ZeusNet

—Super Computing Power Trading Network

"Eliminate All Idle Computing Resources"

Ver 1.0

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Abstract

With the rapid development of the technology, we have entered the era of algorithm. The algorithm will categorize, filter and select the information displayed in front of us. Algorithms are affecting all aspects of the world in a variety of ways, including corporate innovation, industrial revolution and economic development. It is no doubt that the algorithm will become the new engine for the new economy. If we say the algorithm is the thought, then the computing power is the strength. The algorithm requires a huge amount of computing power consumption to ensure the relative conclusion If an algorithm does not have the corresponding powerful computing power support, , it won't get the desired conclusion, no matter how good the idea is. And the algorithm can only stay on paper.

ZeusNet is committed to establish a decentralized global trading platform for the computing power, and build an open ecosystem based upon the computing power resource network. ZeusNet is aimed to free up all available computing power resources, transform them into the digital asset, and let the Ð apps to enable the real economy in the era of algorithm

●ZeusNet is a highly efficiency blockchain service platform with 10 internal chains to adopt the concurrent block technology, efficient smart contract and multiple consensus algorithms hot-plugging.

●ZeusNet is a computing power resource trading platform

●Zeusnet is a zero transition fee, strong privacy protection, transparent and public decentralized computing network based on the block chain technology.

With the computer power trading platform, ZeusNet could efficiently connect all the computing power resources around the world including the existing cloud computing, IDC, the enterprise calculating center, individual CPU/GPU/bandwidth and so forth, so to serve the needs of digital currency mining, 3D rendering, live casting transcoding, AI learning, IoT protection and other industries with super low cost, extremely wide scope and powerful computing power services.

Currently ZeusNet has completed 90% of the coding of blockchain based services (including 10 chain to concurrent block technology, consensus algorithms, Token generation mechanism, smart contracts, digital wallet, and etc.), also ZeusNet has started the overall test optimization project, and the build of a Docker container based resource management prototype.

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1 Background

1.1 The Future of the Blockchain—4.0

Starting from year 2000, In China the Internet contribute to the "flow economy". Since 2010 with the booming of the mobile internet, the "sharing economy" mode incubates the development of the Bitcoin, from computer methodology to the implication, all the way to the sociology and economics, this becomes the foundation for the born of the blockchain 1.0. With the concept of the "Internet +", the Ethereum has established the foundation of the blockchain 2.0 using the Turing smart contract to create a distributed computing. With the rapid development of the blockchain, block chain 3.0 technology shows up, which has higher performance and dominated by the consortium chain technology. The performance is hundreds of times higher compared to Ethereum. Till today, the development of the core for the blockchain – the consensus algorithm has been through the Byzantine PBFT algorithm, the POW algorithm and then the Raft / PoS / DPoS and so forth, but all of them are simply limited to resolve the simply issue for the transaction between the accounts, and still only focus on the coin to coin transition services. However, this is getting further and further away from the nature of the block chain, also it still needs to rely on the IDC could computing center to offer the wide range of computing power. This will prevent the large scale application of the block chain in the social lives.

Supercomputing network needs to implement the efficient management and scheduling of the computing power resources, such as fast matching of resource transactions, task scheduling and rapid distribution, workload statistics, transaction settlement, and etc. These have to rely on a powerful and efficient blockchain product to be the back bone.. The original design of the Ethereum was only for the coin to coin trading, so that the performance and the capacity can't meet the requirements. Even some blockchain 3.0 products which are currently available on the market still

can't fulfill the needs, a more efficient blockchain technology implementation is highly needed to support the requirements for the performance, the scalability, the security and the stability.

1.2 The Limits of Centralized Cloud Computing

Currently, the cloud computing is a centralized IaaS / PaaS / SaaS technology stack with various defects such as data stolen, information falsify, unbalanced load, infrastructure reliability and so forth. The blockchain technology is designed to establish an autonomous decentralized environment to satisfy a wide range of decentralized applications (Đ apps), make the "algorithmic economy" more effective. And this will accelerate the evolution of cloud computing.

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

"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 power resources. ZeusNet leverages the high performance blockchain engine which has the self - owned intellectual property, to build a decentralized trading platform which enables various types of computing resources from supply and requisitioning parties to make the deal rapidly. At the same time, in the trading platform, ZeusNet will connect the computing power resources from worldwide to build up a supercomputing power network, that includes the computing power resources which have all kinds of performance, from different locations and with different features (e.g.

cloud computing resources, IDC resources, mining hardware, PCs, mobile devices etc.). Meanwhile, ZeusNet will provide the developers with a true Ð app development framework. The developers' Ð app will run on computing resources from the supercomputing network, which will implement the real distributed operation and enable the Ðapp with the blockchain application features. In other words, ZeusNet is also a Ð app running platform, which means that ZeusNet is not only an OS like Windows / iOS but also a hardware platform for Ð app to run.

ZeusNet established a supercomputing ecosystem with a trading platform, supercomputing network, Ð app development framework, ZNC (ZeusNet token). With the ZNC, it perfectly links the computing power resource trading, Ð app creation and consumption, Ð app computing power leasing, Ð app own ecosystem together. This rapidly turns digital assets and commercial value into one unit.

ZeusNet will be the shared ecosystem for the Ð apps which are running on the supercomputing network.

2.2 ZeusNetChain

The ZeusNetChain is a completely independent developed and highly efficient implementation of blockchain technology. It is the core engine and soul of the ZeusNet. ZeusNet is a highly efficient computing power resource management and scheduling system. It needs to complete the rapid matching and transaction of global computing power resources. It dispatches the Ð app running environment to the designated computing power resource devices through its accurate scheduling and rapid distribution. It provides fair and reliable work load statistics & settlement for global computing power resource leasing transactions. All these rely on a powerful and efficient implementation of block chain technology to be the core foundation. The existing block chain 3.0 products in the market can't fulfill the requirements. ZeusNetChain is the implementation of Blockchain 4.0 technology, it has significant advantages compared to block chain 3.0, in the arears of performance, scalability, security and stability.

ZeusNetChain is a blockchain platform which meets the requirements for high-performance transaction and multi-purpose computing capabilities within the Token value system. ZeusNetChain is the high performance transaction main chain in the "1+9" multi-chain model, and the decentralization of different computing power is implemented by multiple ecological chains.

ZeusNetChain's core advantages include:

1) 1+9 Multi-Chain Technology: one main transaction chain, to implement the registration, recording and query for services and chains. The match computing is done by the other nine internal chains.. It utilizes the stochastic correlation analysis of the Markov chain, to implement the quick block creation and confirmation for different transactions in the order of time.

2) DDN(Docker Deliver Network).: The key issue for the computing power trading market is that after the resource leasing agreements have achieved, how to distribute the related computing power resource Ð apps running environment to the designated computing resource devices, and start to consume the computing power resource, also to find the balance between the fairness and efficiency. ZeusNetChain utilizes the features as 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, it can "fork" to different tokens, and the other tokens can anchor ZNC to implement the exchange with other digital currencies such as BTC / ETH. For example, in a CDN scenario the CDN token can be issued; in the GPU computing power scenario, the GToken can be issued, and different games can issue different types of Token(Texas, Lotto, etc.). The issuing of token makes it easy to implement independent billing models in different Ð apps systems. Each token and ZNC will be anchored according to the deposit, and this establishes the complete and secure value system.

4) A Complete Eco-system Structure: in the computing power market, it will enable the entire computing power market to run, if only multiple development ecosystems have been built up, for example, storage setup, stage transfer, and access pre-access.

2.3 Computing Power Resource Trading Platform

ZeusNet's computing power resource trading platform provides a matching platform for global computing power resource provider and demander. It utilize the ZeusNetChain to ensure the rapid matching and fair trading. Computing power resource provider/demander will post the features of the computing power resources that they will lease/purchase, and the corresponding ZNC quotation/payment information to the ZeusNet trading platform. ZeusNet helps both parties to complete the match rapidly and once both parties approve the transaction, a smart contracts from the ZeusNet will be automatically triggered and saved in the shared book to ensure the fairness of the transaction.

After that the demander can deploy the Ð app running environment which needs to use the computing power on the rented computing power to process. ZeusNet is in charge of packing the Ð app environment to the Docker file and distribute it safely and reliably to the designated computing power resources as instructed by the requesting party and then start to run.

ZeusNet is also be used to monitor the use of the computing power resources and save it to the ZeusNet shared book, together based on the previous signed smart contracts by both partners to calculate the actual computing power resource consumption status, so to complete the ZNC auto payment.

2.4 The supercomputing Power Network

Through the ZeusNet computing power trading platform, the various global computing resources will be gathered in ZeusNet. The computing resources include not only the existing cloud computing and IDC professional computing power, but also the enterprise computing center which need to convert the idle computing power

to revenue, the idle personal computers, and the bandwidth which is left without any usage in the daytime at home . Some of the resources are high performance and stable; while others may have weak computing power but are widely distributed. Also there are some resources which can be rented for a long period of time, while some can only be rented in a short period of time.

Different computing power resources have different using scenarios. The diversified supercomputing network offered by the ZeusNet will stimulate the distributed share applications (Đapps) that are totally different from the centralized applications. Enterprises and individuals are no longer bundled by the cloud computing vendor, and there is no need to consider how much computing power resources need to be prepared in advance before the application goes online, and if there will be end up as all the computing power resources are used up once the application goes online.

ZeusNet enables the computing resources demanders to be able to lease on demand.

2.5 Đ app Development & Running Infrastructure

ZeusNet provides developers with a set of development frameworks, including the APIs for the supercomputing resources scheduling, ZeusNetChain interactions, and ZNC. Therefore, the developed Đ app will be a blockchain application, with shared computing features. The Đ app will run on the supercomputing network resources. It is a real distributed shared application. In the meantime, ZeusNet provides the developers with a distributed applications market, so to make it easy for the user who has the same business needs to rent directly, and pay the ZNC to the developer as the expense for service rental.

The ZeusNet computing power resource trading platform is responsible for the rental matchmaking, service scheduling, and service monitoring among the Đ app developers, the Đ app users, and the computing power resources providers. It literally integrates the Đ app creation, consumption, operation into a one integrated service.

2.6 An Open Sharing Ecosystem

In the very beginning of the system design, ZeusNet has already integrated the computing power trading, the supercomputing network, the Ð app development & operating infrastructure, and the ZNC (ZeusNet tokens) together to establish an open sharing ecosystem based on the network of computing power resources. ZeusNet uses the ZNC as the media for the value delivery throughout the whole ecosystem running process, for example, the computing power resource trading, the Ð app creation and consumption, the Ð app operating computing power resource leasing, the Ð app own ecosystem and so forth. This enables the digital asset and the business value to be able to circulate in a fast speed.

With the use of the supercomputing chain and the ZNC, it is very easy for the Ð apps to create their own independent sub-ecosystem and generate their own tokens. What's more, the ZNC can be used as the media for the value transaction, to be exchanged with between different Tokens used in different Ðapps internal ecosystems, so to form an even greater Eco-system.

2.7 The Token Model

1) The Financial Model

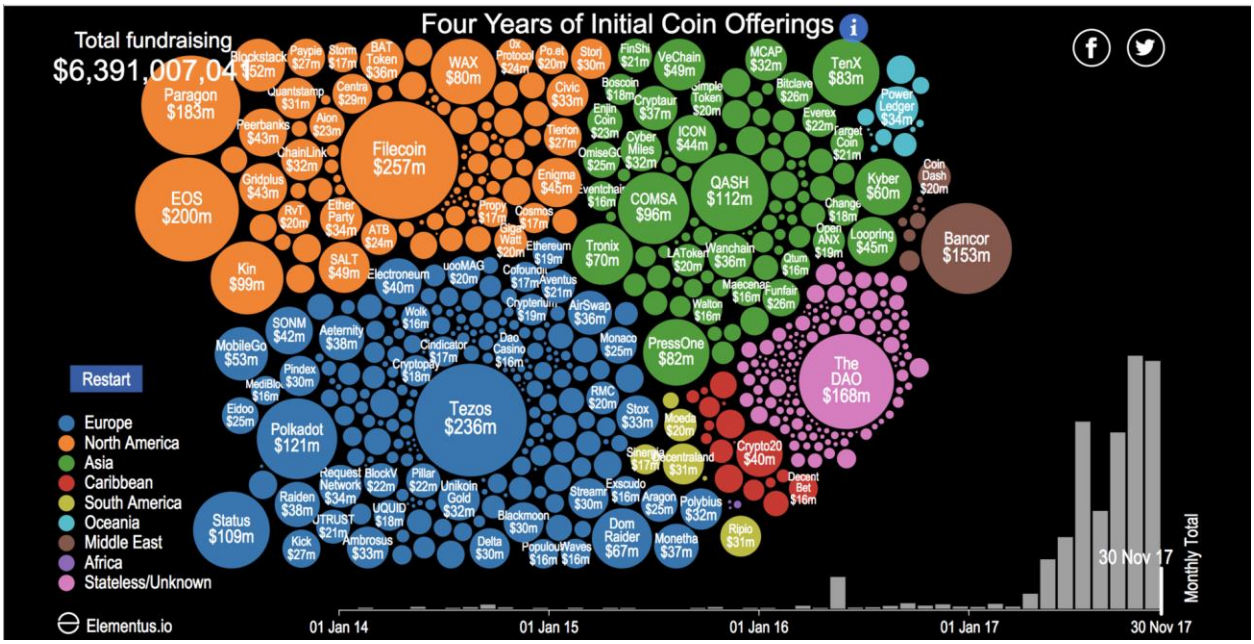
ZNC is the blood that drives the running of the ZeusNet's sharing ecosystem. The commercial usage for ZNC is mainly focused on transaction payment vouchers for all kinds of business activities in the ZeusNet, such as the computing power resource trade transaction fee, the advertising fee, the platform usage fee, the trading fee and so forth. The Ð apps can anchor with ZNC and issue their own tokens for their sub ecosystems.

2) The Autonomous Management Model

The ZeusNet leverages the DPoS Consensus algorithm to enable the users to vote on the community activities based on how many ZNC they have in hand. The more coins they have, the greater the vote weight will be. And the users who have less number of ZNC can delegate to the trusted people to do the Aggregate voting.

3 The Typical Using Scenarios

3.1 The Application in the Blockchain Network



In 2017, the digital currency started an explosive growth, and different kinds of digital currencies have been continuously generated in the worldwide market to establish all types of block chain based business ecosystem. 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 unchangeable and lossless features of the blockchain application, this results in the huge demand for the computing power trading. On the other hand, there are many large-scale miner pools scattered around the world, who hope to provide the accounting services for the digital

currencies which have more profit, to get the corresponding digital currencies as payment. However, the miner pool couldn't get to know the types of the digital currencies in time which are consciously generated., Currently there is a diversified trend in the computing power market, which not only need the professional computing power like CPU,GPU, FPGA, Asic, but also need more other types of computing power like hard disk, bandwidth and etc. We believe that there will be more complicated hybrid computing power resource come into force. This provides an excellent business opportunity for the computing power resources which are left unused in the global enterprise computer rooms. Both parties, the supply and the demand, need a market to connect them urgently.

ZeusNet provides a high efficiency matchmaking platform between the digital currency mining computing power demand, and the miner pools, the large number of other idle computer power resources, so to enable both parties to match quickly, the demand party will use ZNC as payment to the provider party. The Digital currency mining program will be packaged into Docker and distributed through the distributed application market. The computing power resource providers are free to choose the appropriate types of the digital currency to provide the shared book accounting encryption services, so to help the digital currencies to provide a stable accounting computing power, and earn the corresponding rewards from the demand party. When the computing power resource provider chooses to provide the computing power resource service, the ZeusNet will provide an automated delivery mechanism to get it rapidly deployed to the provider's resources devices. ZeusNet is responsible for counting the workloads and writing them into the blockchain ensuring the fairness, and in the end, based on the pre-defined smart contract from the demand party, deliver the automatic settlement with ZNC.

3.2 The Application in the Distributed Personal Storage Application

The IDC and the CDN service providers have a lot of free storage space, while the individual user needs to pay a high price to purchase the private storage space such as iCloud and Dropbox, etc. The storage providers can install the distributed storage + homomorphic encryption Docker image as IPFS, and provide the individual user with the low-cost, secure private storage services.

3.3 The Application in the Gaming Cloud Service

With the large-scale MOBA games continuous come to the market, the requirement for PC graphic card is getting higher and higher, and in order to have the great gaming experiences, the game player has to continue upgrading PC graphic card or upgrade to the game PC directly which has powerful graphic card . The Gaming cloud services are published as Ð app in the ZeusNet distributed market. Ð app leases the GPU resources from the ZeusNet supercomputing network based on demand to provide gamers with a low-cost gaming environment, and the gamer no longer has to expense a lot of money to purchase the gaming device. And for the individual players and the Internet bars who have the computers with powerful GPU, their high-performance GPU resources can make a good profit during the most of the idle time. The gaming cloud service Ð app which is established based on the ZeusNet, cost 80% less than the NVIDIA Grid cloud.

3.4 The Application in the Video Rendering

In the video compositing and rendering area, a lot of high-performance GPU computing power is needed to process the video. But with the traditional solution it needs to pay a big price on the computing power cost, even to pay for the GPU cloud service, the cost is difficult to afford. On the other hand, with the rapid development of large PC-based computer games, the requirements for the performance of graphic

cards is higher and higher. In order to offer the great gaming experiences to the consumers, the Internet bars use the high performance server which has powerful GPU graphic card to server the customer. But the peak hours for using the graphic card GPU in the Internet bar is only 4~8 hours per day, and a lot of resources are in the idle stage.

ZeusNet connects the video rendering service computing power demand to the GPU computing power resource providers, then completes the corresponding rendering work by deploying the rendering service runtime environment to the computers which offer the GPU computing power resources, . ZeusNet leverages the smart contract to bind the collaborative agreements between the supply and demand parties, and handles the lease service settlement with ZNC.

With the cost of only 1/5 of the cloud platform, the demander for the video rendering computing power has gained the low-cost computing power resources. Meanwhile, it also increases the usage ratio of the GPU computing power resources in the Internet bars.

3.5 The Application in AI

AI has started to land in more and more industries, and many start-ups are emerging. However, the computing power cost normally will consume 20% ~40% of the totally company cost in the AI companies. They need to purchase a lot of GPUs to work on the matrix calculation, complete the sample training. ZeusNet provides AI companies with cheaper idle computing power resources in the supercomputing network, so to accelerate the development of the AI products.

3.6 The Application in the CDN Industry

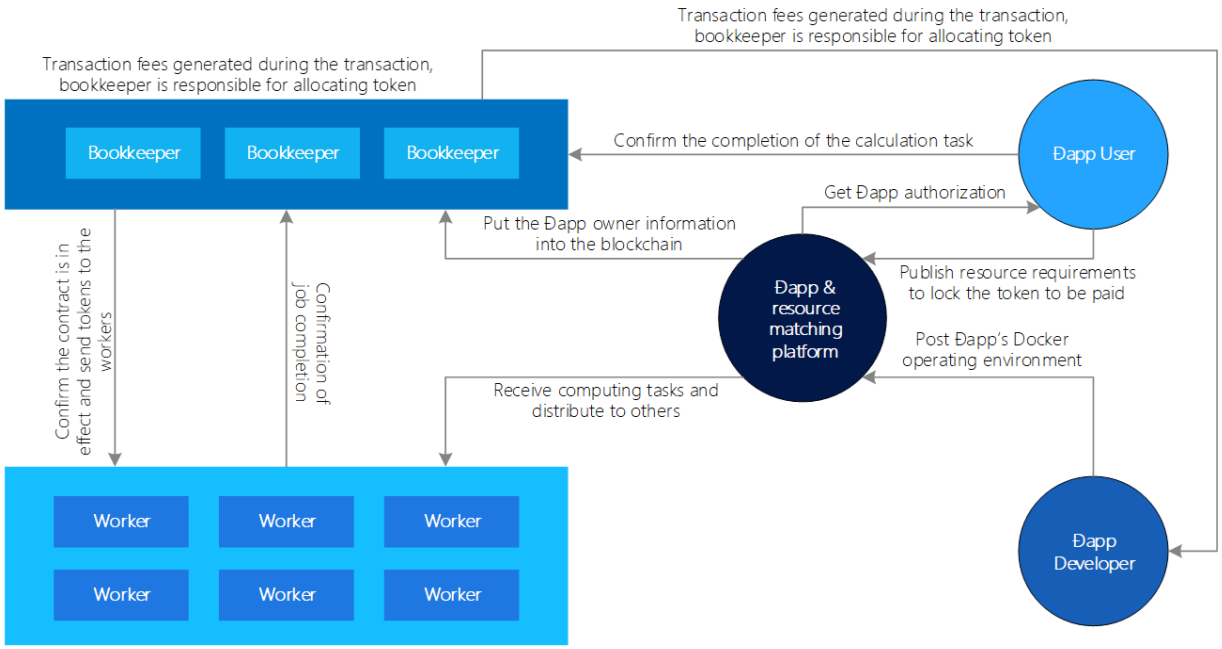
With the continuous development of the Internet, the new technology makes it possible for the enterprise to offer better user experiences to the users, meanwhile, because of the rapid increasing needs for the CDN accelerate, DNS anti-hijack and other temporary computing resources, the expensive cost to set up the fringe nodes

and the needs for the short-term computing resources have become the blocking issue for improving the customers' using experiences. The requirements for the professional GPU computing resources have become the key issue for the enterprises who offer the high-performance computing resources to the streaming transcode and other areas. In front of the high deficit number and the loss of the customers, the enterprises have no idea of what to do, and the low cost GPU computing resources has become the top one issue to be resolved for the service providers.

ZeusNet integrates the idle computing power resources from the enterprise/individual from all over the world, to offer the bandwidth and storage resource leasing services to the CDN companies. This dramatically lower the setup and operation cost for the bandwidth network, and enable the CDN companies to offer their customers with a broader range of nodes, lower cost and better service performance CDN services.

4 The Technical Implementation

4.1 The Core System Infrastructure



● Bookkeeper

ZeusNet uses the consortium chain DPoS solution. The bookkeeper is the core member of the consortium and also the core of the ZeusNet blockchain. The bookkeeper is responsible for verifying the app developers' access rights and also responsible for logging each transaction within the ZeusNet.

The bookkeeper will broadcast the content and Hash value of the block, after other bookkeepers confirming that the block has nothing wrong, the block will be added to the chain, and the bookkeeper who execute this operation will get the ZNC as rewards. If there is any bookkeeper who tries to fake the record, then it will be very easy for other bookkeepers to find out, and together they will take away that bookkeeper's rights to do bookkeeping. If the bookkeeper has gained the rights to do bookkeeping for this time but is not online, then the rights of bookkeeping will be transacted to the next bookkeeper in order. . If the bookkeeper has gained the rights to do bookkeeping but is not online for 10 continuous times, then he/she will be deprived of one day's bookkeeping rights.

The bookkeeper will base on the quantity and quality of the services from the computing resources that offered by the worker, comparing against the smart contract, to automatically distribute the payment to the worker, and at the same time deliver the license related profits to the application developers.

● Worker

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

The worker obtains the tasks from the application & resource matching platform, then downloads the sharing application and runs, so to implement the output in form of computing resources as services, and get the corresponding service fee.

In addition to earn the profit afforded by the application users, the worker can also take the role as the bookkeeper, so to gain the related bookkeeping profit, and this extra profit from bookkeeping will dramatically increase the worker's motivation.

● Application Developer

Application developers are the key participations, they are in charge of developing the shared application in the ZeusNet and packing the application to the Docker, completing all the readiness work before the application distribution.

The application developer and the worker can be the same person or the enterprise in the real world. They have already had the mature application practices, and would like to be shared to the ZeusNet to gain more profit.

● Task Distribution

After gaining the use authorization from the application developer, the application user could base on the real needs of his/her company or himself/herself publish the resources and computing tasks, including the requirements for the resource allocation and price.

After the task description gets published in the application & resource matching platform, the bookkeeper will record the task information to the chain, to ensure its fairness.

After the task gets published in the application & resource matching platform, the worker whose existing idle resources could meeting the application user's requirements will start to bit for the task. When someone successfully gets the task, that person can install the corresponding Docker to his/her own device to execute the task.

● Task Confirmation

After the worker obtains the task, the bookkeeper will take the responsibility to register the task assignment information into the chain, then share the service IP and port with the application user. The application developer will test the application running environment which is deployed by the worker, if there is no issue, the service will be matched to the service IP and port which are provided by the worker. When the task is completed, the worker will provide the proof of work to the bookkeeper,

to proof the workload that the worker has completed. The bookkeep will notify the application user to review the proof of the work provided by the worker and verify the status of the task completion, if there is no issue, then the bookkeeper will distribute the profit to the worker and record.

● Task Bookkeeping

- When the task is complete, the book keeper will record the earnings of each worker.
- When the task is complete, the book keeper will record the payment from the application user.
- When the task is complete, the bookkeeper will distribute the profit to the application developer based on the application usage time consumption from the application user, and record it.

● Worker Dividend

The bookkeeper will verify each one of the transaction in the ZeusNet ecosystem and write it into the chain. Based on the task recording and contribution, the bookkeeper will get the profit generated by the blockchain and the dividend rights. To the ZeusNet, the worker is treated not only as the resource provider, but also as the key party who will benefit from the decentralized computing power network. It distributes a large amount of bookkeeping profit to all the workers who get participate and get the whole ecosystem to become the related parties who share the common benefit.

● Smart Contract Application

The application developer can write the application usage fee into the smart contract. After the application user gets the application license, the book keeper starts to count the time, and based on the consumption time it will transfer the expense from the application user account to the application developer account. The application user will generate the smart contract from the service task, when the work has completed the task, the bookkeeper will allocate the profit to the worker

automatically without the confirmation from the application user. This payment and profit distribution automation process which based on the block chain model, could guarantee the worker's rights and benefits.

- Privacy Protection

The RSA-based public-private key cryptosystem, provides a great privacy protection on the user trading data.

4.2 The Core Technology of the Blockchain

1) The issues exists in The Mainstream Consensus Algorithms

In the current consensus algorithms, it focuses on the optimization of BFT in the specific scenario. The table listed below shows the efficiency and the features from most of the 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<=(n-1)/5	Good	High Bandwidth
POW	Weak	Good	Good	49%	Weak	High CPU
POS	Weak	Good	Good	49%	Weak	Low

The Raft / Paxos makes it too ideal for the trust relationship between nodes, but from the efficiency point of view, they are the best. The trust relationship between the PoW and the PoS nodes depends on the method of mining, which can be extended to tens of thousands of nodes. In fact, the consensus of the PoW still can't accommodate too much transaction space. Therefore, the more effective consortium

mechanism and welfare mechanism is needed between the efficiency and the node's degree of freedom, to ensure the transaction efficiency and the node scalability of the consensus.

2) The Consensus Algorithm

ZeusNet uses the hierarchical consensus method, analyzes a majority number of the current network infrastructures, then comes up with the combined consensus algorithm of Raft+DPoS, which depends on the local voter Raft high performance consensus ,will use the DPoS (Delegated Proof of Stake) to reach the mutual consensus.

In order to ensure the reliability of the node, among the networks that have the same condition, we use the Raft algorithm to complete the 1st step consensus with the nearby network. For example, for the nodes in the same IDC, they could reach the synchronization and consensus counted by millisecond through the LAN method. The nodes which is picked through IDC local selection, will participate the voting/mining in the next round, as the Si's authorized identity.

The probability of participating the voting is

$$P_i = {}^{1}/_{N_i} * Et$$

Ni stands for the number of the nodes in the first layer, and Et stands for how long it will take to do the vote.

The DPoS equity algorithm is

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

In the formula:

D stands for the degree of the difficulty for mining

$$D = \frac{1}{T}\sum_{a} bal(A) * Si$$

It depends on the total number of the voting equity in the Si subset

Therefore, the probability for each node that could have chance to do mining is

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

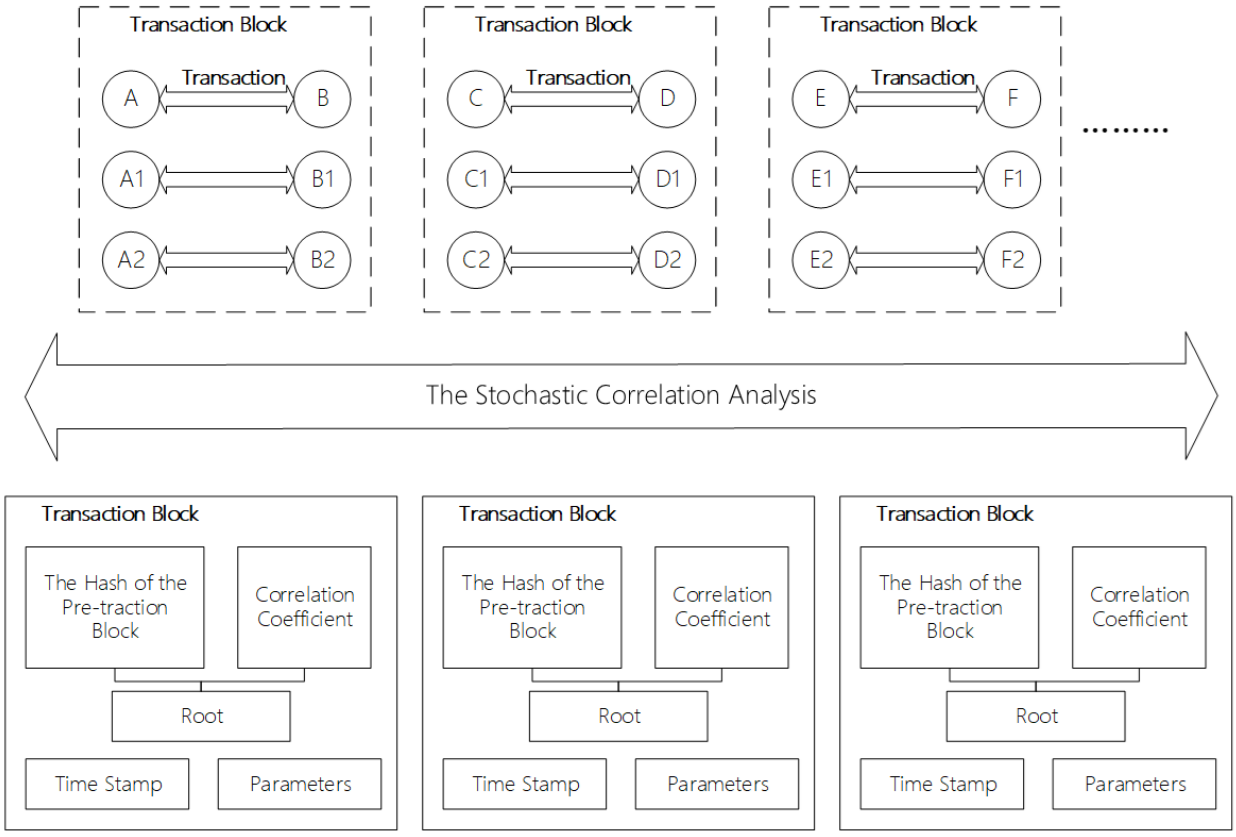
From the probabilistic algorithm level, under the same rights and equity, the probability of each node to be able to do mining is the same; Within the different regions, the more the rights it represent, the more probabilities it will have to be able to do mining. Thus by encouraging the miners' nodes to improve the network quality within the LAN, it can help each other improve the efficiency.

3) The Multi-Chain Concurrent Block Mechanism

In order to resolve the block capacity issue, we provide an optimized consensus optimization method based on the stochastic correlation analysis, which could enable the transaction chain to perform consensus analysis efficiently. This can dramatically improve the concurrent throughput of the data upload, extraction, and trace request for the integrated block chain. To the external caller it is one combined chain, but within the system, there are multiple internal chains which run the data processing tasks. It is very similar to a physical CPU which consists of multiple cores. It use the stochastic correlation analysis based consensus algorithm to enable the multi-internal chains run concurrently, then distribute the trading information from the external to the different internal chains and packed into the blocks by different inner chains, saved to the corresponding inner chain. The related transaction information will be saved in the same inner chain, to ensure the rapid speed when data trace is needed.

The optimized consensus method which is based on the stochastic correlation analysis can break the limits on the transaction block generation speed under the consensus mechanism, then based on this generate the Merkel tree according to the stochastic correlation sort, and recorded in the transaction block. Each transaction block contains the hash function from the previous transaction block. Each time when there is a new transaction information generated in the transaction block, the transaction information is connected to the Merkel tree in certain order through the random correlation comparison. Because the adjacent transaction blocks have the

highest random correlation, by building the adjacent correlation model, it enables the whole trading chain to conduct more efficient consensus analysis, filter the input information and reduce the transaction information entry time, improve the usage of the transaction block.



As the above chart shows: the book keeping method which is based on a concurrent block execution algorithm, includes the following steps:

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

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

3) In at least two transaction blocks, the previous transaction block gets 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 will perform the correlation between the transaction blocks through the random correlation matching, so that enable it needs to have at least two transaction blocks to build an integrated complete transaction block chain, then complete the transaction consensus

4.3 The Smart Contract

The schedule process for the distributed account book under the smart contract will be finished in three steps: multiple users participate together in the process to produce a smart contract, the contract gets published through the P2P network and saved into the blockchain, the smart contract built by blockchain executes automatically.

The blockchain smart contract based scheduling system and method adds the state deduction process to the traditional blockchain model, which uses the distributed task queue as the work node, and saves the records for the process status fore-and-aft relations. It is a broad process scheduling management method. This interactive method has the atomicity and the clustering feature, implements the high efficiency scheduling for the smart contract, and improves the linear expansion capacity of the system.

The task delivery could include the contextual information of the process, so we provide the Docker runtime package in the contract level to ensure that the process could run on any node of the blockchain. The DockerFile is the packaging specification for the Docker, we provide the smart contract extension and the BC-SMARTC protocol based on the DockerFile. It includes the Token instruction sets between the addresses under the UTXO model and the Account model, and the process definition of the finite state machine.

4.4 The Technology Advantage

- ### Application Isolation

The ZeusNet has the application isolation mechanism to ensure that the applications won't be disturbed by each other, to enable the high spec hardware to provide services to multiple shared applications simultaneously, to maximize the profit for the devices and to extreme the security for the applications The ZeusNet pack the application with the Docker technology, to ensure the isolation between the applications.

- ### High Efficiency

One of the key factor to support the communalization of the ZeusNet is efficiency, The review and rating mechanism that ZeusNet applied to each new joined node, ensure the performance of the devices that provided by the resource providers could meet the business needs. The potential business value for the ZeusNet is huge and so does the trading frequency. ZeusNet uses the DPoS Consensus Algorithm which guarantees the efficiency of the transaction processing.

- ### Fairness

The bookkeeping system which is open, transparent, traceable, tamper-proof is one of the core values of the blockchain. ZeusNet will get all the roles in the system a reasonable value proposition.

- ### The Incentive System that Benefits The Whole Network

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

The bookkeeper ensures that the ZeusNet eco-transaction completes properly records each transaction, confirms the workload of the worker, completes the value generation and redistribution.

The worker provides the computing resources to the application user with and receives corresponding rewards.

The application developer publishes the shared application (Ð app), distributes the application authorization to the application user, and gains the application license fee.

The application user not only need to use the application developed by the application developer, but also need to use the worker's computing resources. They save the development costs, and also get to use the computing resources with low cost.

- ## Low Cost

The Shared computing is the way to reuse the idle resources, therefore it could provide the much lower resource costs.

- ## The Value-added Activation for the Traditional Industries

Given the fact that in the traditional professional vertical service industry, like IDC, CDN and etc, the business has its singularity, the computing resources can only be used in the specific areas and can't be scaled. The ZeusNet will connect the massive applications with the massive resources, reactivate the resources in the traditional vertical service industries.

- ## The Convenience of the Participation

The Application developer packages the completed app to a Docker, uploads it to the ZeusNet application market. When the application user need to use the app from the application market, he/she needs to get the application license, then publishes the computing task. The worker accepts the task, and downloads the corresponding application Docker, installs to the devices. After the service is in the normal operation, it will going to bill the service fee according to the billing rules written in the contract, and the entire process is completed by the ZeusNet platform automatically.

- Ecological Stability

The decentralized blockchain network offers the efficient protection for the interests of both transaction parties. The blockchain technology is used to register the cooperation agreement and track the computing power service execution process, so to ensure the authenticity of the resource usage status. The smart contract guarantees that the ZNC will be used for settlement after the transaction.

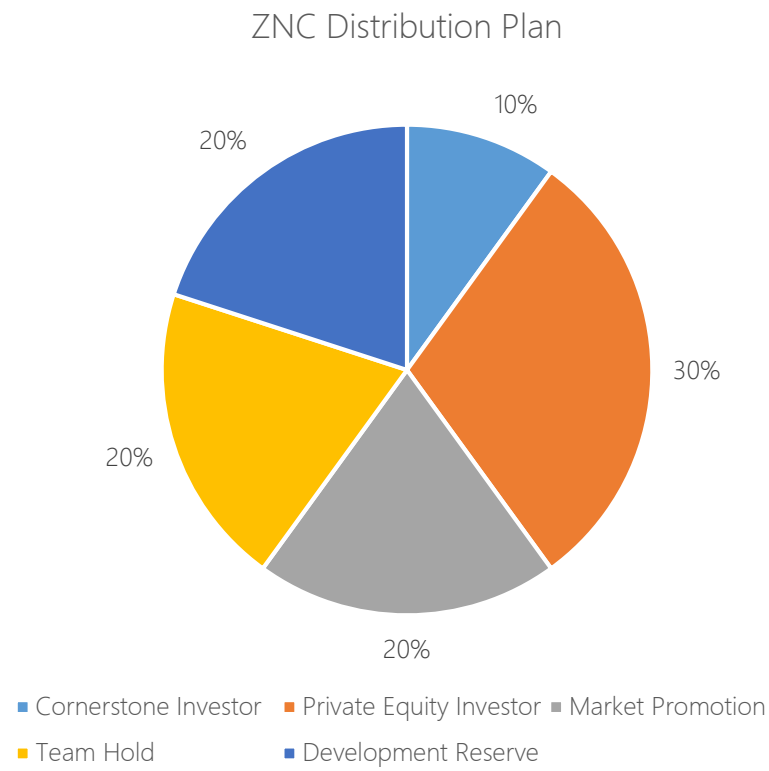
5 The Issuance Plan

1) The Usage of Token

The total number of the ZNC will be limited to 10 billion, and all of them will be generated when the ZeusNetChain is officially released. It will be held by the ZeusNet Foundation ltd, and the ZeusNet will distribute 60% of the token to the public through the token subscriptions and market activities.

2) The Token Distribution

There will be total 10 billion of the ZNC issued, 10% of them will be distributed to the angel investors, 30% of them will be distributed to the privately equity investors, 20% of them will be distributed through the market promotion, 20% of them will be held by the team, and 20% of them will be reserved as the petty cash for further development.



The ZNC distribution plan is shown as below:

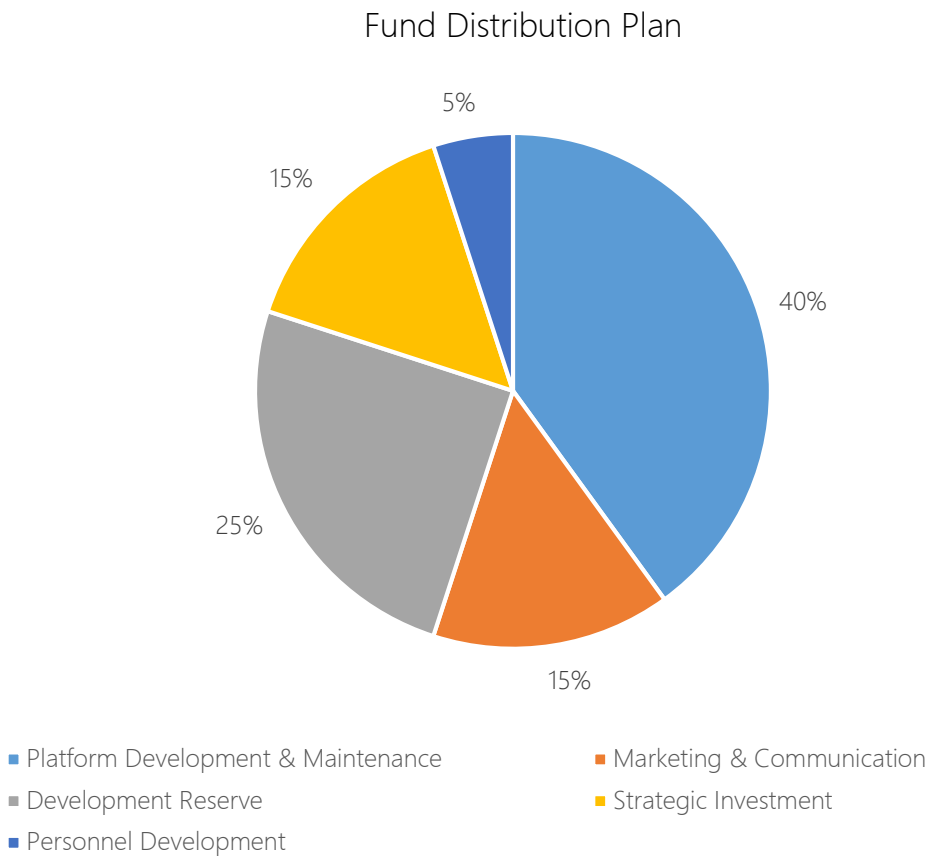
Ratio	Distribution plan	Description
10%	Cornerstone Investor	There will be 1 billion of the ZNC for the cornerstone investors. The portion of gifted ZNC will be locked and get unlocked after 6 months, from the 7th moth, 15% of them will be released each month, and at the 12th moth, 25% of them will be released.
30%	Private Equity Investor	It will be distributed to the private equity investors, The portion of gifted ZNC will be locked, each month there will be 15% of them get released, and in the 6th month, 25% of them will be released.

20%	Market Promotion	It includes the number of the ZNC that are given away to the cornerstone and the Private Equity Investors, also includes the number of the ZNC that is consumed in the marketing events such as community development. The detail of the usage rules will be listed through the office website or the corresponding marketing rules.
20%	Team Hold	25% of this portion of the ZNC will be released in the initial stage, and the rest will be locked by the smart contract, then get released for 25% each year.
20%	Development Reserve	This portion of the ZNC will be used as the ZeusNet reserve funds, it will be escrowed by the ZeusNet Foundation ltd, and get locked. When it gets used in the way descripted above, the official announcement will be available for the token holders through the official website.

3) Detail Rules for the Token Sales

In this round, there will be 4 billion of ZNC available for sale, expected to raise funds for 40,000 ETH.

All The funds raised through the public offering of ZeusNet Chain will be escrowed by the ZeusNet Foundation ltd. The ZeusNet Foundation ltd is obliged to disclosure the funds usage status and the details regularly to the investors. The usage for the funds which is raised through the ZeusNet public offering is as follow:



6 The Foundation & The Team

1) The Governance Mechanism Specification

The ZeusNet Foundation ltd will be jointly set up by the private equity investor, the project executive committee, and the lawyer and the finance professional. It manages the overall fundraised assets and the tokens assets, by adopting the blockchain multi-key signatures to jointly and transparently use the assets. It will declare regularly to the relevant regulation departments and disclose to the public. Before the project landing, it will go through the virtual test and the local small-scale test, then to perform the real project landing if everything goes well. A certain percentage of the tokens will be locked and will get released to the communities and markets by stages.

The ZeusNet team will set up the ZeusNet Foundation ltd in the overseas countries, the foundation will be the main body for the ZeusNet governance, and it will take the whole responsibility to make the major decisions, regulate the management of the ZeusNet technology development and the application development.

2) The ZeusNet Team

Jack Johnson	Over ten years of 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	Over twenty years of IT industry technology business experience as core team member, 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 the experiences in the IT industry, one of the 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. Frequently interview by online and public media 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) Investment & Institutional Partners

7 The 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 were completed. And started building the resource dispatching prototype based on the Docker containers.

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

May 2018, Complete the packing of the Ð app runtime to the Docker, task distribution, computing power resources scheduling, and the automatic workload counting.

July 2018, launch the Private secure cloud storage Ð app based on the computing power network, IPFS, and release personal storage token depending on the ZNC.

October 2018, launch the computing power network based CDN Ð app. The Docker packaging for the CDN runtime, the computing resource scheduling, and the token settlement service.

December 2018, AI Ð app goes online. Offers the AI model offline computing with the low-cost idle computing resources, implements the task automatic distribution, and the rational resources matching.

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

8 The Risk Specification and Notification

This document is for the information sharing purposes only and the contents is only for your reference. 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 try the best to achieve all the goals listed in this white paper, all individuals and groups should purchase at their own risks. The content of the document may be adjusted in new version of the white paper as the project moving along, and the team will release the update by posting a bulletin or a new white paper on the website to the public.

ZeusNet unambiguously disclaims any direct or indirect loss caused by the participants , which includes:

1) Rely on the content of this document

2) The error, inattentive or inaccurate information of this document.

3) Any action resulting led by this document.

The team will try the best to achieve the goals listed in the document. Due to the existence of force majeure, the team can not fully committed.

The ZNC is a tool functioning in ZeusNet, not an investment product. The ZNC is not a type of ownership or control power. Controlling ZNC does not represent the ownership of the 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 using scenarios. We can not guarantee its appreciation. It is also possible for the price 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 the possible risks and for the participants, once they participate in the initial ZeusNet offering, it will be acknowledged that they have understood and accepted all the terms and specifications, and have accepted the potential risks of this platform at their own expense.

There are risks in the development, maintenance and operation of the ZeusNet, many of which go beyond the development party's control. In addition to everything

that has been described in this white paper, participants should fully understand and agree to accept the following risks:

The price of the ZNC is closely tied 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 the blockchain is still at the very early stage, there are no regulation documents for the preconditions, transaction requirements, information disclosure requirements and lockup requirements in the process of raising funds in any countries including our country. Also, it is still unclear that how the current policy will be implemented. All of these factors might have the uncertain impact for the development and liquidity of the project. Blockchain technology has become the main target of regulation in all major countries. ZNC may get impacted if the regulation objects intervene or exert influence. For example, the restriction of laws and regulations may limit ZNC, hinder or even directly terminate the ZeusNet applications and the ZNC development.

Nowadays there are many projects in the block chain area, and the competition is very intense, there are lot of pressures on the market competition and project operation. Whether ZeusNet can break through many other outstanding projects and be widely accepted is not only related to its own team capabilities , vision planning, but also get impacted by many competitors in the market, even the oligarchs. It is possible to face the vicious competition.

ZeusNet gathers a group of people who have passion and capabilities, attracts the experienced practitioners in the blockchain area and the technology developers who have plenty of experienced. In the future development, it is possible that there will be core team members leaving ZeusNet, internal conflicts with the team which bring the negative impacts to the ZeusNet.

The rapid development of cryptography or the the technology such as the quantum computers, might bring the risk of cracking to the ZeusNet platform, and

this might result in the loss of the ZNC. During the process of the project updates, the vulnerabilities may be found and will be fixed in time, but there is no guarantee that this will not cause any impact.

It is possible that the ZeusNet applications will not be used by a large number of individuals or organizations, which means that the public does not have enough interests to explore and develop these distributed applications. The possibility of lacking interests could bring a negative impact to the ZNC and the ZeusNet applications

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

Unlike the bank accounts or the other financial institution accounts, normally the account storaged on a ZeusNet account or the related blockchain network is not covered by insurance, and the loss in any circumstance, will not be covered by any public organizations.

In addition to the risks mentioned in this white paper, there are other risks not yet mentioned or expected by the founding team. In addition, other risks may also appear abruptly or show in the combination of the multiple mentioned risks. Before making the decision, any pootential participants shall have the full understanding of the team background, the overall framework of the project and methodology, then participate rationally .