

ZeusNet

—Super Computing Power Trading Network

“Eliminate All Idle Computing Resources”

Ver 1.0

2018

Abstract

With the rapid development of technology, we have entered the era of algorithm. Various algorithms classify, filter and decide the information displayed in front of our screen. Algorithms are affecting all aspects of the world in a variety of ways, including corporate innovation, industrial change and economic development. Undoubtedly, the algorithm will be the new engine for the new economy. If the algorithm is the thought, then the computing power is the strength. Algorithms requires a lot of computational power to obtain the corresponding conclusion. If an algorithm does not the corresponding powerful computing power support, no matter how good the idea is, it cannot get the desired conclusion. The algorithm can only stay on paper.

ZeusNet is committed to creating a decentralized global trading platform for computing power, and building an open ecosystem based upon the computing resource network. ZeusNet is designed to free up all available computing resources and transform into digital asset values. The aim is to let decentralized applications to empower the real life.

- ZeusNet is a highly efficient blockchain service platform with 10 concurrent internal chain to block technology, efficient smart contract and multiple hot-plugging consensus algorithms

- ZeusNet is a computing resource trading platform

- Zeusnet is a fee-free, strict privacy protection, open, and transparent decentralized computing network based on the block chain technology

The computing power trading platform enables us to effectively connect computing resources all over the world, such as cloud computing, IDC, enterprise data centers, and personal CPU/GPU/ bandwidth etc. to provide ultra-low prices, large scale, super powerful computing services, for the purpose of digital currency mining, 3D rendering, live transcoding, AI Learning, IoT security and other industries.

Currently ZeusNet has completed 90% of the coding of blockchain based services (including 10 concurrent chain to block, consensus algorithms, Token mechanism, smart contracts, digital wallet, etc.), and began a comprehensive test and optimization. In the meantime, we are construct a container-based resource scheduling prototype.

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1 Background

1.1 The Future of Blockchain—4.0

Starting in 2000, the Internet in China brought the "traffic economy." Since 2010 with the mobile internet booming, the "sharing economy" mode nurtures the Bitcoin. It goes from a computer theory to practice, then to a sociology and economics phenomenon. It is seen as blockchain 1.0. With the idea of "Internet +", Ethereum built the foundation of blockchain 2.0 through the Turing smart contract to create a distributed computing dream. With the rapid growth of blockchain, the emergence of consortium chain has the hundreds of times performance to the Ethereum. It is often called blockchain3.0. The consensus algorithms for blockchain, evolved from the Byzantine PBFT algorithm to the POW algorithm to Raft / PoS / DPoS, are limited to simple account transactions, and widely used on trading for currency. However, this implementation is distant from the essence of the blockchain. The IDC-dependent cloud computing centers, with great computing power and large-scale, seriously hinder the large-scale application of blockchain in social life.

Supercomputing network needs to realize the efficient management and scheduling of computing resources, such as fast matching of resource transactions, task scheduling and rapid distribution, workload statistics, transaction settlement, etc. These must rely on a powerful and efficient blockchain product as a core support. The original design of Ethereum was only for the purpose of currency trading, performance and capacity cannot meet the requirements. Even some blockchain 3.0 products currently available on the market are not enough, so we need a more efficient blockchain technology to support the requirements of performance, scalability, security and stability.

1.2 The Limits of Centralized Cloud Computing

At present, cloud computing is a centralized IaaS / PaaS / SaaS technology stack with various defects such as data theft, information falsify, unbalanced load, and infrastructure reliability. The blockchain technology is designed to establish an autonomous decentralized environment to satisfy a wide range of decentralized applications (Dapps), so as to make the "algorithmic economy" more effective. The sharing ecology of blockchain, will stimulate the evolution of cloud computing.

Blockchain 4.0, will be supercomputing network driven by blockchain. According to authoritative market research firm Gartner analysis, only 3D rendering, IoT, OCR, AI off-line analysis, CDN and other computing needs, the supercomputing market in 2020 will exceed 100 billion US dollars.

“The future is already here, it is just not evenly distributed.”

2 Product Solutions

2.1 What is ZeusNet

ZeusNet is a decentralized global network for trading and sharing computing resource. ZeusNet uses an efficient proprietary blockchain engine to build a decentralized trading platform that enables fast and easy matching of supply and demand for all types of computing resources. On the basis of a trading platform, ZeusNet connects global computing resources into a super computing network with various computing resources (e.g. cloud computing resources, IDC resources, mining hardware, PCs, mobile devices etc.). In the meantime, ZeusNet provides developers with a true Dapp development framework. Developers' Dapp will run on top of the supercomputing network's computing resources. They will be a truly distributed operation and automatically have blockchain applications features. In other words, ZeusNet is also a Dapp platform, which means that ZeusNet is not only an OS like Windows / iOS but also a hardware platform for Dapp.

ZeusNet uses a trading platform, supercomputing network, Dapp development framework, ZNC (ZeusNet token) to create a supercomputing ecosystem. ZNC perfectly links the computing power resource trading, Dapp creation and consumption, Dapp computing power leasing, Dapp own ecosystem together. And rapidly turns digital assets and commercial value into one.

ZeusNet will be the shared ecosystem of Dapps running on top of the supercomputing network.

2.2 ZeusNetChain

ZeusNetChain is a completely independent developed and highly efficient implementation of blockchain. It is the core engine of ZeusNet and its soul. ZeusNet is a highly efficient computing resource management and scheduling system. It does quick matching of global computing resource transactions. It dispatches the Dapp running environment to designated computing resource hardware through its accurate scheduling and fast distribution. And provides fair and reliable work load statistics & settlement for computing resource leasing transactions all over the world. All these rely on a powerful and efficient implementation of blockchain technology. Currently available blockchain 3.0 products on the market cannot meet the demand. ZeusNetChain are the technical implementation of Blockchain 4.0. Its performance, scalability, security and stability features are significantly better than those of Blockchain 3.0 technology.

ZeusNetChain is a blockchain platform meets the high-performance transaction and multi-purpose computing capabilities under the Token value system. ZeusNetChain has a high-performance main chain for trading transactions, plus a number of ecological chain to achieve the decentralization of different computing power resources.

ZeusNetChain's core strengths include:

1) 1+9 Multi-Chain Technology: a main transaction chain, to achieve a variety of services and the blockchain registration, registration, query. Computing needs match are done by the other nine chains. It utilizes the stochastic correlation analysis of the Markov chain, to achieve quick block creation and confirmation of different transactions to the timing.

2) DDN: Docker Deliver Network. The key question for computing power trading market is to distribute the Dapps running environment to the designated computing resource after the lease of assets has been agreed. Then start official start the computing resources consumption, and seeking a balance between the fairness and efficiency. ZeusNetChain utilizes features like service delivery path optimization, cloud computing, and Docker container delivery in its architecture design process, to achieve a balance of fairness and efficiency.

3) Token Issue Mechanism: ZeusNet uses ZNC as the main currency, can “fork” to other tokens, and other tokens can anchor ZNC to exchange with other digital currencies such as BTC / ETH. For instance, a CDN scenario can issue CDN token; a GPU computing power scenario can issue a GToken; different games may issue different game tokens (Texas, Lotto, etc.). Token issuing makes it easy to implement independent billing models in different Dapps systems. Each token and ZNC anchor according to the deposit, and that formulate a sound & safe value system.

4) A Complete Eco-system Structure: in the computing power market, we need to build multiple ecological elements such as storage, stage transfer, and access pre-access to enable the computing market.

2.3 Computing Power Resource Trading Platform

ZeusNet's computing power resource trading platform provides a matching platform for global computing resource supply and demand. It utilize ZeusNetChain to ensure fast matching and fair trading. Computing power resource provider/demander post the computing resources to let/procure and their corresponding ZNC quote/pay to the ZeusNet trading platform. ZeusNet helps both parties to complete the match. Once the parties approve the transaction, a smart contracts is automatically triggered and saved in the shared book to ensure the fairness of the transaction.

Then the demander can deploy the Dapp running environment on the rented computing resources to use on the leased computing resources. During the process, ZeusNet is responsible for packing the Dapp environment as a docker file and deliver it safely and reliably to the designated computing resources as instructed by the requesting party and then run.

ZeusNet is also responsible for monitoring the use of computing power resources and completing ZNC payment transfer by depositing it into a shared account of the ZeusNetChain according to the actual consumption of resources.

2.4 Supercomputing Power Network

Through the ZeusNet computing power trading platform, various computing resources all over the world will gather in ZeusNet. The computing resources include not only existing cloud computing and IDCs, but also idle enterprise data centers, idle personal computers, and idle bandwidth. Some resources have high performance; while others may have weak computing power but are widely distributed. Some resources can be rented for a long period of time, while some only have intermittent available slots.

Various computing resources have different features. ZeusNet's supercomputing networks can stimulate distributed applications (apps) that are completely different from centralized applications. Enterprises and individuals are no longer bound by a cloud computing vendor, and there is no need to consider how much computing resources to be prepared in advance before the application goes online. It is also difficult to see an application used up all resources once it goes online.

ZeusNet enables the computing resources demander to pay as they uses without a limit.

2.5 Dapp Development & Running Environment

ZeusNet provides developers with a set of SDK development frameworks, including APIs for supercomputing resources, ZeusNetChain interactions, and APIs for ZNC. The Dapp developed will be a blockchain application, with shared computing features. Dapp run on the supercomputing network resources. It is a truly distributed application. In the meantime, ZeusNet provides developers with a distributed applications market. End users with the service needs can lease directly, and pay developers ZNC as service rental.

ZeusNet computing power resource trading platform is responsible for the rental matchmaking, service scheduling, and service monitoring among Dapp developers, Dapp users, and computing resources providers. It integrates Dapp creation, consumption, operation into a one stop shop.

2.6 An Open Sharing Ecosystem

At the very beginning of system design, ZeusNet already combines computing power trading, supercomputing network, Dapp development & operating framework, and ZNC (ZeusNet tokens) together to construct an open sharing ecosystem based on the network of computing resources. ZeusNet uses ZNC as a value delivery vehicle throughout the ZeusNet business model, such as: computing power resource trading, Dapp creation and consumption, Dapp operating resource leasing, and Dapp own ecosystem. It facilitates the fast circulation of digital asset and business value.

Dapps can easily use super-computing chain and ZNC to create their independent sub-ecosystem and generate own tokens. It can exchange tokens from different Dapps sub ecosystem using ZNC as the value media. So as to form an even greater Eco-system.

2.7 Token Model

1) Financial Model

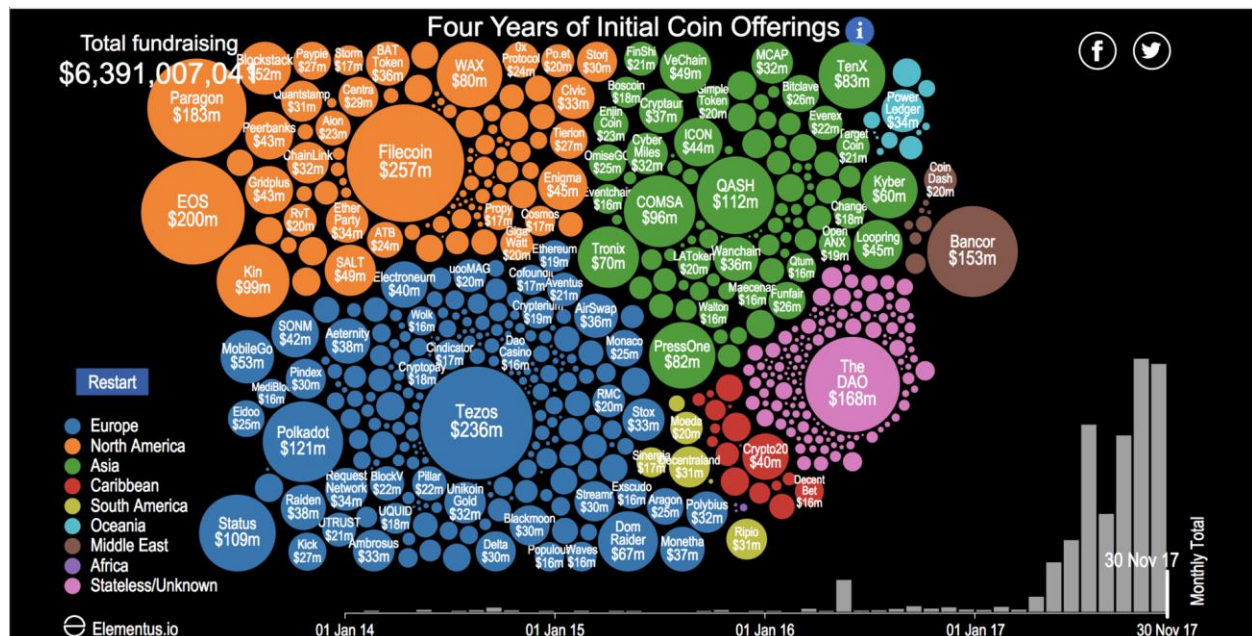
ZNC is the blood that drives ZeusNet's sharing ecosystem. Its commercial usage is mainly for transaction payment vouchers of various business activities in ZeusNet, such as computing resource trade transaction fee, advertising fee, platform usage fee and so on. Dapps can anchor with ZNC and issue their own tokens.

2) Autonomous Management Model

The DPOS Consensus algorithm used by ZeusNet allows users to vote on community matters based on their ZNC count. The more coins, the greater the vote weight. Users with less ZNC can authorized trusted people to vote.

3 Typical Scenario

3.1 Blockchain Network Application



The explosive growth of digital currencies in 2017 has led to the continuous emergence of digital currencies around the world to build blockchain based business ecology. Each digital currency requires a large amount of accounting decryption/encryption (Asic Miner) to ensure the stability of its shared books and to keep the blockchain application unchangeable and lossless. As a result, digital currency accounting decryption/encryption work has a huge market and urgently needs various types of computing powers, thus creating a huge demand for computing resources. On the other hand, there are many large-scale miner pools scattered around the world. They want to provide accounting services for

the most profitable digital currencies, so as to obtain corresponding digital currencies as rewards. However, the miner pool cannot keep up-to-date with every emerging digital currency types. In the meantime, there is a diversified trend in the market demand of computing resources. The needs are not limited to CPU, GPU, FPGA, Asic, but more hard disks, bandwidth and other computing resources. We believe there will be more complicated hybrid computing resource forms. This provides a good business opportunity for the idle computing resources around the global enterprise data centers. Both supply and demand party needs a market to connect them.

ZeusNet provides an efficient matchmaking platform among mining digital currency demand, miner pools, and a large number of other idle computer resources. So that both parties can quickly match and the demand side pays ZNC as the fee. Digital currency mining program will be packaged into Docker in the distributed application market. Computing resource providers are free to choose the appropriate digital currency types to provide shared book accounting encryption services, helping digital currencies to provide a stable accounting computing power, and earn rewards from the demand side. When the computing power resource provider chooses to provide the computing power resource service, ZeusNet provides an automated delivery mechanism for rapid deployment to the provider's resources & hardware. ZeusNet is responsible for counting the workloads and writing them into the blockchain to ensure their fairness. Finally, ZNC rewards is automatically settled through the smart contracts that are pre-defined by the demander.

3.2 Distributed Personal Storage Application

IDC and CDN service providers have a lot of free storage space, and individual users also need to pay a high price for storage in private storage space such as iCloud and Dropbox, etc. Storage providers can install IPFS-like distributed storage + homomorphic encryption Docker image, and provide personal users with low-cost, secure private storage services.

3.3 Gaming Cloud Service Application

With the continuous production of large-scale MOBA games, the spec requirement for personal computer graphic cards is getting higher and higher. PC gamers need to constantly upgrade graphic cards or upgrade to a more powerful gaming computers in order to have a good gaming experience. Gaming cloud services are released as Dapp in the ZeusNet distributed market. Dapp leases the GPU resources on the ZeusNet supercomputing network on demand to provide gamers with a low-cost gaming environment, eliminating the need for gamers to purchase a powerful game devices. And for individuals and Internet cafes with powerful GPU computers, their high-performance GPU resources can make a good profit during the idle time. The Dapp gaming cloud based on ZeusNet, can be 80% cheaper than the NVIDIA Grid cloud.

3.4 Video Rendering Application

In video compositing and rendering area, a lot of high-performance GPU are needed to process video. The traditional approach requires expensive hardware spending. It is also costly for GPU cloud services. On the other hand, with the fast development of PC-based computer games, the performance of graphic cards is greatly improved. Internet cafes purchased high-performance server with powerful graphic card for good gaming experience. But the average GPU utilization in an internet café is only 4 to 8 hours, a lot of resources was idle most of the time.

ZeusNet links the video rendering service demand to GPU computing resource providers, by deploying the rendering service runtime environment on computer resources that provides GPU, it can outperformed the traditional in-house rendering service. ZeusNet uses a smart contract to bind supply and demand parties and to settle the service using ZNC.

The demander for video rendering has gained low-cost computing resources, while the cost is just 1/5 of cloud platform. On the other hand, it also increases the Internet cafes GPU computing resources utilization.

3.5 AI Application

AI has begun to land in more and more industries, many start-ups are emerging. However, AI's computing power consumption will account for 20-40% of the overall cost. They need to procure a large number of GPUs to do matrix calculation and sample training. ZeusNet provides AI companies with cheaper idle computing resources in the supercomputing network, to facilitate faster AI product development.

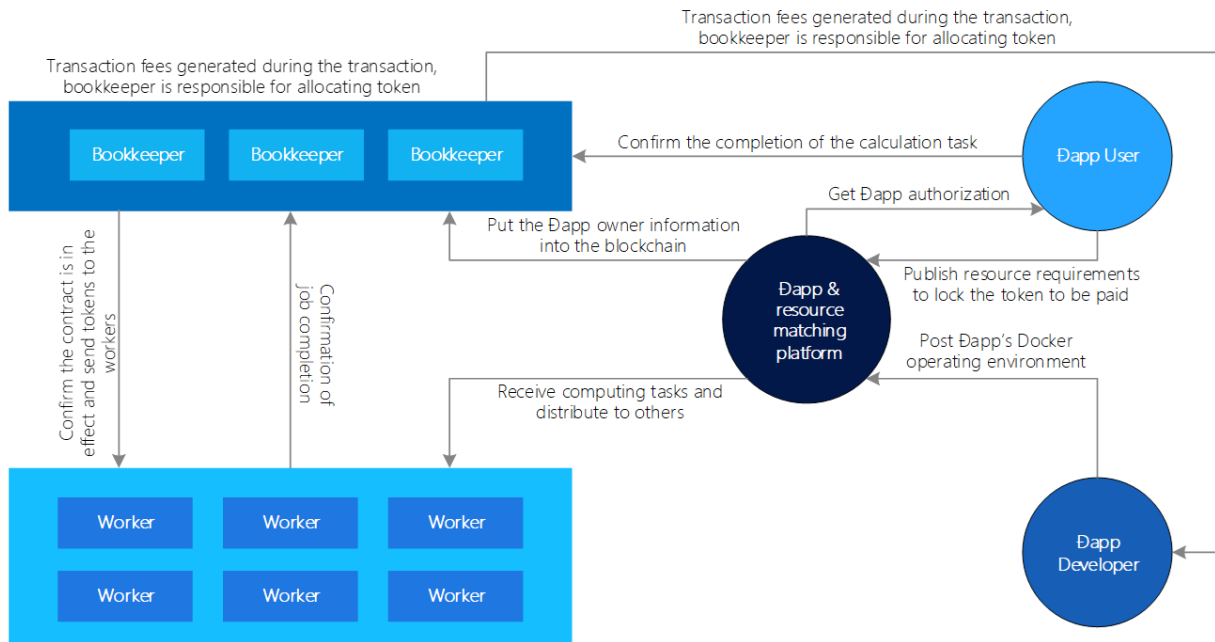
3.6 CDN Industry Application

As the Internet continues to evolve, new technologies make it possible for enterprises to deliver better customer experiences to their subscribers. In the meantime, the surge demand for resources such as CDN, DNS anti-hijack, and other ad-hoc computing have resulted in demand for large short-term computing resources. While the high cost for setting up fringe nodes has become an obstacle to hinder the customer experience improvement. Other than that, professional GPU computing resources have become the source of transcoding. CDN companies have to face either high financial losses or customer loss. To find low-cost GPU computing resources have become the most urgent issue.

ZeusNet consolidates the idle business / personal computing resources through the computing resource trading platform, delivers CDN bandwidth and storage resource, dramatically reducing the cost of building and operating an expensive bandwidth network. It enables CDN companies to provide its customers with a broader range of nodes, lower cost and better service performance.

4 Technology Implementation

4.1 Core System Architecture



• Bookkeeper

ZeusNet uses the consortium chain DPoS solution. The bookkeeper is the core member of the consortium. It is the core of ZeusNet's blockchain. Bookkeeper is responsible for verifying app developers access rights and is responsible for billing every transaction in ZeusNet.

After bookkeeper broadcasts the contents of the block and its hash value, and other bookkeeper confirmed, the block will be written into chain. The bookkeeper performing this book keeping operation get ZNC rewards. If a bookkeeper fabricate, other book keepers can easily find out, and jointly deprived of its book keeping rights. If the book keeper on duty is not online, the duty will be transferred to the next book keeper in order. Book keeper that not online for 10 consecutive times, will be deprived of one day's book keeping rights.

According to the service contribution and quality of service provided by the worker, book keeper automatically distributes the corresponding rewards to the worker according to the smart contract. In the meantime, the corresponding license benefit is delivered to the application developer.

• Worker

Workers are fundamental resource contributors to ZeusNet. They own specific computing, storage, and bandwidth resources.

Worker obtains tasks from the application & resource matching platform, then downloads the sharing application running environment, and run tasks. By doing this, it leases the computing resources and obtain corresponding service rewards.

In addition to earn rewards from application users, workers can also work as book keeper roles, earn the book keeping income. The additional book keeping income will greatly increase the worker's motivation.

● Application Developer

Application developers are an important part of ZeusNet. They are responsible for developing shared applications on ZeusNet and packaging the application as a Docker before it is ready for deployment.

Application developers and workers can be the same person or business in real world. They have a mature application development and deployment experience, and are willing to share the application on ZeusNet for more revenue.

● Task Delivery

After obtaining the authorization of the application developer, the application user may issue the resource and the computing task according to the actual needs, including the resource requirements and the task rewards.

One the application & resource matching platform released task description, bookkeeper write the task information into the chain to ensure the fairness.

In case an application & resource matching platform released a task, workers who have available resources will compete for the task. After successfully obtaining the task, the worker can deploy the appropriate Docker to their own resources and execute.

● Task Confirmation

Workers obtained the task, book keeper is responsible for writing task information in the chain, and open service IP and port for application. The application developer tests the worker deployed application running environment, once verified the service task will run on IP and port provided. After the task complete, the worker provides a certificate of work to the book keeper to prove the amount of work he has done. The book keeper notifies the application user to check the work certificate to confirm the task completion. After the confirmation, the book keeper assign the rewards to worker and write records to the chain.

● Task Book Keep

- When the task is complete, book keeper record the earnings of each worker.
- When the task is complete, book keeper record the expenses paid by application user.
- When the task is complete, bookkeeper delivers benefits to the app developer for the duration of his app running, and record it.

- Worker Dividend

Book keeper confirms each transaction in the ZeusNet ecosystem and writes into a chain. By performing book keep tasks and payouts, it earns block revenue and dividend revenue. ZeusNet sees workers not only as providers of resources but also as an important decentralized computing power network stakeholder. It distributing a large amount of book keeping revenue to all participating workers and making the entire ecosystem a common stakeholder.

- Smart Contract Application

The application developer can write the application usage fee into the smart contract. Once the application user obtains the application authorization, the book keeper starts to count the timing, and assign the benefits from the application user account to the application developer account according to the usage duration. Application users turn service tasks into smart contracts, book keeper automatically distributes the benefits to workers once the task is done, without the need for application users to confirm. Payment and revenue assign are automatic based on the blockchain mechanism, so as to ensure the rights and interests of workers.

- Privacy Protection

RSA-based public-private key cryptosystem, is a good protection of the user transaction data privacy.

4.2 Blockchain Core Technology

1) Problems in The Mainstream Consensus Algorithms

Current consensus algorithms targets the optimization of BFT under specific scenario. The following table lists the efficiency and characteristics of current consensus algorithms :

	Safety	Liveness	Openness	Fault Tolerance	Throughput	Consumption
2PC	Good	Weak	No	—	Good	Low
Paxos	Good	OK	Weak	$f/2f+1$	Good	Medium
Raft	Good	OK	Weak	$f/2f+1$	Good	Medium
PBFT	Good	OK	Weak	$f/2f+1$	Good	High Bandwidth
RPCA	OK	OK	Weak	$f \leq (n-1)/5$	Good	High Bandwidth
POW	Weak	Good	Good	49%	Weak	High CPU
POS	Weak	Good	Good	49%	Weak	Low

Raft / Paxos assumes ideal trust between nodes, but is the most efficient. The trust between PoW and PoS nodes depends on the way of mining, which can be extended to

tens of thousands of nodes. In practice, the consensus of PoW cannot accommodate too much transaction space. It is therefore necessary to adopt a more effective consortium mechanism and welfare mechanism between efficiency and node's degree of freedom, to ensure the consensus' transaction efficiency and node scalability.

2) Consensus Algorithm

Analyzed most of the current network architecture, ZeusNet used a hierarchical consensus approach and proposed a combined consensus algorithm of Raft+DPoS. With the high performance Rapp consensus of local voters, the rest eventually reach a mutual restraint consensus through DPoS (Delegated Proof of Stake).

In order to ensure the reliability of the node, we reach the 1st step consensus by Raft algorithm in the same network nearby. For example, nodes in the same IDC are within the same LAN, they can achieve millisecond-level synchronization and consensus. Nodes elected locally through IDC will participate in the next round of voting/mining as Si's rights.

The probability of voting is

$$P_i = 1/N_i * Et$$

Where Ni is the number of nodes in the first layer, and Et is the poll frequency.

DPoS equity algorithm is

$$\text{hash}(\text{hash}(B_{prev}, Pi), Ni, t) \leq \frac{\text{bal}(A) * M}{D}$$

In the formula:

D is the difficulty of mining

$$D = \frac{1}{T} \sum_a \text{bal}(A) * Si$$

Depends on the total number of voting equity in the Si subset

Therefore, the probability of mining of each node is

$$P\{T = (T_i * S_j)\} = r_i / \sum_{j=1, k=1}^{M, N} r_j * S_k,$$

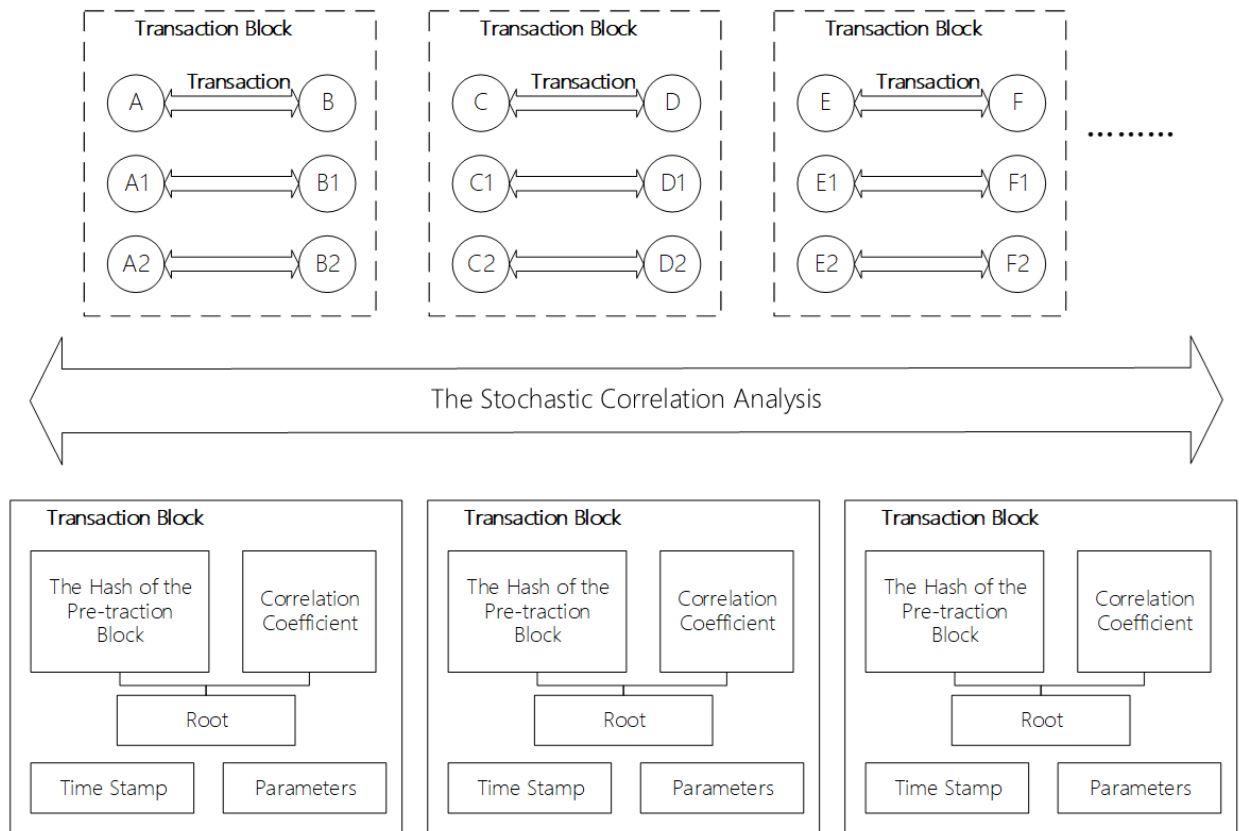
From the probabilistic algorithm level, the mining probabilities of each node under the same rights and equity are the same; among different regions, the more the rights and equity the more mining probabilities. Thus encouraging the miners nodes to improve the network quality within the region, helping to improve efficiency.

3) Multi-Chain Concurrent Block Mechanism

To solve the block capacity problem, we provide a consensus optimization method based on stochastic correlation analysis, so that the transaction chain can efficiently perform consensus analysis. This can effectively improve the overall blockchain data throughput of

the data upload, extraction, and trace request. The external caller sees a combined chain, but within the system a number of internal chains deal with the real data processing. It is very similar to a physical CPU consists of multiple cores. Using this stochastic correlation analysis based consensus algorithm, the multi-internal chains run concurrently. The transaction information from the outside world are dispersed into different internal chains and enveloped by different inner chains into corresponding chain blocks. Related transaction information is stored in the same chain, to ensure the speed of data trace.

The stochastic correlation analysis based consensus optimization can overcome the limits of the speed of transaction block creation under the consensus mechanism. And analyze the stochastic correlation of transaction information in each transaction block. Based on the result, Merkel tree is generated according to the stochastic correlation sort, and recorded in the transaction block. Each transaction block contains the hash function of the previous transaction block. Whenever there is new transaction information in the transaction block, the transaction information is connected to the Merkel tree in certain order through random correlation comparison. Because adjacent transaction blocks have the highest random correlation, constructing an adjacent correlation model enables the whole trading chain to conduct more efficient consensus analysis, to filter the input information and to reduce the transaction information entry time, and to improve the transaction block usage.



As shown in the figure above: A book keeping method based on a concurrent block execution algorithm includes the following steps:

1) Conduct transaction operations simultaneously in at least two transaction blocks, and store the transaction information in the corresponding transaction blocks.

2) Perform stochastic correlation analysis, alignment and sorting of transaction information in at least two transaction blocks to add or modify the Merkel tree structure, construct and constrain the Merkel tree structure, and form a positive correlated Merkel tree structure.

3) In at least two transaction blocks, the previous transaction block obtains the positive Merck-Tree related transaction information during the transaction, and the new transaction block is created by hashing the previous transaction block. The new transaction information in the newly generated transaction block completes the transaction consensus by performing the correlation between the transaction blocks through the random correlation matching, so that at least two transaction blocks form a transaction block chain.

4.3 Smart Contract

The distributed ledger scheduling is divided into three steps in the smart contract process: multiple users participate in the formulation of a smart contract, the contract spreads through the P2P network and deposits into the blockchain, and the smart contract by blockchain executes automatically.

The blockchain smart contract scheduling system adds a state deduction process on top of traditional blockchain model. It uses distributed task queue as the work node, and store the process status and context correlation record. It is a broad process scheduling management approach. The interaction method has atomicity and clustering feature, achieve high efficiency scheduling of smart contract, and improves the linear expansion capacity.

Task delivery contains process contextual information, so we provide the Docker runtime wrapper at the contract level to ensure that the process runs on any node in the blockchain. In which DockerFile is the Docker packaging specification, we provide a smart contract extension and BC-SMARTC protocol based on DockerFile. It includes the Token instruction set under the UTXO model and the Account model, and the process definition of the finite state machine.

4.4 Technology Advantage

● Application Isolation

ZeusNet has an application isolation mechanism to ensure that applications do not mess with each other, and a high spec hardware can provide services to multiple shared applications. This is to maximize the resources income, but also to maximize application security. ZeusNet uses Docker technology for application packaging to ensure that applications are isolated from each other.

- High Efficiency

A key enabler of ZeusNet's commercialization is efficiency, ZeusNet's applies censorship and rating mechanism for new joining nodes, and ensuring resource provider device performance meets business requirements. The potential business value of ZeusNet is huge and the trading frequency is huge. ZeusNet uses DPoS Consensus Algorithm to ensure the efficiency of transaction processing.

- Fairness

Open, transparent, traceable, tamper-proof book keeping system is one of the core values of the blockchain. ZeusNet needs to get a fair value for all the participants.

- The Incentive System Benefits The Whole Network

Bookkeeper, worker (resource provider), application developer (software provider), application consumer (resource user and application user) are the core roles of the entire sharing computing platform.

Bookkeeper ensures that the ZeusNet eco-transaction completes and books each transaction, confirms the each workload of workers, completes the value generation and redistribution.

Workers provide app users with computing resources and receive rewards.

The application developer publishes the shared application (Dapp), authorizes the application to the application user, and obtains the application license fee.

Application users use the application developer's application, also use the worker's computing resources. They cut the development costs, and get low cost computing resources.

- Low Cost

Shared computing reuses idle resources. It can provide lower resource costs.

- Add Value for Traditional Industries

Given the simplicity of the traditional vertical services industry such as IDC and CDN, computing resources can only be applied in specific areas. ZeusNet will connect massive applications to massive resources by efficient docking and reactivate the traditional vertical services industry.

- The Convenience of Participation

Application developers complete an application and package it as Docker, uploaded to the ZeusNet application market. Application users need to obtain the authorization of the application, and then release the computing task. The worker accepts the task, and downloads the corresponding application Docker, installs on the computing devices. Once the service is running smoothly, billing is performed according to the rules in the smart contract. The entire process is automated on the ZeusNet platform.

- Ecological Stability

Decentralized blockchain network effectively protects the interests of both parties. Blockchain technology registers the cooperation agreement and tracks the computing power service duration, to ensure the authenticity of the resource usage. The smart contract guarantees the settlement by ZNC after the transaction.

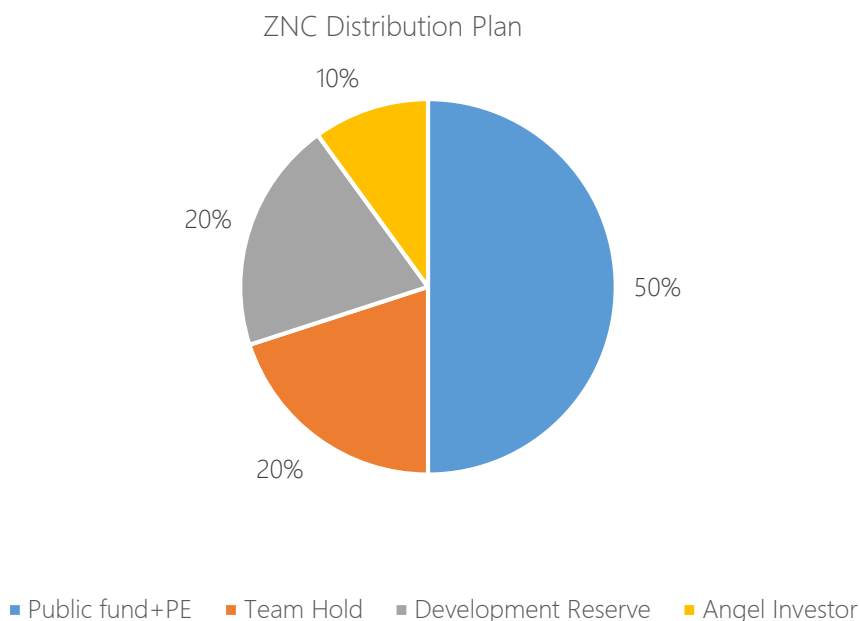
5 Issuance Plan

1). Token Usage

ZNC has a total of 10 billion, all of which will be produced when the ZeusNetChain is officially released. It is held by the ZeusNet Foundation, ZeusNet will distribute 50% of the token to the public through token subscription.

2). Token Distribution

ZNC will issue a total of 10 billion, 50% of the ZNC will be allocated to the community, 20% holds by the team, 20% as the development reserve, and 10% allocated to angel investment.



ZNC allocation scheme are as follows:

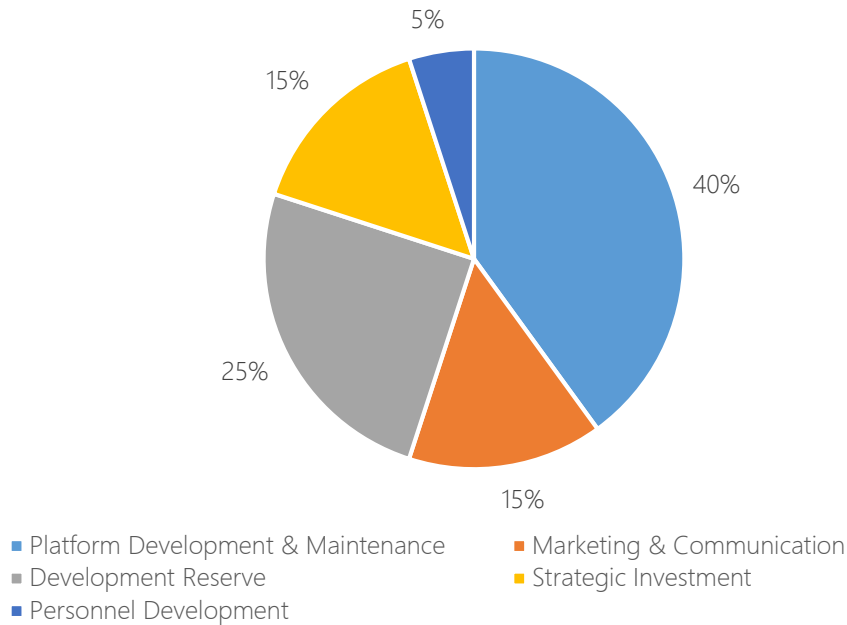
Ratio	Allocation	Description
10%	Angel Investor	1 billion ZNC issued to angel investors and institutional investors. 40% released in the first six months and then 10% per monthly on a monthly basis. All issued within a year.
50%	Public Fund + PE	Issued to investors from private equity and public fund, discounted ZNC part is locked, 40% is released after 6 months and 10% for each following month. All released within a year.
20%	Team Hold	This part of ZNC released 25% in the beginning, the rest will be locked by smart contract, and releasing 25% each year.
20%	Development Reserve	As a ZeusNet reserve funds, in trusteeship by the ZeusNet Foundation, this part of ZNC will be locked. For use in the above mentioned official announcement of the official website to explain to the holder.

3. Token Sales Rules

The token sales will be 6 billion ZNC. It is expected to raise funds worth 60,000 ETH. When the sales plan is completed in full amount , or accumulatively raised over 40,000 ETH at the end of the sales, the sales of tokens are over.

The raise funds of the ZeusNet chain public offering will be submitted to the ZeusNet Foundation for trusteeship. ZeusNet Foundation is obliged to regularly announce to investors the use of funds and details. The funds to raise by ZeusNet public offering is to use as follows:

Fund Distribution Plan



6 Foundation & Team

1). Governance Mechanism Explanation

The ZeusNet Foundation will be jointly set up by private equity investor, the project executive committee, and lawyer and finance people. It manages the fundraised assets and tokens assets and use the blockchain multi-key signatures to jointly and transparently use the assets. It will declare regularly to the relevant regulatory body and disclose details to the public. Before the project landed, we will have virtual test and local small-scale test, the successful tests will lead to the real project landing. A certain percentage of tokens will be locked to and released to communities and markets in phase.

The ZeusNet team will set up the ZeusNet Foundation in overseas countries as the main body of ZeusNet governance with overall responsibility for implementing major resolutions and regulating ZeusNet technology development and application development.

2). ZeusNet Team

Jack Johnson	More than ten years working experience in CDN, former director of a well-known CDN manufacturer's core R&D department, has rich CDN platform structure and R&D experience. As a follower of blockchain technology, many years of blockchain research has created a blockchain ecology based on shared computing in CDN, DNS, IoT and website protection-related applications, and completed the settlement of merchants in digital currency.
Daniel Smith	More than two decades of IT industry technology backbone business experience, has held key positions in Yahoo and AWS. Early followers of digital currency, bitcoin and blockchain technology, have in-depth study of bitcoin, Ethereum blockchain technology architecture, on how to participate in industry applications have a deep insight. Has led the implementation of blockchain based on the settlement of supply chain finance, commodity trading platform.
Sean Brown	Nearly 20 years of experience in the IT industry, one of HyperLedger open source project devotees, has worked for MSN, IBM. Led the team to successfully implement a gas company's blockbuster technology-based IoT smart gas meter business management project, the main IoT application security direction, and the use of blockchain to solve the Internet of Things security in-depth study.
Ray Wilson	Experience in a number of listed companies, involved in the preparation, construction of more than 10 billion mutual fund companies to pay the company platform. Early attendees of digital money, in-depth research on digital wallet and payment planning, settlement of international alliances using digital currencies. Has led a listed company group and subsidiary financial management, blockchain bill transactions and other projects landed.

3. ZeusNet Consultant

John Ho	General Partner of Tenplus Ventures. IT veteran turned venture capital investor specializes in investing in tech startups in China, Hong Kong and the Silicon Valley. Expert in internet related software/hardware technology such as IoT, Cloud Computing, Big Data, AI and Blockchain. Frequently interview by online and public media including CCTV, China Global Television Network(CGTN) and RTHK(Hong Kong) on cutting edge technology and tech investment. He is also a TED Speaker and a forum presenter at the World Economic Forum. Held position as the Managing Partner of Cloudbrain Fund, China GM of VeriSign (NASDAQ:VRSN), VP of Groupon (China) and SVP of AsiaInfo Technologies (NASDAQ: ASIA). Graduated from the UCLA and University of Texas.
William Wei	CTO & Partner of Cybernaut Investment, Founder & CEO of Drupe Mobile (acquired), former Engineer of NeXT & Apple, 20+ years in technology and startup experience in US & China. Champion of Blockchain, AI and Mobile Computing. Master's degree in CS from UMass Amherst and EMBA from UNC Chapel Hill.
Lawrence Chen	Canadian Chinese. Experts in Mobile communications and systems engineering. Former Technical Marketing Manager of Intel Corporation. Mainly responsible for the construction and promotion of Intel cloud ecosystem during more than ten years serving in Intel, with extensive work experience in China, Canada, and the United States. MBA from Leuven Ghent, Belgium, and a MSEE from the University of British Columbia, Canada.
Ting Li	Over ten years of working experiences with Microsoft HQ, dedicated to Microsoft core product development. Area of expertise in AI (Cortana) and Windows/Azure for the v-next product planning. Lead the Office product globalization and localization projects and process. Successfully launched multiple Microsoft core products including CRM, Office and Windows. Now as VP of sales and marketing in Golden House, in charge of landing global companies/products to the U.S. market and define the sales/marketing strategy.

CaiGen Chen	Well-known we-media person, co-founder of With You Capital, blockchain investor, "distributed business ideas" creator.
Zarina Ma	Graduated from the Pantheon-Sorbonne University (Université Paris 1 Panthéon-Sorbonne, France) with Bachelor of Arts in Economics, she has a rich experience in Business development and Marketing. She speaks Russian, Chinese, French and English languages.

4). Institutional Partners



7 Development Milestone

July 2017, the core blockchain framework was completed: multi-chain block technology and consensus algorithm.

October 2017, the token model, smart contract, digital wallet was completed. And started building the resource dispatching prototype based on Docker containers.

December 2017, the core blockchain was released. It will provide the Raft+DPoS consensus algorithm, parallel block-into-chain and smart contract engine for the distributed computing service.

May 2018, launch of Dapp runtime Docker packaging, task distribution, computing resources dispatching, and workload automatically accounting.

July 2018, launch of a Personal Distributed Storage Dapp based on supercomputing network, IPFS and relies on ZNC to release personal storage token

October 2018, release of CDN Dapp based on the Supercomputing Network. Docker encapsulation of CDN runtime, computing resource dispatching, token settlement service.

December 2018, launch of AI Dapp. AI decision tree for offline calculation by leveraging low-cost idle computing resources. To achieve the task of automatic distribution, rational resources matching.

2019, expending the IoT edge computing node to implement IoT system decentralized access. Leverage the edge node network to meet the security & performance requirements of IoT.

8 Risk Description & Tips

This document is for informational purposes only. It does not constitute any trading advice, solicitation or solicitation to sell any securities or securities in ZeusNet and its related companies. This document is not formed nor is it understood as providing any sale or purchase, nor is it a contract or commitment of any kind.

Under unpredictable circumstances, the goals outlined in this white paper may change. Although the team will do its best to achieve all of the goals of this white paper, all individuals and groups purchase at their own risks. The content of the document may be adjusted in new white paper as the project progresses ahead, and the team will release the update by posting a bulletin or a new white paper on the web.

ZeusNet unambiguously disclaims any direct or indirect loss caused by the participants including:

- 1) Rely on this document. contents
- 2) The information in this article is wrong, inattentive or inaccurate.
- 3) Any action resulting from this article.

The team will work hard to achieve the goals mentioned in the document. But due to the existence of force majeure, the team may not fully fulfill its commitment.

ZNC is a tool functioning in ZeusNet, not an investment product. ZNC is not a type of ownership or control. Controlling ZNC does not represent ownership of ZeusNet or any ZeusNet application.

ZNC does not grant any individual any rights to participate, control, or make any decision about the ZeusNet and ZeusNet applications.

ZNC is a digital token that uses ZeusNet as one of its usage scenarios. We can not guarantee its appreciation. It is also possible for depreciation under certain circumstances.

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE TEAM DISCLAIMS LIABILITY FOR DAMAGES AND RISKS INCLUDING THE PARTICIPATION, INCLUDING, BUT NOT LIMITED TO, DIRECT OR INDIRECT DAMAGES, LOSS OF MERCHANTABILITY, LOSS OF BUSINESS INFORMATION, OR ANY OTHER ECONOMIC DAMAGES .

ZeusNet clearly communicates to participants about possible risks and participants, once participating in the initial ZeusNet offering, have confirmed their understanding and acceptance of the terms of the Bylaws, and accept the potential risks of this platform at their own expense.

There are risks in the development, maintenance and operation of ZeusNet, many of which go beyond the developer's control. In addition to anything described in this white paper, participants shall fully understand and agree to accept the following risks:

ZNC price is closely linked to the entire digital currency market, in case of the market overall depressed, or the existence of other uncontrollable factors, it may cause ZNC's price, even with good prospects itself, in an underestimated state for a long time.

As the development of blockchain is still at an early stage, there are no regulations, documents, etc. related to preconditions, transaction requirements, information disclosure requirements and lockup requirements in the process of raising funds, including our country. And it is unclear how the current policy will be implemented. All of these factors may have an uncertain impact on the development and liquidity of the target market. Blockchain technology has become the main target of regulation in all major countries. ZNC may be affected if regulatory bodies intervene or exert influence. For example, the restriction of laws and regulations may limit ZNC, hinder or even directly terminate ZeusNet applications and ZNC development.

Currently there are many block chain projects with a very competitive market. There exists strong market competition and project operating pressure. Whether ZeusNet can break through many outstanding projects and be widely recognized is not only linked to its own team capabilities and vision planning, but also influenced by many competitors and oligarchs in the market. It is possible to face vicious competition as well.

ZeusNet brings together a team of people who are both dynamic and strong. It attracting experienced practitioners in the blockchain area and experienced technology developers. In its future development, the possibility of core personnel leaving ZexNet and inner conflicts caused negative impacts within the team can not be ruled out.

The fast development of cryptography or the development of technology such as the quantum computers, may bring the risk of the ZeusNet platform cracking, which may result in the loss of ZNC. During the project update, the vulnerabilities may be found and fixed in time, but there is no guarantee that this will not cause any impact.

ZeusNet applications may not be used by a large number of individuals or organizations, which means that the public is not interested enough to explore and develop these distributed applications. Such a lack of interest can have a negative impact on ZNC and ZeusNet applications

Hacking Risk: ZeusNet has a risk of being attacked by hackers or other organizations, including but not limited to denial of service attacks, Sybil attacks, malware attacks, or conformance attacks.

Unlike bank accounts or other financial institution accounts, storage on a ZeusNet account or related blockchain network is generally not covered by insurance and in no event will there be any public entity liable to cover the losses.

In addition to the risks mentioned in this white paper, there are other risks not yet mentioned or unexpected by the founding team. In addition, other risks may also appear abruptly or in any combination of the several mentioned risks. Any potential participants shall have full understanding of the team background, know the overall framework of the project and ideas, rational participation before the decision-making.