

**EtherZero- An ethereum hard fork and general-purpose smart contract platform**



# **EtherZero White Paper**

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## **Abstract**

EtherZero, abbreviated ETZ, is a hard fork on ethereum providing no-fee, high expansibility, real-time transaction or operation feedback services. Aiming to be a general-purpose smart contract platform, ETZ helps developers set up DAPPs that not limited in finance and business scope, but those more frequently used in daily life, to popularize decentralized services to more people and industries.

ETZ eliminates the gas fee system from Ethereum network core and adds a Transaction Restriction Policy Protocol layer that associates the threshold, frequency, depth, etc. of initiating transactions with the account balance to combat DDOS like attacks.

In particular, ETZ also draws on DASH's two-tier network architecture built with Masternodes transaction verification network and blockchain ledger layer, and its built-in community autonomous system to provide users with real-time operation feedback and high transaction concurrency, no longer need to wait for a long transaction confirmation time.

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## Chapter I. Preface

Ethereum has been getting attentions since its beta released in May 2015, while with the invention and application of various new Post-Bitcoin virtual currencies and the DPOS Consensus Mechanism and its derivative solutions, Ethereum is losing competitiveness when comparing with the new generation of platforms on aspects of transaction processing performance, user experience more and more.

The lack of competitiveness is manifested in the following aspects: low scalability and lengthy transaction result feedback caused by the participation of all nodes in transaction processing; the problem of lacking general-purpose development support when using gas fee as a kind of DDOS attack defense mechanism.

ETZ picks the proven experience of Ethereum on smart contracts, removes its less-scalability gas-based fee system and designs a fully accountable trading limit and security strategy against DDOS Class attacks. The final two-tier network composed of the main node and pow consensus layer laid the foundation to achieve free of charge, high concurrency, real-time transactions, independent evolution and several other features.

## Chapter II. Background

### **Section 2.01 Market**

Even though the total market value of cryptocurrencies has exceeded \$ 600 billion (by the end of 2017) and is still rising, it is undeniable that most of the investors do not know much about cryptocurrencies and how the blockchain can be changing the world with de-trusting transactions. That is to say, killer applications are urgently needed in the area of blockchain and cryptocurrency to help more ordinary people understand the tremendous impact that cryptocurrency and blockchain technology will have on their lives at a lower threshold. Obviously, this kind of killer applications are not generated independently, but rather should be just one instance of a general-purpose DAPP platform.

### **Section 2.02 What makes a general-purpose Dapp platform?**

The platform should include but not limited to these features:

**Basic operations for free:** In order to be able to support the development and business operations of the decentralized applications, various basic operations such as registration, login, bookmarking, browsing, searching, sharing and relative logical operations should not be charged.

**High concurrency and scalability:** To serve the global users operating contract and data on the blockchain at the same time is undoubtedly a terrible task, so this application platform also needs to have enough scalability.

**Instant feedback:** The vast majority of user operations should be fed back in real time as security allows, it is the basic requirement for decentralized applications to be comparable to traditional applications.

**Version system:** Application version system to help developers to quickly complete bug fixes and implement the A / B test.

**Platform evolution:** The community proposal and Main Node voting mechanism help to drive the community-driven evolution of ETZ, facilitating rapid consensus of technology iterations and platform rules.

**Essential component functions:** Decentralized storage such as IPFS protocol, secure hot fix procedure, common underlying services such as authentication, anonymous communication, notification system, etc.

The goal of ETZ appears to solve the above problem. Considering that Ethereum is the most technologically and ecologically mature in areas such as smart contracts and tokens issuance, we decided to implement a fork to remove its transaction fee system, and adopt the two-tier network architecture of Dash coin to achieve high scalability and real-time transaction feedback. We plan to introduce more groundbreaking technical solutions such as IPFS protocol, DAG and Plasma hierarchical network in the future. It's a long-term endeavor, and it's the job of the entire blockchain and the cryptocurrency community, and we will continue to be passionate about learning and researching before the above tasks are completed.

### Chapter III. No-fee Dapp platform

#### **Section 3.01 Breakthrough of no-fee**

The first feature of EtherZero is the separation between transaction validation with block packing, broadcasting and synchronization. In order to expand the use cases of the blockchain, DAPP developers and smart contract builders need economically friendly technologies while currently the high fees and charges in projects represented by Bitcoin and Ethereum are greatly hindered the popularity of blockchain applications.

A simple scene:

Alice bought a cup of coffee at \$6, she would pay a fee nearly ten times the price in Bitcoin at current market situation. Obviously, this is unreasonable. EtherZero eliminates the current Gas expenses of Ethereum fee and smart contract execution, adopting zero transaction fee strategy. As Ethereum Gas mechanism is an important mechanism to prevent the DDOS attacks, ETZ will use Proof of Stake(POS) to solve the problem, for details about the security policy adopted after the fee is removed, refer to the DDOS Attack Chapter.

### **Section 3.02      *Gas in Ethereum***

In Ethereum, the value of Gas will be calculated as ETH and paid to miners as transaction fee finally. The value of Gas and ETH coin manifests like this:

- a) Kind of reward for the miner's work on pow
- b) Kind of method to protect the system form DDOS attacks
- c) Kind of method to increase value liquidity
- d) A base currency to exchange tokens in Ethereum

Then, how to ensure the incentives of miners after elimination of fees?

Even if the handling fee is removed, the miners can still pack the blocks for currency rewards. The bonus for the coin produced by the miners will be divided into three parts, retaining 45% in itself, 45% in the main node, and 10% in the community budget.

### **Section 3.03      *What does no-fee mean to DApp Dev?***

Taking a simple Todolist DApp as an example, its decentralized implementation can be applied to the team task decomposition process, which requires all participants in the project to know the tasks of other members. Each task is a team consensus result with demand of traceability.

The application involves registration of members, additions, deletions and alterations of tasks. According to Ethereum development requirements, all of these

operations require gas consumption, which is clearly unreasonable for the users of the application. While in EtherZero, the transaction initiation frequency and the execution depth of smart contracts will be positively related to the balance possessed by the account. This mechanism is similar to POS, it takes into account the fair use of bandwidth and set a relatively high capital threshold required to launch a DDOS attack by malicious attackers while providing free services. This kind of limited and cost-effective free mechanism will spread the decentralized application into the scene of life.

### ***Section 3.04 Technical realization***

- a) Add a Transaction Verification Protocol layer to resolve DDOS attacks that may result from no transaction fees
- b) Limit the frequency of initiating the transaction based on the account balance
- c) The size of the data carried on the transaction is directly proportional to the account balance
- d) The introduction of the waiting pool
- e) An algorithm to adjust the above numerical system with responsible elements containing trading frequency, account balance, etc.

## **Chapter IV. High concurrency and real time transaction on two-tier network**

### ***Section 4.01 Reason to introduce Masternodes***

#### ***What is Master Node***

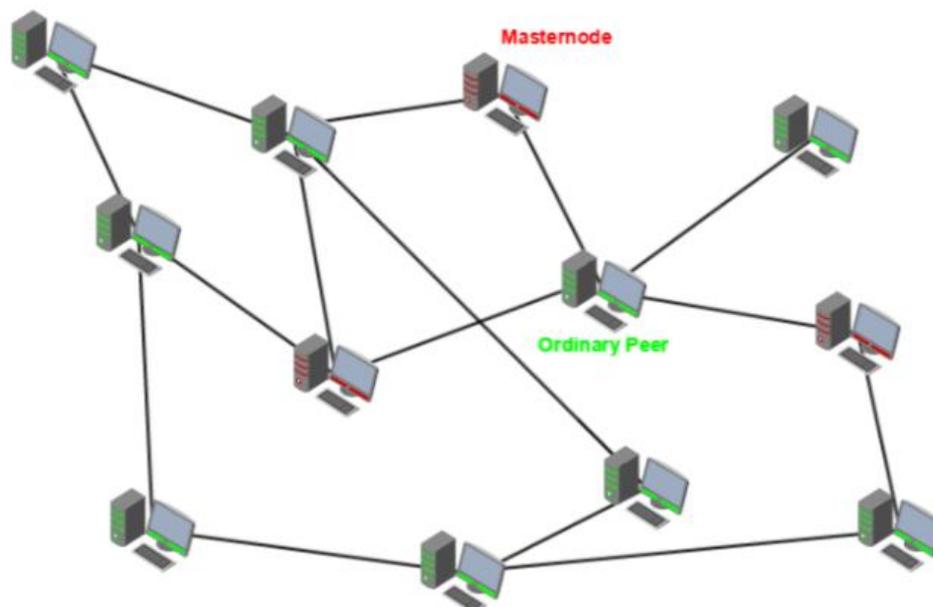
Masternodes, once unique to the Dash network, are full nodes. A masternode is a server connected to the network which guarantees a certain minimum level of performance and functionality to perform certain tasks. Using a concept known as Proof of Service, Masternodes in addition to the Proof of Work done by miners build up the two-tier network.

Since the masternodes provide crucial services to the network. In fact, the entire network is overseen by the masternodes, which have the power to reject improperly formed blocks from miners. If a miner tried to take the entire block reward for

themselves or tried to run an old version of the Dash software, the masternode network would orphan that block, and it would not be added to the blockchain

By separating the transaction verification and blockchain accounting asynchronously, ETZ is able to achieve high concurrency and real time transaction feedback. In addition, the Masternodes are allowed to vote on governance and funding proposals to participate in the process of community technology iteration.

It should be noted that, on physical network connection, the main node is not special to ordinary nodes.



Each ordinary node in the P2P network needs to synchronize the currently active masternode list for the first time when linking the blockchain.

### ***Responsibility of masternodes***

The initial and basic responsibilities of masternodes:

- a) Transaction Verification: Achieve consensus with other masternodes selected by the algorithm and broadcast results, providing second-level real-time trading

feedback. This real-time feedback service is different from instant pay of DASH, it is not limited to the scope of special services but a common basic service, but open to all users' all operations by default.

- b) Community autonomy: Masternodes need to vote on the proposal. The proposal will reflect the community's discussion of trends and focus, will involve all aspects of EtherZero, including not limited to the direction of technological iteration, operating plan adjustment, resolution of member disputes, changes in economic parameters.
- c) Dedicated service: Different from DASH whose main application scenario is payment, EtherZero is oriented to a wider range of decentralized applications, which requires that the services provided by the master node may be subdivided and specialized in the future to meet specific application needs.

### ***Rights and Interests of masternodes***

The building up and maintenance of the masternodes need funding, time, energy and technology to provide more and more excellent services to users in the whole chain. In assuming the above responsibilities, masternodes will therefore receive system rewards. The rewards come from the rewards that miners earn by packing block. The miners reserve 45% of the rewards, while another 45% allocated to masternodes, and the remaining 10% are used for community autonomy and proposal budgets.

The allocation algorithm of bonus to the masternodes can be described as: more work, more reward. More rewards for masternodes that handle more deals; More rewards for masternodes whose vote match the final result of a proposal;

### ***Host a masternode***

#### ***The funding threshold***

Each Masternode is secured by 20,000 ETZ which is still under the sole control of the owner at all times and can freely spent. The funds are not locked in any way.

However, if the funds are moved or spent, the associated masternode will go offline and stop receiving rewards. The meaning of threshold is:

- a) Ensure the establisher or owner of the masternode has plenty money to maintain a long-term service.
- b) Decrease the ETZ market supply to maintain the ETZ at a relatively high level price
- c) Secure the system from DDOS like attacks which generally launched by building up many masternodes.

### ***The technical threshold***

The building up of a masternode requires a certain level knowledge of blockchains and Linux server operating systems. The server need a dedicated IP address, 24 hours online and offline time less than an hour. The masternode builder can deploy it on their own or seek the support from the professional community members offering dedicated hosting solutions. Soon after, EtherZero team will provide a detailed operation document on the official website which will describe the concept of the master node, revenue model, detailed procedural and command-line operational guidelines, operations kits, maintenance plans and FAQs

### ***Section 4.02 Two-tier network***

The arbitration layer consisted by masternodes together with the subsequent POW consensus layer form the architecture of a two-tier network. The significance of the two-tier network for high concurrency lies in that transaction verification and block chain accounting are divided into two steps almost asynchronously. Once the transaction is locked and confirmed at the arbitration level, the feedback returns directly to the client, without waiting for the pow consensus layer to complete the blockchain accounting.

Due to the adoption of Pow consensus algorithm, miners are still crucial for the development of the platform. The platform retains the reward for packaging block. ETZ team will provide different platform versions of mining software.

In the long run, the removal of fees may be annoying or negative to the miners. Considering miners own plenty ETZs, they have the potential to be masternodes, and actually consolidating miners and masternodes is one of our solutions to achieve higher concurrency. Based on the successful operating experience of DASH, we have reason to believe that the two-tier network will be a harmonious symbiotic relationship. For longer-term consensus tier, our team will consider DAG and Plasma technologies.

### ***Section 4.03 Two-tier network vs DPOS***

In fact, all DPOS consensus mechanisms can be simply understood as "rich games." EOS's builder BM made this clear in his debated with Vitalik Buterin, founder of Ethereum. This feature stems from the fact that the probability that a candidate is elected as a principal is positively related to the candidate's account balance. Taking EOS as an example, its voting algorithm is to elect 20 basic agents by all nodes and then elect an additional agent by those 20 basic agents. The voting power depends on the balance of the account and the 21 proxies selected by the polls will proxy building blocks for a nearly one-minute cycle.

For EtherZero, the masternode generation algorithm requires that all the transactions are generated randomly by the client after synchronizing the list of masternodes, and the agents delegating each transaction is basically impossible to repeat, which realizes higher decentralization rate.

### ***Section 4.04 High scaling on two-tier network***

We define scalability as supporting both massive users, huge requests, and incidental real-time or near-real-time responses.

A simple transaction process from user A to user B:

- a) User A send ETZ to user B using transaction lock

- b) The transaction lock is broadcast to the entire network and finally reaches N elected nodes ( $N > 2$ ) for verification
- c) The elected master node signs the transaction message with a transactional lock to form a consensus message, which is then broadcast to the network
- d) When a node receives a consistent message, it can be considered that the transaction was confirmed and payment been completed. If user A once again tries to initiate a payment that already exists in the network, the second payment will be rejected to prevent replay attack.

### ***Approach***

- a) Two-tier network: The separation of the masternode from the miner node allows the verification of the transaction to be separated from the subsequent processing of blockchain packaging. And with the transaction lock, the near real-time transaction processing can be safely implemented in a similar asynchronous manner.
- b) Proxy mechanism: The existence of the masternodes ensures that the nodes in the chain are not all needed to be responsible for the transaction verification, a transaction only needs to be confirmed by five masternodes. As a result, the more masternodes, the stronger the network concurrent transaction processing ability.

### ***Blueprint***

Increasing the capacity of a block is also a measure to enhance scalability. EtherZero will support a capacity of 2 MB and will initiate proposals to ask community's support according to the status of user and transaction quantities.

With higher scalability requirements on hardware, the future masternode and miners are apt to return a single node to integrate resources. Relying on professional services, a unified node will achieve the node specialization Satoshi mentioned:

“The current system where every user is a network node is not the intended configuration for large scale. That would be like every Usenet user runs their own NNTP server. The design supports letting users just be users. The more burden it is to

run a node, the fewer nodes there will be. Those few nodes will be big server farms. The rest will be client nodes that only do transactions and don't generate." — Satoshi, 2010”

Reference : <https://medium.com/@eduffield222/how-to-enabling-on-chain-scaling-2ffab5997f8b>

This may be a revolution that the traditional centralization services to a decentralized professional service. The role of such a joint node is somewhat similar to the current cloud service providers. Refers to the current cloud service provider's research and development and operations, we will study how to enhance the service capabilities of these combined nodes in the future in these three areas:

- a) Customized, high-performance hardware including CPU, RAM, and hard drive
- b) Adequate bandwidth to support the main node to broadcast to the whole chain
- c) The masternode network is able to interconnect stably and broadcasts to each other quickly.

## **Section 4.05      Secure**

### **2/3 Attack**

The existence of the masternode economical threshold makes it extremely expensive to launch an attack based on constructing a large number of masternodes. Taking the masternodes network of DASH for example, when the total number of the masternodes is 3000, in order to obtain a successful attack rate of 1.72%, the hacker needs control or create 2,000 masternodes, that is, to buy 2 million of DASH under the current price conditions. In this way the 2/3 attack is not worth it, and the low liquidity resulted by masternodes' locking coins makes the attack more unrealistic.

Table: The probability of a successful attack given the attacker controls N Nodes.

Attack masternodes / total masternodes	Success probability (p)	Dash coin required
10/1010	3.44e-24	10,000
100/1100	2.52e-11	100,000

1000/2000	9.55e-03	1,000,000
2000/3000	1.72e-02	2,000,000

Where:

- a)  $p = \prod_{i=1}^n ((r-(i-1))/(t-(i-1)))$
- b) n is the length of the chain of masternodes;
- c) t is the total number of masternodes in the network
- d) r is the number of rogue masternodes controlled by the attacker and it is  $\geq n$
- e) The selection of masternodes is random

Reference : [DASH WHITEPAPER –INSTANT TX](#)

## ***Replay Attack***

A common problem in a large, scalable distributed network is how to ensure that a resource is consistent across the entire network. The issue of consistency can usually be solved by calling various conformance algorithms, such as Paxos.

Bitcoin prevent the Replay Attacks by POW mechanism and essential proportion of verified nodes, due to design limitations, the confirmation of a transaction in Bitcoin needs time as long as hours. EtherZero introduced the concept of transaction lock, when a user initiated a transaction, the generated transaction lock will broadcast to the entire network to lock the transaction related assets:

Transaction Lock: (“txlock”, CTransaction, nBlockHeight, Signed Message)

Any client masternode can no longer transfer these locked assets without receiving the verification message from the selected masternodes. When an existing transaction appears on the network again which usually happens when another client node operates a locked asset without receiving a notification of the transaction lock, the second transaction will be considered as a malicious replay attack and refused by new selected masternodes.

## ***Sybil Attack***

Refers to a kind of network attack as a pretext, the reserve threshold settings and the attached low liquidity resulted by the threshold led to initiating Sybil attack by establishing a large number of masternodes become extremely expensive and hard.

## ***DDOS Attack***

DDOS attack refers to a kind of attack that initiating a large quantity of garbage transaction requests to a host server within a short period of time, which may lead to the masternode off-line and service interruption. For the low DDOS attack resistance caused by removing transaction fees, EtherZero learns from the POS mechanism. In EtherZero, the number of transactions initiated by an account, the frequency, the depth of execution of the contract, and the transaction ordering when being packaged are all positively related to the ETZ balance of the account, and this mechanism resulted very high cost of launching large quantity of trash transactions. The detailed design to protect the blockchain from DDOS attack is:

- a) Initial threshold : In order to prevent malicious attacks, only if there is more than 0.1 ETZ in the account can the owner initiate transaction. The number of transactions that can be initiated by an account with a fixed balance is limited in a block packaging term (ten seconds).
- b) Ordering : More balance the account hosts, more quickly the transaction been packaged.
- c) Calling depth : More balance the account hosts, longer contracts that can be called.
- d) Capacity : more balance, more transaction data.
- e) Max depth : To prevent the contract from running into an infinite loop, the maximum size of the stack will be limited to 1024.
- f) Contract account : Only when the contract account balance is greater than 100 ETZ can it be called by other accounts.

## ***Finney Attack***

The Finney attack is a variation of a double-spend attack. The attacker creates two transactions - one crediting the victim and one crediting themselves. They keep the first transaction for now and proceed to try mining the second one into a block. When they succeed (this may take a while), they quickly make a purchase with the first transaction, get the goods they purchased, and then release the pre-mined block. This way the first transaction will become invalidated, even if it is propagated through the whole network.

Reference: <https://bitcoin.stackexchange.com/questions/4942/what-is-a-finney-attack>

This is actually taking advantage of the time lag between payment services in high-latency blockchains such as BTC, while the near real-time transaction feedback in EtherZero greatly reduce the operational space for such attacks.

## **Chapter V. Community autonomy and evolution**

Autonomy stems from good defect management and accountability mechanisms, with evolution stemming from top-level thinking, technology and economic guidance.

Simple proposal and voting can deal with basic defect management. At different stages of development, there are different requirements to meet. In EtherZero, the change in demand will be more and more dependent on the power of the community, including the discovery, proposal, review, crowdsourcing, rewards and punishments, etc. For the early formation of the responsibility mechanism, the Foundation will lead the community to form a reviewing system, and step by step consolidating the experiences and mechanisms as contracts for long-term.

Economic relations determine the social structure. Budgeting systems account for 10% of the block rewards, providing a community autonomous and evolutionary economic incentive system from the ground up.

### ***Section 5.01 Developers***

Developers will be considered as the core community of EtherZero where developers will play the role of a fundamental resource provider, as important as sunlight and water to plants. We will build a more motivated economic system since the beginning of the fork and provide direct ETZ stimulus for developers to create high quality, creative, and influential applications throughout the community.

## **Section 5.02 Proposal and Budgets**

The current community governance mechanism of DASH facilitates the blooming of a variety of applications and activities. The market capitalization of DASH is also gradually increasing. There will be a similar system of community governance in EtherZero:

- a) Proposal : Everyone can initiate a proposal and the applicant should be with community fame and contributions in community development.
- b) Review : Audit shall be completed in the chain by masternodes' votes (yes-no) , the proposal will be approved or denied when there is a difference of 10% between the yes and no votes
- c) Reward : The rewards ETZ will be excavated weekly on the super block and the applicant will be rewarded according to the proposal amount.

## **Chapter VI. Technical parameters**

### **Section 6.01 POW**

- a) Block size : 2M
- b) Block time : 10 seconds
- c) Block rewards : 4 ETZ
- d) Difficulty adjustment algorithm : EtHash

### **Section 6.02 Masternode**

- a) Threshold : 20,000 ETZ
- b) Rewards : 45% of the Block rewards.

### **Section 6.03 Transaction**

- a) Quorum masternode number : 6/10
- b) Latency: near real-time, second-level

## Chapter VII. Application scenarios

### **Section 7.01    *General-purpose DApps***

The core task of the blockchain is to realize trust-irrelevant, that is, no matter who the counterparty is, one can directly trade with him without any trust, and the “without relying on trust” is realized through Smart Contract. Taking a bet contract on a match result for example, the simplified code is as follows:

```
matchResult=NBA.matchResultAPI.get("the final battle")
if(Cavaliers won)
  pay 40 to A
else
  pay 40 to B
```

Based on this example, the services that need to be participated by two or more parties and require intermediaries as trust builder can be changed by blockchain technology, and in these services, the smart contract will take over the intermediaries as better trust builder.

In fact, smart contract in Ethereum is general-purpose, but its fee feature makes complex smart contracts written by developers cannot afford a large number of users in cost aspect.

The elimination of fee system by EtherZero enables users who use smart contract services reasonably not to pay any costs, ensuring the economically viability and sustainability of large decentralized applications and giving DAPP a natural ability to differentiate services based on account balances.

### **Section 7.02    *Industrial evolution***

As a bottom application development platform, EtherZero is not limited to the cooperation industry. However, it is necessary to describe some mature thinking that we are trying to realize.

### ***Game props crowdsourcing, design and exchange***

CryptoKitties, a game featuring digital cats, accounts for 11% to 15% of the traffic on Ethereum on Dec.4<sup>th</sup>, 2017, also let people realize the great potential of blockchain in a game segment: the uniqueness of props is full of imagination in the prop trading market.

We will design a props outsourcing and trading platform to connect designers and writers, numerical system designers, game manufacturers, players and other groups, the use cases are as follows:

- a) Manufactures : Post requirements and lock ETZ coins to smart contracts as prepayments
- b) Designers : Receive the tasks, design props according to the game manufacturer's game concept and requirements; be paid after the props been recognized by users and manufactures.
- c) numerical system designers : Design burst rate, props effect, burst conditions, mutation conditions, mutation rules, etc. Be paid by smart contract after been approved.
- d) users : Vote for prop, exchange props.

Through such an ecological loop to achieve the expression, dissemination and realization of ideas and originalities.

### ***E-commerce and on-line distribution***

Industry seminars will dive into various industries and discuss with experts that the necessity and feasibility of establishing independent, EtherZero token-based economy in these industries, meanwhile, explores the merging point between big data technology and distributed accounting and anonymous accounting techniques,

to provide sufficient nutrients for the industry's AI applications based on a wealth of credible data.

### ***Mapping organizations from real world to blockchain***

Society needs different kinds of organizations, centralized or decentralized, big or small. The inclusiveness and diversity of society itself are a manifestation of the degree of social freedom. Comparing with DAO, we plan to implement a mapping application which we refer to as MRO (Map of Real World Organization) in EtherZero, it can be both anonymous or real-name, helping existing businesses deal with internal management and relationship management with smart contract.

Imagine this:

- a) Each organization can map its own organization to that application
- b) Internal management
  - a. Recruit members and sign smart personnel agreement
  - b. Salary payment, structure various types of equity structure
  - c. Purchase big data, AI services developed by developers and lawyers based on standard trusted data.
  - d. Publish outsourced tasks and sign smart outsourcing agreement
  - e. Initiating votes or secret ballots
- c) Relationship management
  - a) Sign smart contract with business partners or competitors
  - b) Sign smart equity mutual support agreement with partners
  - c) Issuing debt, ICO and various types of financing
- d) More scenes that can be virtualized to agreement.

## **Chapter VIII. Economic system**

### ***Section 8.01 Usage of ETZ***

The usage of ETZ coins throughout the ecosystem classified with roles:

- a) Miners
  - a) ETZ as reward for the miner's work on calculating and packaging new blocks
- b) Community proposal applicants
  - a) ETZ as budget for the operation of the approved proposals
- c) Masternodes
  - a) As threshold to be masternode
  - b) As reward for the masternodes' work on transaction verification and other services
- d) Developers
  - a) 10 ETZ balance is needed to keep the smart contract callable
- e) Normal users
  - a) 0.1 ETZ required to initiate transactions. And the balance is positively related to the transaction implementation depth, frequency, etc.

Economic system constructed on the basis of the above ETZ function can effectively encourage various roles in the ecosystem to work towards a common goal.

## ***Section 8.02      Supply***

EtherZero (abbr. ETZ) is the internal coin of EtherZero hard fork. The initial issuance of ETZ is 194 million, which 97 million will be directly allocated as candy to ETH holders, and the left 97 million will be reserved for private equity investors and following development and eco-development.

There is a 6.5% inflation annually, while considering a large quantity of ETZ will be locked to keep the work of masternodes, smart contracts and normal accounts, the market supply is supposed to be stable or decreasing.

## ***Section 8.03      Thresholds***

## ***Masternodes***

DASH currently has 4,777 masternodes (Reference 1), each of which needs to lock 1,000 DASH, which is 61% of the current total of 7,783,295 DASH.

EtherZero Each node needs to lock 20,000 ETZ, assuming EtherZero operating 4000 main nodes after one year which will need 80 million ETZ, accounting for about 41% of the total amount of ETZ initial issuance.

## ***Contract accounts***

In order to ensure the normal operation of a smart contract, developers need to lock 10 ETZ in the contract account, the currency can be transferred at any time, but that will affect the implementation of the contract, because the system limits that: only with balance above 10ETZ can its contracts been callable.

## ***External owned accounts***

Only with 0.1 ETZ or above, can an external owned account (EOA) initiate transaction.

## ***Section 8.04 Exchange***

For the exchange plan, see our twitter or telegram announcements.

## ***Section 8.05 Monetary Policy***

Locking behavior of masternodes, contract accounts and EOA accounts causes the market supply to maintain a certain amount of deflation over a longer period of time. As the business develops, the locking values will be adjusted through the community voting system.

It supposed that half of the ETZs in the EtherZero will be stored in the masternodes and contract accounts. This endogenous economic system, together with the payment requirements of a steady stream of new accounts, and the massive nascent

investment on the trading platform, the inclination of supply and demand will push up the price of ETZ ceaselessly.

## Chapter IX. Plan and Vision

### **Section 9.01 Work schedule**

The technical characteristics iteration of the platform will correspond to the gradual development of ecological planning, at different times and based on different characteristics to guide developers and users concerned about the appropriate killer application. See ecological growth from the perspective of the development.

- a) Jan. 2018, The EtherZero network will be released to achieve 0 transaction fee and anti DDOS attacks.
- b) Feb.2018, EtherZero will complete issuing EtherZero, put up the online wallet, let the Mainnet to achieve the 0 transaction fee and anti DDOS attack, mine first EtherZero block after the fork
- c) Mar.2018, The mobile wallet and the DApp application store will be released to promote the ecological development of the user
- d) Q1 2018, The Masternode will be successfully tested on Testnet
- e) Q2 2018, The Masternode will be successfully tested on Mainnet, realizing real time transactions and higher transaction concurrency (greater than 10000TPS).
- f) Q4 2018, The optimized version of Masternode will be online, supporting tens of thousands of TPS.
- g) Q4 2019, Star DAPP application competition begin and launch a long-term developer reward program to promote the development and prosperity of the developer community.

### **Section 9.02 Vision**

We are positioning ourselves as integrator, promoter and practitioner of blockchain technology.

The convergence refers to the fact that most of the current innovations are still in the experimental phase, severely separated from each other and targeting unclear

application scenarios. the block chain industry requires an organization to stand on the sidelines as observers and investigate the integration potential of these technologies in real-life scenarios, and to provide developers with an operating system that accommodates various technologies and is oriented to the application layer. EtherZero will use private funds to recruit new blockchain technicians to integrate the existing technologies after completing the task of setting up essential number of masternodes, In the long term, technology will be transformed into practical scenarios in a parallel mode between production networks and experimental networks.

Promotion and practice is for the real application scenarios. Each technology must have a real scene in which it has a breakthrough in economic benefits comparing with the original technology system, can it become the mainstream. We will organize a dedicated industry application work Group, of which the team members are traditional industry experts, blockchain technicians and product managers, to research scenario feasibility in an exhaustive way and deepen the blockchain revolution.

Too many concepts have become a major barrier for ordinary users in understanding and enjoying the dividend brought by the blockchain. We hope to protect users

from directly being trapped into the complex concepts by combining cognitive and technical aspects, by exporting mature products. We will do our best to guide community developers to develop touchable products.

## **Chapter X. Team**

### **Gary Luo, CEO**

Continuous entrepreneurs, dropping out of college and found startup, has engaged in Internet marketing, shareware, mobile games and cryptocurrency, responsible for the development and operation of several tokens and DAPP. The project leader in

the concept of EtherZero design, development direction, leading EtherZero to become a common DAPP development platform in 5-10 years.

### **Rolong, CTO**

More than 10 years of experience in developing, a senior full stack engineer, proficient in C + +, GO, JAVA, erlang and server-side development, web3, h5 and other front-end development, senior smart contract developer and researcher on the bottom technology of Ethereum, the top DDOS defensive master, the published technical solutions of him are still treated as technical specifications by other developers.

### **Roger lu**

Senior Ethereum developer at the bottom development, a minority that has deep researched the codes of Ethereum, ten years of financial technology development work experience, blockchain lovers, open source community activists. Focus on the core of zero-core development

### **Mia, Overseas promotion manager**

Senior overseas marketing experts, with many years of overseas promotion and excellent achievements, are responsible for the overseas promotion of the EtherZero.

### **Frank, Product manager**

Two years of financial industry consulting, three years of financial industry product manager, is now focused on cryptocurrency and blockchain technology, focusing on the industrial application of block chain technology and possible technical implementation paths.

## **Chapter XI. Conclusion**

Merged with Ethereum and DASH, EtherZero built a safe and reliable non-free service, making the large-scale and complex smart contracts economically feasible and continuous, providing excellent interactive experiences based on the scalability and real-time transaction feedback of the masternode network, and will change people's awful impression of extremely long transaction confirmation time.

Given that the blockchain industry is still in the beginning and experimental stage, only through drawing up the public's expertise can we build a relatively blameless technical framework, only by integrating with industries can we reduce the overall risks we will face at every step and fulfill long-term goal that becoming a mainstream blockchain application platform.

Currently, technical limitations will limit the popularity of the blockchain in daily life, and the speculation of prices will continue for a long period of time. EtherZero will stick to improve blockchain technology as the goal, to explore the application of various industries as our own duty, to improve social efficiency with decentralized technology and ideas, reducing social operating costs and achieving a fairer social. Thank you for your support!