



**ETU**

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**WHITE PAPER**

Ether Universe is the world's first decentralized, high-performance, cross-chain platform. As a distributed blockchain network infrastructure, Ether Universe acts as an inter-blockchain bridge to enable connection, value exchange and to provide secure, stable, top-speed cross-chain services. With innovation technology, sophisticated management structure and vast application field, Ether Universe shall become the industry leader of cross-chain technology.

From technology point of view, Ether Universe is equipped with a strong development team. It applies the mixed technology of "notary schemes + sidechains" over Dpos consensus mechanism with 48 high-performance super nodes. With open state channels and APIs, it enables the high-speed connection of applications.

On management structure side, Ether Universe is a semi autonomous ecosystem that is maintained by all participants(development team, miners, verifiers, guarantors, users and third-party developers etc) based on a reward and punishment mechanism. In the meantime, a management foundation has been set up that is dedicated to the development and construction of Ether Universe, initiation and implementation of management transparency, promotion of security and harmony in the open-source ecosystem society and ensuring the sustainability of Ether Universe and the security of fundraising.

From application standpoint, Ether Universe provides cross-chain services to EOS, Ethereum, Bitcoin and other mainstream networks. Industry, commerce, real estate, finance and other organizations and corporations can also build their own blockchain platforms. Different industries can form their own alliance chains and enjoy the cross-chain services provided by Ether Universe. In the ecosystem of Ether Universe, we encourage and support third-party developers to develop high-quality applications including: DApp, protocol, smart contract, etc. We also encourage third-party developers to join us to work on the cross-chain platform of Ether Universe and drive the landing of blockchain technology.

As the most prospective cross-chain ecosystem, Ether Universe solved the existing problems of the second-generation public blockchain such as Ethereum network , allows 400,000 transactions per second , verification takes only 2-30 seconds, the charge for each asset exchange activity is approximately 10 times lower than other asset exchange methods. Ether Universe shall gradually form blockchain economy, improve industry efficiency and accelerate the development of a highly efficient, coordinative society through building the basic platform, developing products and commercial projects.

Ether Universe defines the new cross-chain method.

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# 1. Design Idea

## 1.1 Cross Chain Background

Since Bitcoin was introduced in 2009, blockchain technology has seen great development and attracted attention from more and more people. 2017 was the year when most people came to real contact with blockchain due to the explosive value increase of digital currencies. Thousands of blockchains will emerge in various industries in the future. Should a user want to access features provided by a blockchain, he or she would have to purchase tokens on this particular chain which would greatly limit the circulation value embodiment of blockchain.

Ether Universe aims to connect different chains. One of its important commercial functions is to allow the exchange of digital assets among different chains directly instead of through centralized digital currency exchanges. Similarly, more and more traditional industries may transform their productions into token and record them on the blockchain. Ether Universe will provide services for them to achieve the exchange of asset warranties which will greatly increase the asset liquidity of traditional industry. During this process, Ether Universe shall become the mobile hub of warranties and an open cross-chain exchange platform on millions of blockchain networks to truly serve the entire industry.

Ether Universe will build a strong and competent infrastructure for blockchain networks. It shall provide a series of external services including flexible status channels and service APIs. Any applications based on Ethereum, EOS and etc. can make use of the service provided by Ether Universe and implement inter-blockchain information exchange functionalities. Be it a public blockchain, a private blockchain, an alliance blockchain, or an application based on a blockchain, it may integrate with Ether Universe seamlessly to allow high-speed and secure cross-chain connection and asset exchange at an extremely low cost.

## 1.2 Industry Pain Spot

Since the Bitcoin code was made an open source in 2009, many cross-chain projects have emerged in the community including Interledger, BTCreply, Polkadot, Fushion, etc. However, they all face a series of challenges on the technology and industry application side. The major issues are stated as below,

Blockchain network congestion. Bitcoin and Ethereum network congestion results in a horrible user experience of their blockchain applications which prevents them to be used in a large scale.

Slow cross-chain exchanges. For Bitcoin, verification of each transaction takes around 10 minutes. For Ethereum, the problem lies in network congestion and high charges. As a result, the exchange of Bitcoin, Ethereum and other assets takes a relatively long time.

High charges for asset exchange. A certain charge occurs upon each transaction and the amount goes higher in return for faster process.

A long way to go before the completion of a cross-chain network. A single network between one chain to another is easy to build. However, there is still a long way to go for the multi-dimensional exchange among various chain networks.

It is our hope to build a brand new inter-blockchain system — Ether Universe as the infrastructure of the future blockchain networks and improve the general user experience of the entire cross chain industry.

### **1.3 Design Principle**

Ether Universe came up with the following solutions targeting the industry pain spot.

Ether Universe is structured over the high-performance third-generation public blockchain which allows 400,000 transactions per second.

Ether Universe adopts DpoS consensus mechanism and is equipped with 48 service node. Verification takes only 2-30 seconds which means a transaction can be completed within 30 second.

The charge for each asset exchange activity at Ether Universe is very low which is approximately 10 times lower than other asset exchange methods.

Ether Universe introduces miners, notaries, guarantors and a reward and punishment mechanism to ensure the security of information exchange on other blockchains outside of EOS. The security is also strengthened by the 48 super nodes Ether Universe set up around the globe. Even under a hacker attack, as long as the majority of the nodes are functioning normally, the whole network would remain unaffected.

Ether Universe is dedicated to structuring exchange among networks, i.e., to become the infrastructure of blockchain networks which enables the connection and communication between Bitcoin, Ethereum, EOS and other mainstream public blockchain networks.

Moreover, Ether Universe has implemented modularization design in its development process and taken the ease to use into account. Status channels and APIs will also be kept open for blockchain projects to have easy and convenient access to the platform.

In order to be compatible to various operation systems and meet development needs of the users while remaining a true open source, we provide different versions of Ether Universe system and services to mobile ends. We also encourage third-party developers to work with us to drive the landing of cross-chain technology in China and develop more high-quality applications and standard function modules.

## **1.4 Mission and Vision**

Ether Universe devotes itself to build an global influential open-source cross-chain ecosystem through community, third-party developers and technology innovation. The ultimate goal is to apply cross-chain technology into finance, industry, commerce, real estate, IoT and other fields. Ether Universe is a compatible eco-society that connects blockchain and practical business society through a distributed system.

Technology innovation: Ether Universe is the first in the world to apply the mixed technology of “notary scheme + sidechain”, reach consensus over DpoS mechanism and set up 48 super nodes globally. This is a bold innovation.

Sustainable development: Ether Universe is a semi autonomous ecosystem that is maintained by all participants(development team, miners, verifiers, guarantors, users and third-party developers etc) based on a reward and punishment mechanism. In the meantime, a management foundation has been set up that is dedicated to the development and construction of Ether Universe, initiation and implementation of management transparency, promotion of security and harmony in the open-source ecosystem society.

Commercial application: Ether Universe supports cross-chain services among EOS, Ethereum, Bitcoin and other mainstream blockchain networks. Industry, commerce, real estate, finance and other organizations and corporations will all build their own blockchain applications in the future. Different industries can form their own alliance chains and enjoy the cross-chain services provided by Ether Universe.

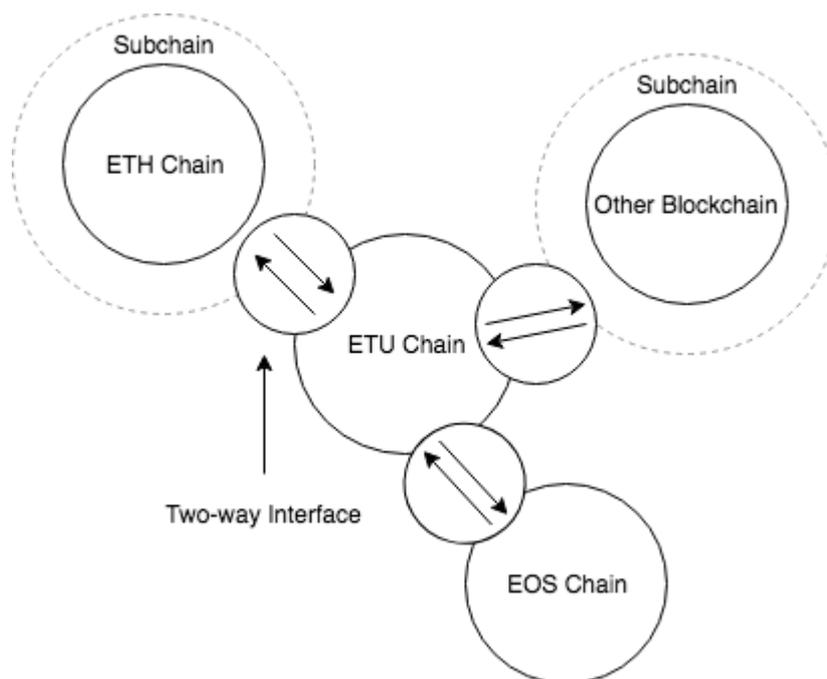
Business partners: Ether Universe integrates resources from enterprises, business circles, technology field, government and other areas to maximize sharing and efficient use of resources to achieve the cooperative development of society. Ether Universe reserves 20% of its tokens as an eco fund that will be used to incubate or support high-quality application in the ecosystem and motivate the top contributors.

## **2. Technology Innovation**

## 2.1 Cross Chain Theory

There are mainly three cross-blockchain technologies: notary schemes, sidechains/relays and Hash-locking. Notary schemes is to introduce an intermediary to build trust between two parties, provide a top layer encrypted custody system called “the connector” and enable cross-chain asset exchange through the help of the intermediary. Sidechain/relays is using a middle chain as a passage in between different blockchains. Assets are locked by multiple time stamps on the main chain, anchored on the side chains. Transactions will be verified through voting. Hash-locking is a dependent relationship, for example the Lighting Network enables asset exchange through creating payment passages. Ether Universe applies the mixed technology of “notary scheme + sidechain/relays” to cross chains.

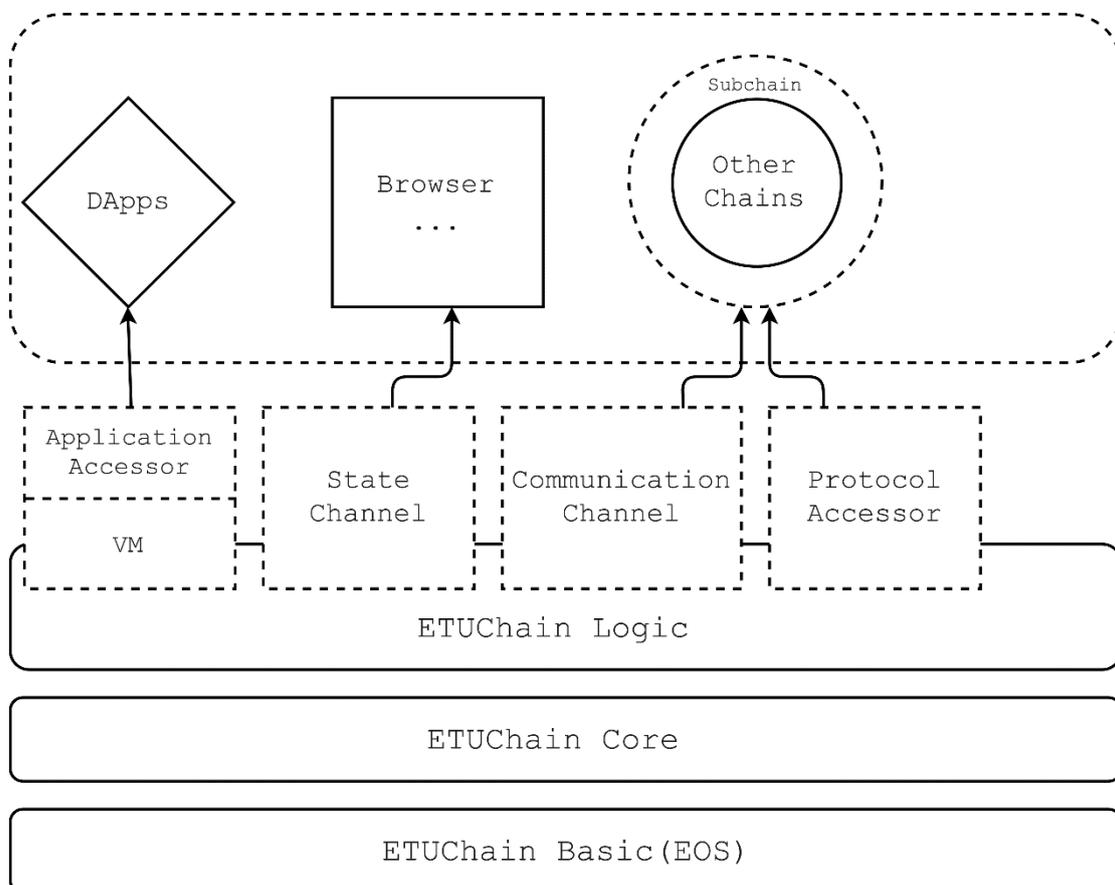
There are already a few cross-chain projects under progress such as RootStock, Polkadot and BTCRelay. In BTCRelay solution, the base chain will provide SPV Proof to the side chains to verify activities on the base chain(including generation of blocks and transactions, etc.). Side chains will anchor the new blockchains based on BTC and allow users to verify BTC transactions over ETH through ETH smart contract. This is the first effective and meaningful technology advance also a bold trial in cross chain technology. Ether Universe will fully use and develop the smart contract technology and bring more changes and innovations.



Ether Universe consists of a base chain and subchains based on different blockchains. The base chain is the most essential part of the entire ecosystem which bears the interchange logic of the whole platform and records all exchanged information. The tokens generated from the base chain will be used to pay for the GAS cost for each cross-chain service. The subchains assist the base chain to make two-way anchoring towards other blockchains.

### 2.1.1 Base Chain

EUTChain is the base chain of Ether Universe, a public blockchain based on EOS.IO whose cross-chain functions are developed over EOS. The excellent performance of EOS chain allows ETUChain to provide data services with high throughput and processing capability and low latency. It also supports multiple functions of EOS including accounts, certainty of applications, concurrent execution, Token model, resource usage and management, script, virtual machine and cross-chain communication.



ETUChain shares computing resources with EOS chain or other EOS side chains. ETUChain has its own committee, witnesses and computing resources. The computing resource sharing mechanism of ETUChain allows providers of computing resource to share their resource with multiple chains.

ETUChain can make cross-chain communication with EOSChain directly which is achieved through the simplification of generation of information existence proof and information time series proof. These proofs are integrated with the application framework design i.e. the framework design that conceals application developers during detail oriented cross-chain communications and verifications.

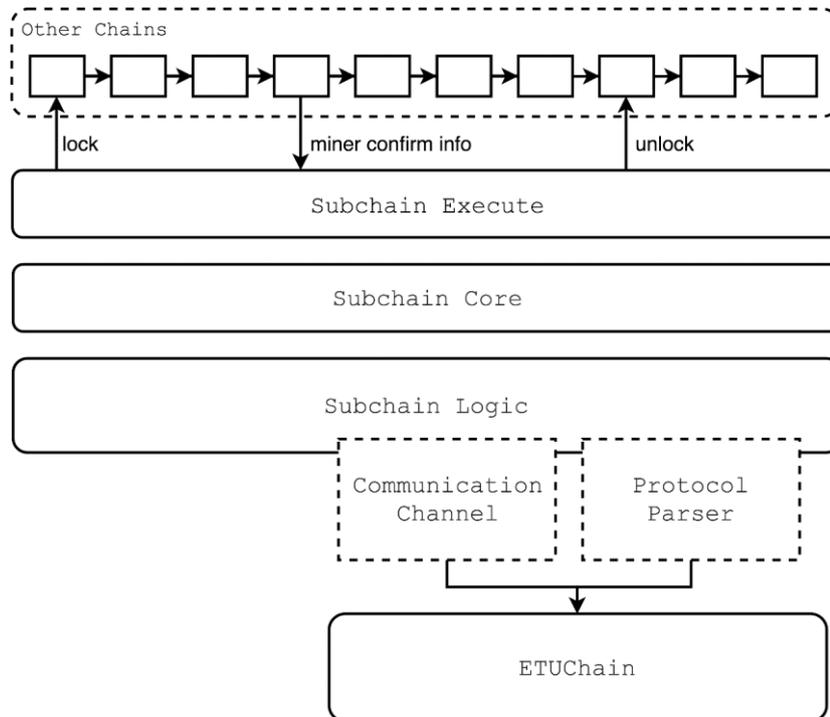
The communication between ETUChain and other blockchains is dependent on extended interface on the logic chain. ETUChain adopts a protocol to achieve information interchange among subchains. The functions of the protocol are listed as below:

- a) Functional completeness: different blockchains and their information structure has to be taken into account when it comes to information exchange between ETUChain and other blockchains. Therefore, functional completeness is essential for the interface.
- b) Extendibility: ETU aims at linking all blockchain platforms. More and more blockchains serving various functions will be developed in the future. In order to achieve information interchange with more chains, the interface should be extendable.

ETUChain provides a complete service layer for the integration of other application which involves scripts and virtual machines. EOS itself already supports several virtual machines for application extension. Ether Universe will reform and extend its WASM virtual machine to enable more cross-chain functions and adaptation which makes it DApp development more convenient.

### 2.1.2 Subchain

ETU constructs specific subchains for different blockchain platforms while also building bridges between the base chain and subchains. Through completing a set of identical event series using a unified network protocol, the subchains completes the lock and unlock actions with the base chain.



ETU constructs the subchain core in various forms. A complicated smart contract is used on ETH system while other sidechains are used over BTC system.

ETU designed a separate interface layers for different subchains and enclosed the core operation among chains in the subchain core. The subchain execute interfaces with other chains while the subchain logic connects and communicates with the base chain. Functional completeness, extensibility and low latency are the three features of this design.

### 2.1.3 Communication Interaction

ETU built a particular passage for various blockchain platforms to establish communication and interaction through smart contract. ETU designed its own information format and ensured the information can be exchanged between binary system and JSON. Any user could create a smart contract application over a

blockchain platform and establish communication and interaction with those on another blockchain platform through ETU passage.

## 2.2 Consensus Mechanism

Currently, mainstream consensus mechanism includes PoW, PoS, DPoS,PBFT and etc. Compared with PoW, DPoS doesn't rely on calculating force, saves more energy and is more environment friendly. Also it greatly reduces block confirmation time. Compared with PoS, DPoS drastically reduces the number of nodes that are involved in verification and account keeping. Consensus verification can be completed within seconds. PBFT is only suitable for alliance chains and private chains and not for public chains.

Therefore, Ether Universe applies DPoS consensus mechanism which has the balance between fairness and efficiency. DPoS (Delegated Proof of Stake) is an appointment interest proof which is similar to the voting of board members. Token holders select a certain number of nodes to represent them in verification and account keeping activities. In order to motivate more people to participate in the voting, system will generate some tokens as reward. If selected nodes can not fulfill their duties such as keeping accounts, they will be removed and new nodes will be selected in their replacement.

### 2.2.1 Notaries and guarantors

Notaries and guarantors are introduced in ETU. At the early stages, there are only a very few miners to participate in the verification process which reduces the security of the entire system if verifications only depends on miners. Therefore, notaries will vote with the miners to decide the unlocking of tokens. Different notaries have different weight which is decided by the system construction schedule and guarantors. The guarantors are a community with weigh. They trust the security deposit to the notaries, elect notaries or groups to represent them in the voting. The entire weight of notaries will reduce as the system construction proceeds. ETU will keep the notary scheme to ensure system stability.

### 2.2.2 Miners

ETU doesn't want to use all the miners to vote and generate verification information even though it is a relatively secure plan, it dramatically increases system latency. Therefore, ETU will randomly choose a proportion of the miners from its system to vote. The proportion is dynamic. When the base number of miners is small, all miners will be chosen to vote while the base number is huge, only some will be chosen. All miners have reputation value which is linked with random seed to ensure miners with extremely low reputation value will never get to vote so that the system security is guaranteed.

### 2.2.3 Reward and Punishment mechanism

ETU has a reward/punishment mechanism where ETU will send out rewards to verifiers based on their credit. On the other hand, ETU will punish the notaries and miners who failed their responsibilities by reducing their reputation value which will directly impact the weight and reward of the participants. Miners with extremely low reputation value will not be able to participate in verification. If notaries repeatedly provide proof for illegal blocks, they will lose their deposit and part of which will be rewarded to honest miners by the ETU.

### 2.2.4 Latency

In order for the ETUChain to interface with various blockchains, miners have to wait for the irreversible conformation from other blockchains. While communicating with EOS blockchains, the average time is less than 30 seconds relying on the appointment interest proof and 21 miners. If miners on a certain chain don't wait for the transaction confirmation, the transaction would be seen as accepted and then revoked which will affect the effectiveness of chain consensus. The time needed to communicate with other types of blockchains depend on the confirmation time of the notaries and miners. We estimate the time as the following:

Latency=2 seconds (ETU confirmation time) + number of verifiers\*Pt1 + notaries \* Pt2. Pt1 and Pt2 ratios are affected by weight.

## **2.3 Account System**

ETU contains a complete account system. As mentioned earlier, ETU is a platform developed over EOS. Its account system inherited the user friendly feature of EOS. Besides, ETU is a multi-blockchain communication platform. One account can connect with accounts from other blockchains to pass on information and value.

### **2.3.1 Account Connection**

ETU allows all accounts to use an exclusive, human readable name as index with the length between 2-32 characters. Account users can choose their own account names. ETU virtualizes ETH or other blockchain accounts and designates a key for each account. The users can use the keys to access subchain logic on different blockchains to exchange information.

### **2.3.2 Account Management**

ETU can manage multiple accounts through EOS. Based on that, ETU can allow its users to manage other blockchain accounts under their current account.

## **2.4 Light User End**

It is easier for integration of multiple blockchains if the user end doesn't deal with transactions on all nodes. For users, they care more about their own receipt and payment instead of the transactions on all nodes. ETUChain uses a light-weight Merkle proof (LCV), independent of the trust of other block producers to ensure a minimum expense for any block producers to sync with other blockchains. ETU will provide over LCV technology a full set of ease-to-use user ends which support all current mainstream system platforms.

### **2.4.1 Proof Completion**

ETU supports communication among different blockchains. A unique code will be assigned to each transaction by sequence. The cross-chain transactions corresponding to the codes will be verified by miners. Users can confirm that the transaction has been verified in sequence using the transaction code.

## **2.5 Technology Advantage**

### **2.5.1 High security**

Ether Universe ensures the security of information interchange on other blockchains besides EOS through introducing miners, notaries, guarantors and reward and punishment mechanism. At the early stage, Ether Universe introduces part of its trusted nodes that are distributed on different blockchain subchains to help with verification. Towards mid term, Ether Universe will gradually improve and perfect its verification system. Verification in this phase depends mainly on notaries and guarantors. At the late stage, Ether Universe allows voting over DPoS mechanism for verification which introduces a tamper-proof mutual trust mechanism in all the transactions. With the 48 super nodes Ether Universe set up over the world, even under attack, as long as the majority are still functioning, the entire network will remain unaffected.

### **2.5.2 Fast Transaction Speed**

Complex algorithm, high energy consumption causes transaction latency for traditional cross-chain technology. In order for Ether Universe to achieve interface with various blockchains, the nodes have to wait for the irreversible confirmation from other blockchains. With the appointment interest proof at the speed of 400,000/sec and 48 service node, the communication time with EOS blockchain s around 2-30 seconds which mean each transaction can be completed within 30 seconds.

### **2.5.3 Low Cost**

Through Ether Universe, the current isolated blockchains will be connected into a complete blockchain system. Cross-chain communication and asset transactions can be achieved by verifications that cost only GAS instead of high charge paid to the exchange.

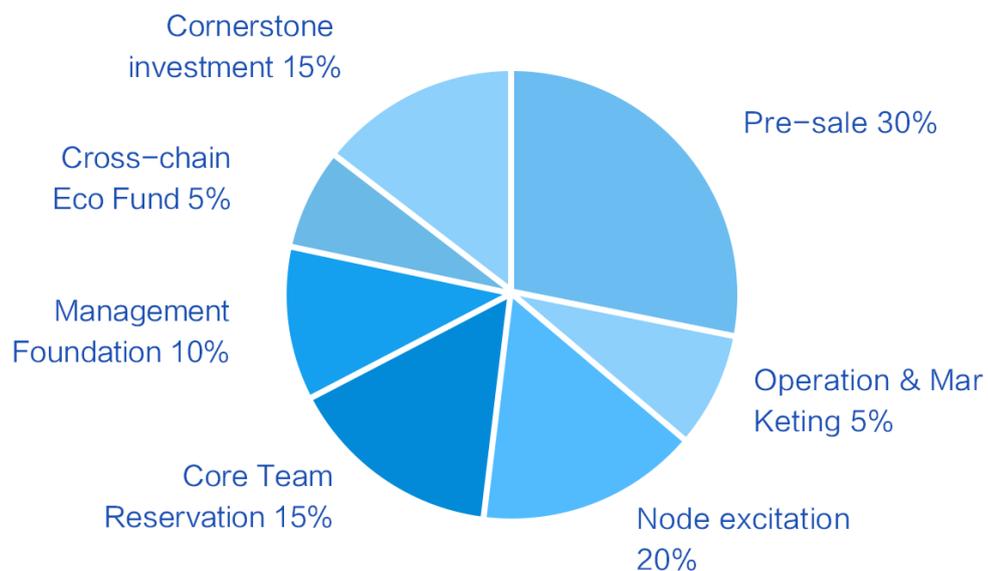
### 3.Ecosystem Management

#### 3.1 Token Release

In order to motivate all participants in Ether Universe ecosystem, promote healthy development of the platform, Ether Universe releases 100 billion platform token ETU as the “fuel” of the ecosystem which can be used for payment in cross-chain transactions.

#### 3.2 Token Distribution

### Ether Universe Token Distribution



- **pre-sale:** used for the early stage costs such as research and development, hardware and etc. to ensure the smooth initiation of the project.
- **Cornerstone Investment:** 15% of the total token is used to introduce early investors. Early investors will contribute to team building and platform operation. 3 months after the token online transaction exchanges 25% will be released, 6 months later unlock 25%, and 1 year later release other 50%.
- **node incentives:** the 48 super nodes participate in billing, voting and etc, and will get a certain incentive, this part of the incentive release 20% per year, 5 years release all.
- **Operation & marketing:** 5% of the tokens are used to motivate early stage community users.
- **Core team reservation:** the core team of Ether Universe has put in tremendous efforts and hard work into creating and developing the platform. 15% of the tokens will be used as reward for the core team. Ether Universe promises that no more than 10% of the entire proportion will be unlocked each season.
- **Cross-chain eco fund:** Ether Universe will reserve 5% of the tokens as eco fund to incubate and support high-quality applications that are integrated in Ether Universe ecosystem.
- **Management Foundation:** in order to drive the sustainable development of Ether Universe, more talented participants will be recruited to maintain the platform. This part of the tokens will be used to motivate the excellent contributors in the ecosystem as well as maintain the daily management of the foundation.

### 3.3 Token Value

Ether Universe is a fast growing open-source platform that will carry millions of transactions and applications on blockchains. ETU bears the function of payment, circulation and exchange on the platform. As both the

need for inter-blockchain transactions and the number of platform users increases, plus the sustainable development of eco-economy, the need for ETU will also increase which will result in the rise of ETU value.

### 3.3.1 ETU Obtainment

There are three ways to obtain ETU. One is to join in the early pre-sale and exchange ETU with ETH. Another one is to participate in building the ecosystem of Ether Universe and get ETU as reward. The third one is to gain ETU through exchanges or other channels.

### 3.3.2 Applied Areas of ETU

ETU can be applied but not limited to the following areas:

- a) ETU being used as a payment to purchase cross-chain services.
- b) ETU being used as a payment to purchase Ether Universe cross-chain cold wallet or third-party application services.
- c) Ether Universe provides cross-chain technology support to developers in the form of ETU payment. Ether Universe rewards contributors in the ecosystem with ETU.
- d) Other Ether Universe cross-chain scenarios.

### 3.3.3 Possibility of Inflation

When users don't have enough tokens to pay for the transactions, the tokens will be considered out of circulation which will cause inflation of ETU. Users losing their private keys or keeping the tokens without joining the circulation will cause the decrease of circulation volume which results in inflation of ETU. Ether Universe locks position to motivate the users without short-term transaction needs and reduces circulation volume may also cause inflation.

### 3.3.4 Ether Universe Labs

Ether Universe Labs manages the market value of ETU in a non-profit way to avoid drastic changes of ETU value and protect the interest of all participants in the ecosystem. With global blockchain technology and economy rising at a high speed, Ether Universe is devoted to building the biggest cross-chain service platform in the world, pushing forward blockchain technology and providing support to more users.

### **3.4 Co-management of the Ecosystem**

Ether Universe is a semi autonomous ecosystem that is maintained by all participants(development team, miners, verifiers, guarantors, users and third-party developers etc). In the meantime, a management foundation has been set up that is dedicated to the development and construction of Ether Universe, initiation and implementation of management transparency, promotion of security and harmony in the open-source ecosystem society and ensuring the sustainability of Ether Universe and the security of fundraising.

#### **3.4.1 R&D Team**

The R&D Team of Ether Universe is devoted to completing the construction and maintenance of the project. Ether Universe is a service-focused platform. Therefore, the energy of our core team is not only directed at the continuous development of cross-chain functions but also at building sophisticated secure service interfaces. There is also an integration team whose main responsibility is to integrate other blockchains. It is our hope to support more blockchains and provide outstanding service to users through our continuous hard work.

#### **3.4.2 Miners, Verifiers and Guarantors**

In order to confirm transactions over other blockchains at a high speed, Ether Universe needs miners, verifiers and guarantors to share the responsibility of verification. Miners are a group that is distributed on different blockchain platforms since the locking is carried out on various blockchains. Verifiers and guarantors also face multiple blockchain platforms. They can help speed up the verification of the entire system.

### 3.4.3 Users

Users play the role of consumers in the ecosystem. They purchase GAS using ETU tokens to get cross-chain services. Users decide the development of the entire ecosystem.

### 3.4.4 Third-Party Developers

Ether Universe is a cross-chain infrastructure which includes functions like cross-chain asset exchange, data sharing, application integration and etc. Once set, it will be a completely open-source platform that supports third-party developers to improve and perfect the functions and applications on Ether Universe and contribute to the entire ecosystem.

Third-party developers are an essential part of the entire eco platform. We've established a reward and punishment mechanism which on one side motivates development of great applications and on the other side punishes those who attempt to use our service to create illegal applications.

### 3.4.5 Management Foundation

Ether Universe ecosystem itself cannot be decentralized which clearly doesn't match the value of blockchain. However, complete decentralization is difficult to achieve at the moment. Therefore, Ether Universe ecosystem is designed as a distributed semi autonomous organization. R&D team, miners, verifiers, guarantors, users, third-party developers and other participants are all distributed while the management foundation is centralized and is dedicated to the development and construction of Ether Universe, initiation and implementation of management transparency, promotion of security and harmony in the open-source ecosystem society and ensuring the sustainability of Ether Universe and the security of fundraising.

In order to drive the sustainable development of Ether Universe, more talented participants will be recruited to maintain the platform. In the meantime, a reward and punishment mechanism is in place to reward contributors and punish destructors. Management foundation is in charge of the daily operations in the early and mid stages.

## **4.Business Prospect**

### **4.1 Application Scenarios**

#### 4.1.1 Asset Calibration

Due to its features of being decentralized, encrypted, tamper-proof and public, blockchain is particularly suitable for asset calibration. All assets registered on blockchains and may be traded autonomously with smart contracts can be called smart assets.

Blockchain is a distributed ledger. Multiple nodes on the network join in the calculation and recording as well as mutual verification. This technology is the solid foundation of mutual trust and the core of the existence of digital currency.

The fact that fixed and material assets cannot be circulated makes quantification difficult and time-consuming. The need to digitalization of these assets becomes particularly pressing. Calibration with traditional bonds and stocks takes a long time with complex audit process and high qualification requirement. Many excellent medium and small sized enterprises cannot obtain the fund they need which affects their everyday operation. Asset calibration via blockchain technology on the other hand allows these enterprises to obtain tokens in a short time and exchange for assets they need over Ether Universe platform.

Other important needs for asset calibration are asset hedge and appreciation. In market economy, traditional assets especially additional assets suffer from inflation. Devaluation happens to assets that are not circulating which is unfair for the asset holders. Instead, asset holders can calibrate this type of assets on the blockchain and achieve free circulation over Ether Universe.

#### 4.1.2 Asset Exchange

At Ether Universe, users can quickly exchange assets. Usually token trading is done through exchanges. For instance, if a user wants to trade 1 ETH for EOS, the most common way is to go through a digital currency exchange. There are two types of digital currency exchanges, one of which is centralized exchanges. They come with a better experience of token trading but also a high charge and risks of losing tokens and attacks by hackers. The other type is decentralized exchanges which are secure but difficult to master hence poorer user experience.

Token trading at Ether Universe avoids the shortcomings of both centralized and decentralized exchanges. Compared to centralized exchanges, Ether Universe is more secure with a lower fee. Compared to decentralized exchanges, Ether Universe is easier to use, with a faster trading speed which leads to better user experience.

#### 4.1.3. Data Sharing

In a separate blockchain application, data on the blockchain is publicly shared. Blockchain is a distributed ledger. When accounts are kept and confirmed by consensus mechanism, the ledger is saved by all nodes which is irreversible and tamper-proof.

However, data among blockchains is isolated which limits the advantage of data sharing. Cross-chain technology provides the solution to this problem. Any chain could access information on other chains through

Ether Universe which greatly enlarges the range of data sharing. Data connection and communication can be fully realized.

#### 4.1.4 Application Integration

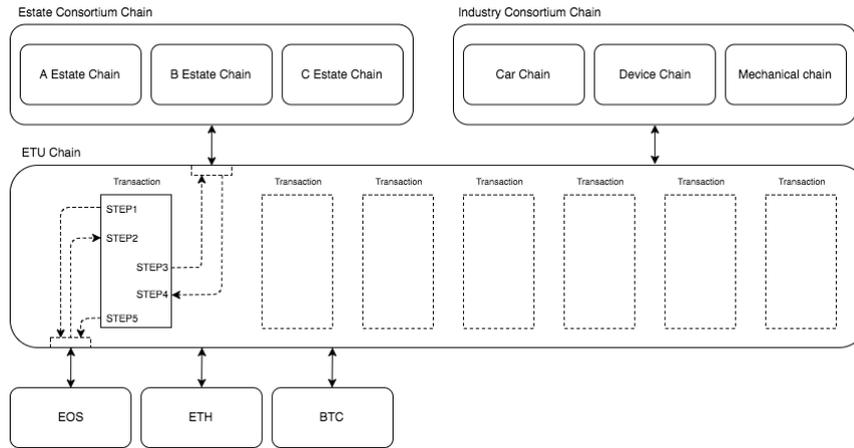
ETU builds its own eco platform gradually through constructing system service layer, publishing status channels and APIs. ETU will first publish a user end for system test and makes adjustments along the way.

ETU welcomes developers to create abundant cross-chain applications based on the platform. ETU will build its own application platform and reward and punishment mechanism. Every application will be audited where excellent ones will be rewarded and illegal ones will be punished.

## 4.2 Commercial Analysis

Ether Universe is a service focused platform with extremely high commercial value. Cross-chain services will become crucial when more and more enterprises build their own blockchain platform in the future. ETU will become the bridge connecting various blockchains.

Industrial products, commercial products, real estate and finance will all build their own blockchain platforms. Different industries can form their own alliance chains. Along with the development of blockchain technology, more and more traditional industries will introduce blockchain platforms and transform their productions into token. Ether Universe aims at connecting different chains and one of its commercial functions is to allow inter-blockchain token exchange. This way, bartering will become a reality. Currency is no longer needed as a carrier for trades.



This kind of trading service will push forward the development of multiple traditional industries. For instance, manufacturers can release tokens in advance to pre-sell its future production volume — say a rubber manufacturer may deposit some of its products and credit evaluation to hold a certain amount of pre-sale tokens in the near future (the amount is linked to their production volume) and then use ETU to circulate the tokens, which will solve many problems that traditional industries are currently facing and accelerate the development of the rubber manufacturer. Similar traditional manufacturers can all accelerate their product liquidity through blockchain. ETU as a mobile hub becomes the essential part of the entire system which gives it an incredible commercial value.

ETU provides cross-chain services. Every time the service is acquired, the user has to pay different GAS according to the type of service and time. And GAS is exchanged through ETU tokens. Ether Universe sustains itself, the operation and development of the open-source platform through its tokens.

Based on the design of 400,000 transactions/sec, even there are 10,000 transactions/sec in practical applications, the service fee for each transaction over Ether Universe is around USD\$0.01 which will generate a revenue of USD \$360,000 per hour. This is only the conservative estimate. With the development of digital assets and the improvement of the functions and performance of Ether Universe, the needs for cross-chain service will keep growing. Ether Universe has a very bright business prospect. According to the development plan of Ether Universe, cross-chain services will be launched in 2018. In 2019, it will enter commercial application areas and reach the rapid growth period in 2020.

## 5. Development route

### 5.1 Roadmap

In order to accelerate the development of Ether Universe, a three-phase promotion strategy is adopted.

In Phase One, Ether Universe will reach cooperation with different subchains in order to reach the purpose of using their nodes to help verify transactions for Ether Universe. At the beginning, we will randomly choose multiple trust nodes around the globe to complete verifications. As the platform network develops, more trust nodes will be introduced. System will randomly choose 36 trust nodes for verification.

Ether Universe will rely mainly on notaries and guarantors for transaction verification in Phase Two. Trust nodes accumulated in the previous stages can act as guarantors. In this phase, miners on various blockchain platforms start to join in the verification.

In the third phase, miners, notaries and guarantors will all participate in the verification with the purpose of guaranteeing the steady and iterative development of Ether Universe. It is not the hope of Ether Universe to achieve the ultimate goal from the beginning. Without reliable notaries, guarantors and miner groups, the security of the entire system will be compromised. Therefore, Ether Universe will gradually improve its system through three phases and ultimately reaches the ideal state.

### 5.2 Project Schedule

Jan 2018, complete the market research of cross-chain value transfer over EOS, Ethereum and other main blockchains.

Jan 2018, completed technology research and confirmed system framework.

Jan 2018, official launch of the project. Official website 1.0 went online.

Feb 2018, research is completed. Platform product format is confirmed.

Mar 2018, complete overseas community construction. Reach more than 180K overseas community users.

Apr 2018, Angel round funding started.

Apr 2018, initial cross-chain technology framework built on EOS test network.

Jun2018, Funding started in countries where digital currency investment is illegitimate.

Jun2018, The formation of the cosmic blockchain alliance initiated by the Ether Universe.

Jul2018, ETU listing on one of the top 15 global digital currency exchanges.

Sep 2018, publish first on-chain asset exchange platform.

Sep 2018, set up super nodes.

Oct 2018, test subchain compatibility of the third generation of chains.

Dec 2018, test cross-chain interaction between Bitcoin and Ethereum network, and release the alpha version of Ether Universe

Feb 2019, release Beta 1.0 version. Open source code at Github.

Mar 2019, officially launch cross-chain API and relative documents.

Apr 2019, release Beta 1.0 cross-chain wallet.

May 2019, carry out multi-center cross-chain node network security protocol using independent nodes.

Jun 2019, test and optimize main network.

Aug 2019, build Ether Universe eco platform and accept third-party developer.

Oct 2019, launch first series of third-party applications.

Nov 2019, build developer communities and optimize the entire platform with developers.

Jan 2020, digital assets from traditional industries begin to integrate into Ether Universe.

## **6. Disclaimer & Risks**

### **6.1 Disclaimer**

This document is for information conveying only. The content of this document is for reference purposes only and shall not be considered a recommendation or invitation to sales of securities. Nor shall this document be considered a mean of trading of goods or any form of contract or promise.

Due to unpredictable situations, the goals indicated in this white paper may be subject to modifications. Although Ether Universe core team shall do their best to achieve all goals listed within, the individual and group buyers of ETU tokens shall bear the risks of such purchases. This document may be updated in respect to future project developments, and such updates will be published online in the forms of notifications or updated version of white paper. Ether Universe Inc and its subsidiaries hereby clearly states that we are not liable for direct or subsequent losses of any participants due to the reliance on this document, the mistakes, negligence or inaccurate information within the document and any other actions led by this document.

Ether Universe core team shall devote to actualizing the goals herein, but no promises or guarantees can be made due to irresistible forces. ETU tokens are virtual items which are utilized in the operations in Ether Universe network, and may not be considered securities, currencies, or investment targets. ETU tokens do not represent any kind of ownership or possession. Possessing ETU tokens does not imply any kind of control over Ether Universe Inc and/or its subsidiaries, Ether Universe network, or applications built on Ether Universe network. ETU tokens do not grant anyone the power to participate or control the decisions of Ether Universe Inc or Ether Universe applications.

## 6.2 Risks

### 6.2.1 Regulatory Risks

As blockchain technology is still at a rather early stage, currently there are no specific regulations of preposition, transaction, information disclosure and locking requirements during fund raising process in any jurisdiction. Moreover, there is no clear picture as to how the current policies will be carried out. All these factors could cause uncertainty to the development and liquidity of the project. Blockchain technology has become the main regulatory target of major countries in the world. If the involvement and impact of the supervising authorities gets too strong, Ether Universe applications or ETU tokens might be impacted. For instance, if there comes a usage limitation regulation, ETU tokens might be regulated and impeded. The development of Ether Universe applications and ETU tokens might even be terminated.

### 6.2.2 Competition Risks

Nowadays, new blockchain projects emerge day by day and the competition among such projects has become increasingly intensive. Pressure exists in project operations and marketing. Whether Ether Universe can stand out among all the excellent projects, gain vast recognition is both linked with the competence, vision and plans of the group and impacted by the many competitors and even oligarchies on the market. There is the possibility of vicious competition in the process.

### 6.2.3 Loss of Talents

Ether Universe has a core team consists of energetic and excellent talents including experienced technology developers and investors. In future developments, the possibility of core members leaving and internal conflicts may not be eliminated which may impact the development of Ether Universe.

#### 6.2.4 Technology Risks

The development of cryptography and technology such as quantum computers imposes danger to Ether Universe. It may cause the ETU losses. During project updates, software bugs may occur which will be fixed immediately. However, there might be negative impacts.

#### 6.2.5 Interest Deficit

It is possible that Ether Universe may not gain enough attention. The public may or may not be sufficiently interested in this particular project or in the entire ecosystem of distributed computing networks. Such interest deficit may have a negative impact on ETU and Ether Universe.

#### 6.2.6 Cyber Attacks

Ether Universe may undertake cyber attacks from hackers or other organizations. These attacks include but not limited to service attacks, Sybil attacks, malicious softwares or consistency attacks.

#### 6.2.7 Absence of Insurance

Unlike accounts in banks or other financial institutions, digital assets on Ether Universe or relative blockchains may not be protected from losses by an insurer. If such losses happen, no individual or organization may be liable or responsible.

#### 6.2.8 Other Unexpected Risks

In addition to all types of risks described herein, other risks may exist that are not mentioned or expected by the founding team. Besides, other risks may occur suddenly or in a combination of multiple risks mentioned

above. Before you make decisions to participate, please acquire all applicable knowledge on team background, project framework and roadmap.