario chain and private chain of different organizations can all be connected. At this moment, the connected chain can be regarded as a MicroChain inside the SWTC Public Chain logically. Base on the same technique, information interaction and value sharing can be easily accomplished (through SWTC as the media). the MicroChain will get its own authority to set its access mode on its own chain. They can their own token based on SWTC wallet and gateway technology.



▲ Diagram of SWTC Public Chain ecosystem

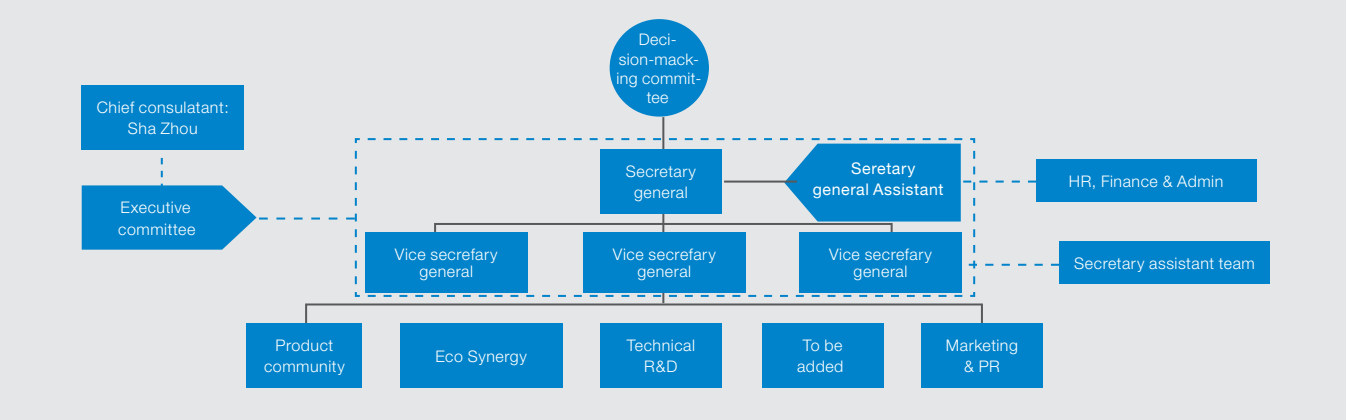
When multiple organizational consortium blockchain, industry blockchain, and MicroChains of special application scenarios use SWTC technology and access the SWTC Public Chain, they will form a larger ecosystem. In the ecosystem, information exchange and value transfer can be carried out between different MicroChains, between MicroChains and SWTC Public Chains. The SWTC Public Chain will provide cross-link transaction matching, confirmation and settlement, and SWTC will become a commonly accepted settlement unit in all ecosystems, and undertake the functions of value conversion, storage and transaction within the community.

3.2 SWTC FOUNDATION

The SWTC Foundation (hereinafter referred to as the "Foundation") is a globalized non-profitable organization to serve SWTC blockchain ecosystem. The Foundation commits to the SWTC blockchain ecosystem development, management transparency and promotion, and hence the ecosystem will grow up safely and harmoniously. The SWTC Foundation manages the community on behalf of all SWTC holders, with a core mission of prospering the community. The SWTC Foundation includes Decisive Committees, Executive Committees and different groups.

· SWTC Foundation Management Structure

The SWTC Foundation Management Structure includes operational processes and rules for day-to-day work and special situations.



▲ Structural diagram of SWTC foundation

· **Decisive Committee:**

The functions of Decisive Committee include hiring and dismissing the Secretary-General and the heads of various functional committees, making important decisions, holding emergency meetings, etc. The members of the Decisive Committee are appointed for a period of two years.

After the expiration of the Decisive Committee, the community will vote for 50 community representatives by the amount of SWTC token and holding period, to select the core members of the seven decisive committees. The selected core staff will make important and emergency decisions on behalf of the SWTC community and will need to accept credit investigations and publicize the payroll during their tenure.

· **Executive Committee:**

The Decisive Committee consists of an Executive Committee consisting of the Secretary-General, the Deputy Secretary-General, the Assistant Secretary-General and the Assistant Group of Secretaries. The Secretary-General and the Deputy Secretary-General are elected by the Decisive Committee and are responsible for the management and daily operation of the SWTC community, the coordination of the work of the subordinate committees, and the Decisive Committee meetings. The Secretary-General and the Deputy Secretary-General regularly report to the Decisive Committee on progress.

· **Product Community Council:**

The Product Committee council is responsible for the overall design of the community, as well as the introduction of relevant partners, etc.

· **Technical Committee:**

The Technical Committee consists of core developers responsible for the underlying technology development and review, product development and auditing. In addition, the technical committee holds weekly project tracking meetings to communicate needs and project progress. Technical Committee members need to understand community dynamics and hotspots, communicate with SWTC holders in the community, and hold technical discussion conference from time to time.

· **External Ecological Collaboration Committee:**

The External Ecological Collaborative Committee is responsible for product community promotion and business cooperation.

· **Financial HR Administrative Committee:**

The Financial HR Administrative Committee is responsible for the usage and review of project fundraising, developer payroll management, daily operating expenses and audits.

· **Marketing and PR Committee:**

The goal of the Marketing and PR Committee is to serve the community, promote SWTC products and services, and promote open source projects. The committee is responsible for the publication of all community announcements and cooperation with the media.

· SWTC Foundation's risk assessment and decision-making mechanism

The SWTC Foundation requires annual safety assessments for the sustainability of blockchain projects in order to develop and improve risk management systems. The assessment includes project quality, project schedule, project application, such as smart contract and simple contract application, threat identification analysis, management measures assessment analysis, risk definition, disposal and other stages.

According to the characteristics, degree of impact, the scope of the impact, number of tokens affected, and the probability of occurrence, the Foundation will make decisions accordingly. For those high-prioritized events, related committees in the Foundation will make decisions as soon as possible. Event categories can mainly be divided into management issues and technical issues.

For the Foundation normal management issues, the members in the Foundation will hold meeting to discuss and make final decision by the Finance and HR Management Committee and the Decision Committee together.

The technical issues in the SWTC community and the usage of funds raised are decided by the Decisive Committee and the Executive Committee. The Decisive Committee has the power to decide. The Executive Committee's opinions will be used as a reference.

Decisions on emergencies (e.g. events that affect the entire community, software security, system upgrades, etc.) are reviewed by the Technical Committee and submitted to the Decisive Committee through the Secretary-General. The Decisive Committee

adopts a privileged mechanism to implement the decision in the community. The Foundation will use a voting mechanism to avoid disagreements. If there is a disagreement, the weight will be calculated based on the number of SWTCs held by the members and holding period.

· **Application deployment on the SWTC main net**

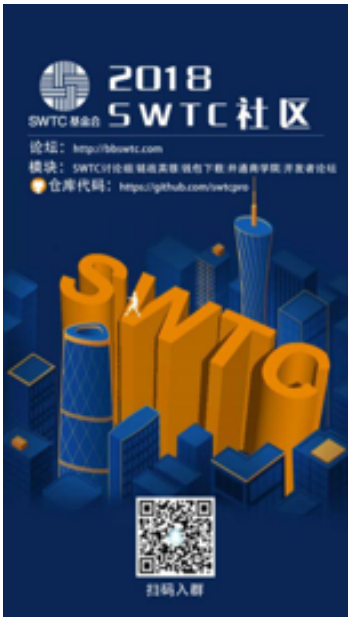
contact@swtc.top

· **SWTC Foundation information distribution channel**

www.swtc.top

3.3 SWTC DEVELOPER COMMUNITYCOMMUNITY

The SWTC Public Chain adheres to an open attitude. It will gradually become open source and encourage excellent technology developers to use it. The SWTC developer community welcomes all technology enthusiasts who are interested in blockchain technology to participate with incentives.



◀ Diagram of SWTC community

3.4 SWTC PUBLIC CHAIN SUPPORT CROSS-CHAIN SWITCHING TECHNOLOGY- JING CHANG

As an important part of the SWTC ecosystem, a digital decentralized asset based on the SWTC Public Chain which can support cross-chain technology is developed, which is called Jing Chang. This shows the implementation of SWTC Public Chain cross-chain technology.

The currently used solution of Jing Chang's cross-chain technology is based on the SWTC Public Chain. It automatically monitors and maps the pass (tokens) of all other blockchain underlying systems to the SWTC Public Chain. Due to the unique artifact function on the SWTC Public Chain, comparing with other decentralized exchange center when list and transact, the Jing Chang cross-chain technology ensures that the customer's listing orders, matching, and transactions are completed directly on the chain. Jing Chang cross-chain switching technology has the following four advantages:

1. **Security:** The platform does not ask and save the user's key. The user's wallet key is saved only by the user, the platform will not ask, and it cannot be saved. In this way, the platform cannot use the user's pass (token), and even if the trading platform is attacked, because the user's pass (token) assets are on the blockchain, the hacker cannot obtain the user's key, so it is always safe. ;

2. **Creditable:** Since the user's listing transaction can be proceeded completely peer-to-peer on the chain, all the behaviors can be queried in the blockchain network, which is authentic and reliable; It can avoid the risk of false transaction that traditional centralized mechanism will potentially use to do price control.

3. **Sharing:** sharing market depth and sharing market traffic. Since all users' listing of orders, matches, and transactions are conducted on the SWTC Public Chain, all trading users (including different trading platforms) using Jing Chang to share can share the market depth and traffic of the entire chain.

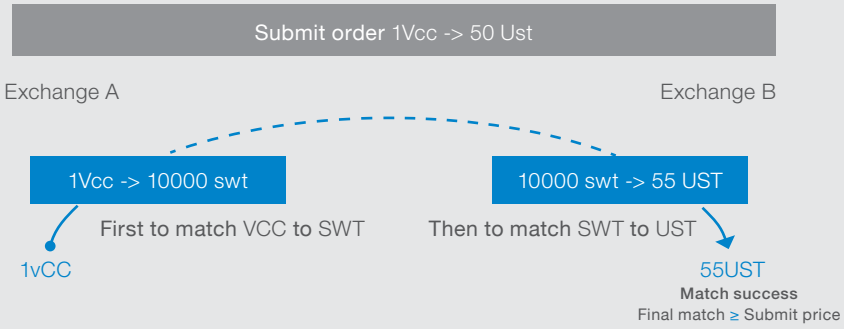
4. **Intelligence:** Meet multiple exchanges, multi-pass, multi-party automatic matching transactions.

Examples: Listing order 1VCC is sold at 50UST; there is no suitable price in the existing A-exchange VCC/UST transaction; the system will automatically match the transaction pairs on the chain and automatically complete the two transactions in accordance with the trading conditions. (The transaction price is sold at the highest price that can be traded at the moment.)

a. Selling 1VCC on the Exchange A to obtain 10000SWT;

b. Selling 10000SWT on Exchange B to get 55UST;

c. The original listing order transaction price is selling 1VCC to get 55UST finally.



▲ Diagram of transaction in decentralized exchange

In addition, dedicate to the low efficiency of previous decentralized exchange transactions, Jing Chang can provide a processing speed of not less than 2000tps based on the SWTC Public Chain, which can provide user a smooth trading experience. And all trading processes cannot be tampered within the chain, safe, fair and transparent. Enterprises that are interested in operating exchanges are welcome to contact us. A safe, fair and transparent exchange environment will be provided to users and promote the popularization and application of digital valued asset cross-complied technology together.

SWTC FOUNDATION

IV

SWTC RELEASE AND APPLICATION

4.1 SWTC RELEASE SCALE

SWTC as a native digital certificate for the SWTC Public Chain “Gas” ,the total amount of issuance is fixed at 600 billion The specific circulation quantity is gradually released according to the SWTC Public Chain ecological application and trading demand, and the current circulation is about 105.6 billion (105,620,057,001). The rest of the SWTC is currently frozen and will only be released under release process.

Among them, 494,379,942,999 SWTC are used for enterprise chains, and they are used as reserved fuels for the application chain, prepared for the growth of future users (individuals, enterprises, and the Internet of Things, etc.), the need for community prosperity, and other ecological growth conditions. They are currently stored in three cold wallet addresses:

Wallet number	Wallet address	Frozen Amount
1	jhASywztR3zWgaHmP7aY6vW22FFj46Rsnh	240,000,001,000
2	jabT6rzpAwhWqJ8bLwmuLeqnHWZahjP7AN	135,000,000,999
3	jMiw4jTNX6rR54RX4oz7eVrGvcJVsFDX5i	119,379,941,000

▲ Diagram of Gas address and corresponding amount

The SWTC Foundation commits to promote the ecological prosperity of the public chain, corporate, application and personal usage, providing reliable services and appropriate flexibility to support the access and trading of digital assets. In the future release of the SWTC fuel token, the SWTC Foundation will gradually release it according to actual needs and through community consensus:

1. Support enterprises, application, individuals apply to the chain, and promise to provide all the propriate and sufficient flexibility for supporting.
2. The SWTC Foundation will continue to uphold and strengthen the principles of openness, transparency and community sharing.
3. When it is appropriate in the coming future, the above-mentioned cold wallet with SWTC will be released, according to general industry practice and mechanism. And develop a smart contract-based linear release and freezing mechanism.

Wallet balances can be queried at HTTP://STATE.JINGTUM.COM.

4.2 SWTC APPLICATION SCENARIO

The SWTC Public Chain acts as the bottom layer of the blockchain. The native SWTC pass is designed as the Gas consumed by the operation on the public chain. Users will consume a very small amount of SWTC when trading through the SWTC Public Chain. The purpose is to prevent dust attacks on the network.

In addition, as more SWTC application scenario and the prosperity of the community, SWTC's application scenarios will be continued to expand, including but not limited to the following:

· Value-added services

Through the SWTC Public Chain, to provide a variety of services can be reimbursed SWTC.

· Reward system

Application scenarios and operational projects on the SWTC Public Chain can get the corresponding services or resources from the community by providing SWTC incentives.

· Credit pledge

SWTC can be used as a credit pledge in various trading activities on the SWTC Public Chain. By means of business logic, it will be pledged to ensure that multiple parties is credible, thus promoting the SWTC Public Chain community to become a credible environment for good currency to expel the weak.

· Cross-chain and cross-token unit

As the platform for communication of different tokens, SWTC can act as the medium for trading or communication on different scenarios. When value exchange occurs between different MicroChains and different application scenarios, SWTC be the transaction unit in the backend.

SWTC FOUNDATION

V

SWTC TEAM CORE MEMBERS

SHA ZHOU

Chairman of the SWTC Foundation CEO of Jingtum Technology

Founder of SWTC Public Chain

He is one of the first technology financial investor in Silicon Valley, frontier technologist, and top leader in the field of cryptocurrency. He is also the founder of Outpost Capitals. Sha Zhou started as a software engineer from 1996 and worked in both technical and management position for companies such as HP, Alteon, NetScaler, NetScreen, and Juniper, etc; in 2012 he found and invested in the Financial Weekly and numerous high-tech companies. He got over 200,000 fans in global fintech community.

XIAOHU CHEN

Chief Scientist

He is Silicon Valley's well-known expert in artificial intelligence + blockchain research. .He completed his Bachelor at Zhejiang University and then pursed further study at University of California, Riverside, where he complete his MS. He is the co-founder of a 3D scanner company in Silicon Valley. He is proficient in network hardware, software and algorithms. He is the main advocator of the SWTC Public Chain philosophy and the pioneer in effective decentralization theory research.

During 2002 and 2003, he was the software engineer in Ricoh's digital camera division. He designed and implemented the image analysis and processing, automatic upload and forwarding system, which applied to multi-user and cross-platform. He also designed and implemented automatic processing of hypermedia information and automatic generation system of geographic information.

During 2003 and 2015, he found and became the CTO in NextEngine. He had experienced many changes and rebuilding in the company. He experienced many technology including software design, architecture, algorithm implementation, system kernel, network security, database, embedded systems, mobile development and many other aspects.

Since 2012, he had involved in the development of the 1T ASIC Bitcoin mining machine and the management of the mining pool software. Since 2013, he has transferred to the research and development of the blockchain kernel. In 2015, he worked as the full-time CEO in Jing-chuang, US.

In 2017, in the Silicon Valley high-tech field, he was firstly proposed that “Blockchain technology is the key factor in the evolution of AI life body”, which a great impact to this field was found.

XINYUE YANG

Chief architect

During August 2005 and June 2010, senior programmer/research scientist at IMTT, Colorado, USA. From June 2010 to May 2012, Wal-Mart's program analyst. From October 2013 to January 2017, Nike Technology Leader and Senior Web Developer. Contacting blockchain technology since 2012. First proposed diversion loose coupling and layering concept to a substantial increase in the block chain efficiency. Achieve high performance of 5,000 transactions per second on the blockchain. A number of blockchain related patents are listing.

From April 2015 to present (full-time after part-time job), chief architect of Jingtum Technology Co., Ltd. Responsible for the core technology design and development of the Jingtum project; responsible for building a big data system; responsible for the research and development of the blockchain kernel technology of the SWTC Public Chain. Fully master the core technology and application of the frontier of the blockchain. Fully responsible for the blockchain anti-counterfeiting project.

JIANXIN YANG

Director of
the Technical Committee

Master of Computer Science in Tsinghua University, one of the earliest experts in block chain development in China, crypto currency and the leader in industry technology development. SWTC Public Chain underlying platform domestic leader, leading the development of the first commercial public chain in China, developing API, SDK and other related standard interfaces, developed blockchain enterprise-level wallets, supply chain finance and other projects.

Since 2015, he has been involved in the development and design of the underlying technology of the SWTC Public Chain. The main task is to coordinate domestic and foreign participation in the implementation of SWTC Public Chain and alliance chain private chain system project functions, and participate in other applications from Silicon Valley. Participated in the research and development of the internal blockchain project of China's first Fortune 500 state-owned listed companies, mainly including corporate welfare exchange projects, B-end enterprise-level wallets, supply chain finance, and national grid core business trusted identity authentication programs. In the late of 2017, developed the first decentralized payment tool in blockchain industry, Coinread.

Responsible for and involved in the design and implementation of the well-sourced asset data trading platform, responsible for and participate in the design and implementation of application projects such as Financing and Jingtum APP, prepare SWTC Public Chain API and SDK and other related standards. The main work and research direction is the application of blockchain technology and blockchain industry.

At the same time, he trained and coached domestic enterprise development teams to develop more than 20 public, alliance, private, and cloud blockchain. He coached the invention and implementation of more than 50 blockchain applications.

DISCLAIMER

1. This document serves only as a means of conveying information. The contents of the document are for reference only and do not constitute any suggestion, solicitation or solicitation of any investment in the sale of stocks or tokens in the SWTC Public Chain and its associated companies. Such an invitation must be made in the form of a confidential memorandum and in conformity with the relevant law of token and other laws.

2. The SWTC Public Chain team will continue to make reasonable attempts to ensure that the information contained in this white paper is true and accurate. During the development process, the platform may be updated, including but not limited to the platform mechanism, the token and its mechanisms, and the distribution of the tokens. Some of the content of the document may be adjusted in the new white paper as the project progresses, and the team will make the update public by publishing announcements or new white papers on the site. Participants are requested to obtain the latest version of the white paper in a timely manner and to adjust their decision-making in a timely manner based on the updated content. The team will spare no effort to achieve the goals mentioned in the document, but based on the presence of the force majeure, the team cannot fully complete the commitment.

3. SWTC, as the token of the SWTC Public Chain, is an important tool for the effectiveness of the platform, and it is not an investment. Having the SWTC does not confer ownership, control, and decision-making power over the SWTC Public Chain platform. SWTC as a security token used in the SWTC Public Chain does not fall into the following categories:

   (A) any type of currency;

   (B) undefined out-of-bounds tokens;

   (C) Equity of legal entities;

   (D) stocks, bonds, notes, warrants, certificates or other instruments conferring any rights.

4. The value added of SWTC Public Chain depends on market discipline and post-landing needs. It may not have any value, the team is not committed to its value-added, and is not responsible for the consequences of its value increases or decreases.