IoTE（IE）

The Next Generation Internet of Things Explorer Platform

based on Blockchain

Date:January 2019

Edition 1.2

IoTE Foundation at: https://www.iote.one

Abstract

IoTE is an Internet of Things Explorer of new technology, decentralized, untouchable, and best option you could have for a ledger or book account. Its authenticity of various transactions have data use to confirm access rights in the interconnected Explorer of new technology, the goal is to achieve the material property payment and account settlement, point-to point the investment value,and subvert the traditional way of value transmission in the investment and financing field.

IoTE in the future will guarantee the data security based on IPFS data storage protocol, and will use the DAG data's structure in order to greatly improve the speed of TPS and fully meet the data interaction in the interconnected Explorer of new technology. IoTE uses CryptoVantaa's initial algorithm. This algorithm has a friendly and easy-to-use CPU resistance, as well as an ASIC resistance. In reality, the new ASIC devices are designed to have unreasonably higher hashing rates, so, the fairness of improving gains is significantly reduced. As the value of encrypted currency increases over time, we did pay more attention to the design of special equipments for mining purposes. In order not to have the centralization of PoW mining power and prevent IoTE from being manipulated by a few participants, the designers and developers of IoTE precisely designed CryptoVantaa algorithm from its surface. loTE uses the mixture of POW+ iPOS's common methods to keep a miner's account, making the transactions datas directly or anonymously linked, which greatly guarantees your data privacy and security. It does not only ensure the right of decentralized data, but also ensures you this operation will be efficient.

Table of Contents

1. Project's Background

Mr. ShouCheng Zhang of Stanford University, once said "In Math We Trust". Indeed, throughout all human knowledge, what are the studies that we all agree on? It is certainly not economics, nor law, nor politics, nor chemistry, nor biology, and neither physics.

The understanding of the BlockChain is composed by a set of irreplaceable super books, mathematic's use is then necessary and is a natural method to such mechanism, we can then get mutual trust as we use this common basis :mathematics. If I needed to make a cube by myself, it will of course not be perfect. However, through a mathematical form or system, the cubes can be completed in a perfect symmetrical form: being exactly angled, with flawless edges, and precised sides and sizes. The mathematical form to all things is the most precise, and is the easiest to agree on.

Since the 1970s, the start of Internet's development, with the birth of the TCP/IP, the Http protocol and the open source made a rapid development of Internet, and Microsoft could then launch the famously known Internet Explorer. Then, came the birth of Bitcoin in 2008, the Block Chain developed rapidly, and could launch Blockchain Explorer; and this is with the development of block chains, large datas , artificial intelligence, and IoT, that we now want to launch IoT Explorer.

The 2014 IPFS protocol was born and was open-source; it was called the interstellar file system, and is a globally oriented, point-to-point file system designed as a complement or to even replace the current hypertext transmission protocol, the internet, (HTTP), which connects all computing devices within the same file system. By using addresses based on their content instead of domain-based addresses; and instead of verifying the private and sender' s identity, we will simply now need the authentication,   in order to make the web faster, safer, stronger, and more persistent.

The IoTE Explorer is a Explorer dedicated to the domain of the interconnections in between different sources of materials new advanced technology. It is truly centered by super books that will not only secure data based on a futuristic IPFS data storage protocol, but will also use the data structure of the DAG to ensure the speed of TPS's interaction. IoTE 's creation do not only comes from the CPU mining of Bitcoin, everyone can participate to this accounting in order to truly achieve decentralization, but its original CryptoVantaa algorithm takes into account a friendly CPU use, and has both resistants GPU and ASIC.

The Internet of Things is a huge market. According to Gartner, a well-known research Institute, the number of global "intelligent connections" will reach 100 billion by 2020, and the market scale will reach more than 300 billion of US dollars, which is also expected to reach trillions of US dollars in the future. In a very close future, some 99% of the objects

will be connected to the Internet (Internet of Things Explorer tech.). What is the last thing that can be used after the Internet connection? It's a collection of all kinds of data. IoTE undertakes data security, privacy protection and transfers of value in the field of the internet of things Explorer, and records all kinds of data in this field... The goal is to achieve payment and devices' settlement, value investment, and do better than the traditional value of the transmission mode in the field of investment and financing. The IoTE, internet of things Explorer is formed by Block Chains, IPFS, DAG and IoTE will bring an incredible value and benefits to our future, when we will be living in a smart city where everything interacts.

2. Difficulties seen in the Interconnected Explorer Industry

Internet of Things Explorer, has a special concept, its concept is that "all objects/ devices are connected". Unlike the traditional Internet, almost all the objects, tools, machines and equipments that we can meet in our daily life , as much as if we include the activities productivity results, it becomes then the final tools for the creation of the 'intelligent connections' in our new technology now called Internet of things Explorer. In the future, 99% of the objects and/or devices may be connected to the Internet, which means that almost all items have their own communication, perception and networking capabilities. Then, by collecting an extensive data, (including the transaction data which is the most direct use of data,- kind off like a set of super books) the future society will evolve within micro and major changes in our daily lifestyle.

The Internet of Things Explorer's concept has been put forward, and has now been developing for over 20 years. It also exposes many difficulties such as device's security, personal privacy, rigid design, the need of collaboration with multi-agents and communication compatibility.

2.1 Safety Equipments

Mirai's Botnets of Internet of things Explorer technology was rated as the top 10 breakthroughs in 2017 by the Massachusetts Science and Technology Review. According to the global statistics, Mirai's botnets have connected and hijacked more than 2 million of internet of things: such as cameras, they launched a DoS attack, which paralyzed Dyn :the U.S. domain name resolution service provider. Many popular websites, such as Twitter and Paypal, were not accessible at that time. Subsequently, the Internet of Things and its devices were enslaved, and at the same time making botnets for Bitcoin mining, as well as even more for http81 botnets.

I believe many people have also seen the movie "Fast and Furious 8". The film presents the

bad guy Saif, using an interconnected cars with devices to command technicians in the operating room to hack all vehicles within the corresponding three kilometers (also called Zombie Cars in the movie) . By tapping on the keyboard, all the cars on the street instantly rush in the same direction and become his new trophy, the new weapon. Vehicles all rushed down to the parking lot on the first floor.

2.2 Personal Privacy

Concerning one's own personal privacy, the centralized framework won't be itself innocent, and the events linked to personal privacy data sometimes may have some leaks...and spread out… For instance, recently, according to the famous Chinese online news website : Renmin.com;　we found　out that 266 cameras in Chengdu, China, were broadcasted live on the Internet.

Stephen Hawking, a famous physicist, discussed Johnny Depp's new film "Transcendence." (2014), Artificial intelligence may be not only the biggest event and creation in human history, but also the last one. What he meant was that AI (artificial intelligence) could lead to the end of human beings. Hawking believes that AI can solve most of the world's problems, including human diseases, social problems and so on. AI has this potential. If AI is properly used, it will have an infinite potential. Although, if it is not properly used, it will be a threat to human beings. Once AI is out of control, human beings are restricted to evolution and will not be able to compete with it.

2.3 Rigid Framework

With the continuous evolution of low-power wide-area technology (LPWA), it can be predicted that the internet of things Explorer equipment will grow in the future, and the cost of centralized services will be very expensive.

2.4 Collaboration of multiple agents

Nowadays, many Internet of Things Explorers or also called: Internet of Things (IOT) are self-organizing networks within operators and enterprises with collaborations of multi-agents. When it comes to a collaboration across multiple operators and peers, the trust needs to be assured.

2.5 Communication compatibility

There is a lack of a global and unified language to the concept of the Internet of Things Explorer (or IOT) platform, it can easily interfere with the communication between multiple IOT devices, and result in multiple competitive standards and platforms

3. How loTE copes with Internet of Things Explorer problems

3.1The real difficulties in the Internet of Things Explorer Industry

The Internet of Things Explorer (IDB) business structure is as followed (Fig. 1): Investors invest in a company that manufactures products or services through production tools and provides products and services to users through sales channels to recover investment or profit.
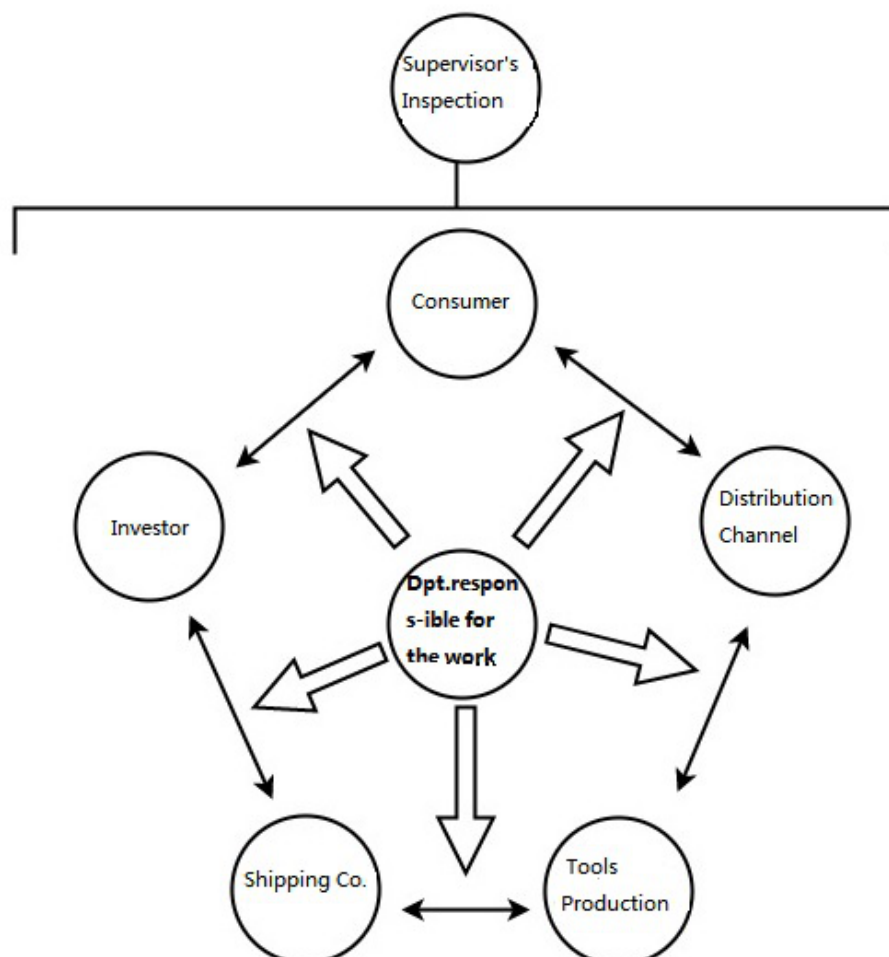

Figure 1：Business Structure

"Investor": can be an individual or institution, etc.

"Shipping company" refers to: individuals, companies, listed companies and so on; "Tools Production" refers to: the production equipment, place of services, creator, personal services, transportations, etc..

"Distribution Channel" is for the: physical stores, online shopping malls, agents and distributors, micro-business circles of friends and so on; "Consumer" refers to: the vast number of consumers, to a certain extent can also be consumers and investors , two in one.

Users should pay for the products or services, distribution channels make profits through sales. Tools productions make profits by manufacturing products and services, and so on. These processes seem very reasonable. The competent state authorities control all links, and supervision and inspection departments may conduct spot checks and supervision at any time. For example, the state regulates the development of enterprises and protects the interests of all parties through various policies such as: tax, stock system, IPO and listing. The financial statements of some listed companies or large companies are audited by specialized auditing institutions and supervised by independent directors and supervisors. On this behalf, they are trustworthy.

However, these investors, operating companies, production tools, and sales channels and so on have their own centralized transaction data and financial statements. This, makes it easy to get falsified statements and is then: falsified in theory. Every year, a lot of companies' financial fraud causes huge losses to investors. Fake and inferior products, especially food and drugs, cause great harm to human beings and social impact. At the same time, there are a lot of taxes on these kinds of incidents.

Why such problems occur when it is mainly due to people's participation? There are a lot of subjective operations in this field. A famous quote says: "people may make mistakes", so it can not fundamentally solve these problems, even if it can be solved, it will still generate huge costs and increase a lot of manpower and material resources.

3.2BlockChain+ Internet of Things Explorer being a new business for the future

With the development of BlockChain technology, technology is becoming more and more developed. The goal of super account books cannot be done with Block Chain , but can be well realized with the corporation of Internet of things Explorer. IoTE Explorer submits all kinds of transaction data of Internet of Things, devices (IoT) . The equipments are then directly or anonymously sent to the upper chain for confirmation (fig. 2), investors, shipping companies, tools production, distribution channels, consumers, competent departments and so on. .Supervisory and auditing department is the super node of IoTE set

of super-books, and allows a large number of scattered nodes and miners to participate in this accounting. Through the common view of this mechanism and algorithm of POW+iPOS+CryptoVantaa, Super-books can then not be tampered, nor formed, which solves the problem of centralized accounts in modern commercial structure..

IoTE will restructure this new business system   structure (fig. 3) ,in order to achieve a higher degree of integration between investors and consumers. Investors or consumers will publish their needs on the IoTE platform. The intelligent matching platform can meet the needs of production tools. For physical products, Block Chain logistics will be used to better track the origin of products. National authorities or audit departments will share books and keep intelligent inspection. IoTE can provide an open, transparent and untouchable super account book for the country and investors,   it can make you save a lot of credit costs for SMEs, and make business activities more honest, and secure. By doing this, SMEs credits, financing, transactional operations and   taxes problems in almost all countries have already been solved by IoTE.

IoTE (internet of things Explorer) will set up a value sharing platform (Figure 4), which will be initiated by investors or consumers, creating many other similar needs, forming a strong demand source to be published on an open and transparent IoTE platform. It is intelligently distributed to a large number of tools productions on the platform to fulfill the needs. Consumers, investors and demand completers will be highly transparent, so, in order to achieve the on-demand production and on-demand value sharing (such as investing, creating tools production on demand, etc)..
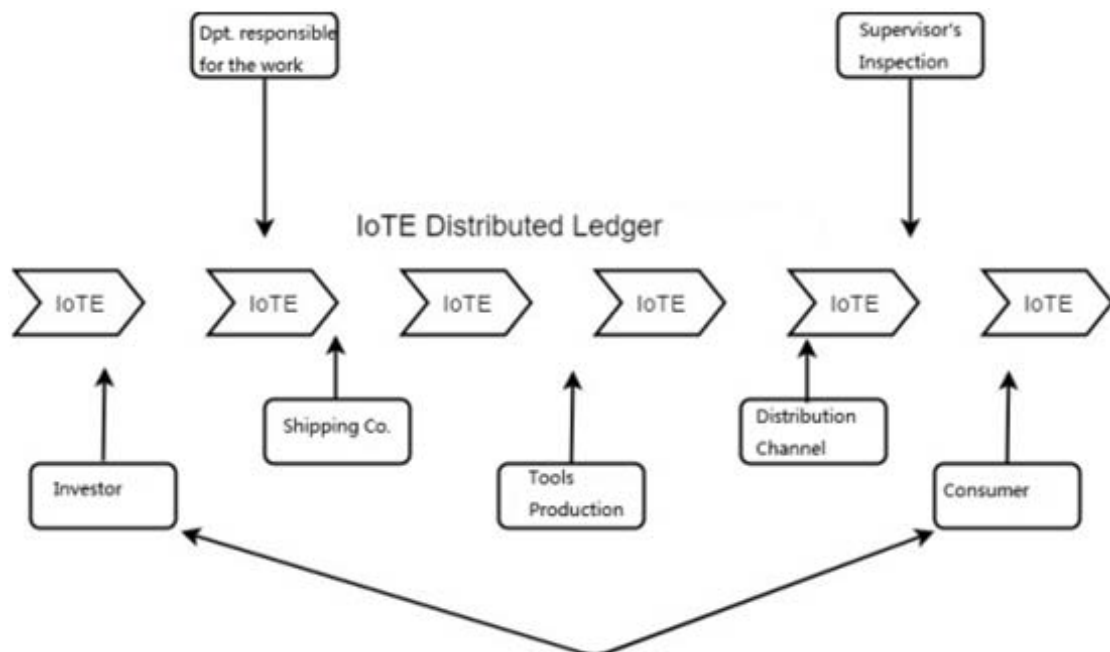
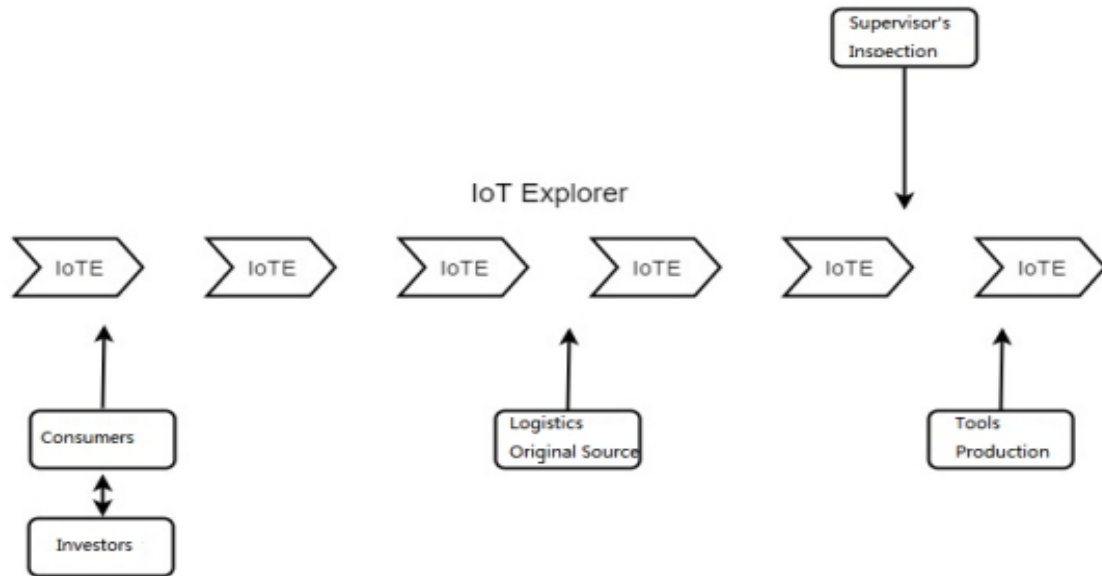

Figure2：IoTE Distributed Ledger

Figure3：IoTE's New business Structure
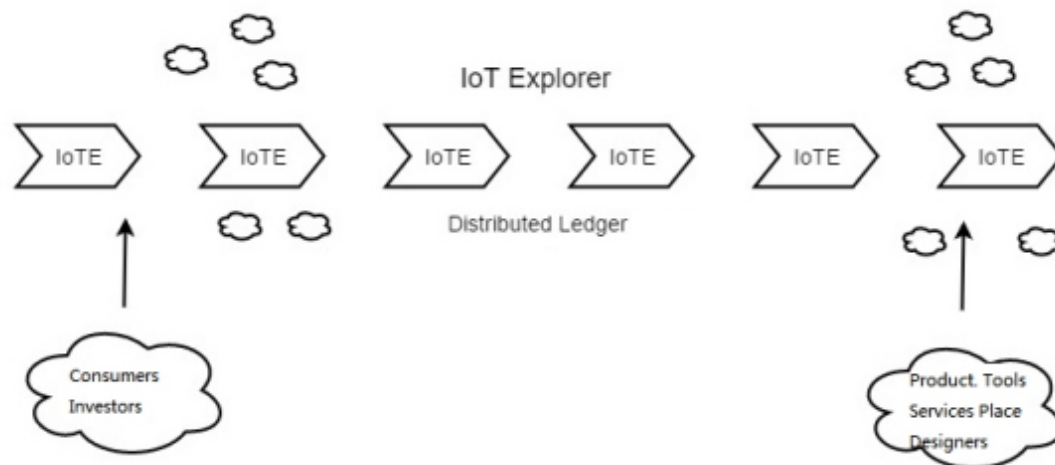
Figure 4：IoTE Value Sharing Platform

3.3Blockchain + Interconnected Explorer's can and can't(s)

It is difficult to solve some problems linked to rigid design components, communication compatibility and collaboration of multi-agents, value sharing platform for internet of things Explorer. It also involves many institutions and units. It is difficult to think that a company can solve all of these matters and it may take a long time. However, there are many big companies like IBM, Google, Microsoft, Qualcomm, Alibaba and so on. The work division is already working to solve these issues.

Distributed peer-to-peer structure of block chains and open and transparent algorithms can build mutual trust at low cost, break the shackles of information islands, and promote the lateral flow of information and multiparty cooperation. Block chains do not need to solve the protocol and network of Internet of Things devices themselves. They only need to write key data into block chains by consensus, which is difficult to compile and trace back to the origin relying on chain structure. New business structures such as peer-to-peer value investment, on-demand layout of production tools, and personalized order production services are realized.

The decentralized structure of block chain effectively guarantees the security of Internet of Things devices. With the increasing number of nodes, decentralized control makes hacker attack cost very high. IPFS is used to store distributed data, and the data security is extremely high.

4.IoTE's Design

4.1 IoTE's designing concept description

IoTE adopts a modeled design (Fig. 5). The public chain of IoTE mainly includes the bottom layer, protocol layer and application layer. At the bottom, the main chain, side chain and parallel chains are adopted to effectively integrate intelligent contracts, wallet, main node, incentive trading mechanism. CryptoVantaa algorithm and DAG data stream; as well as the protocol layer use IPFS protocol. AI intelligent module, data acquisition and management protocol; application layer, all of these protocols can bring technical works such as credit card with POS machine, product's traceability ,evaluation, photographic music, etc. On Figure 6, we can see examples of such devices that can be used: (IDB) such as some sensory games, charging piles, parking lots, unmanned vending machines ,smart homes and even some transactions platforms data. The above functions will be completed in multiple different stages.

Figure 5：IoTE Structural Framework
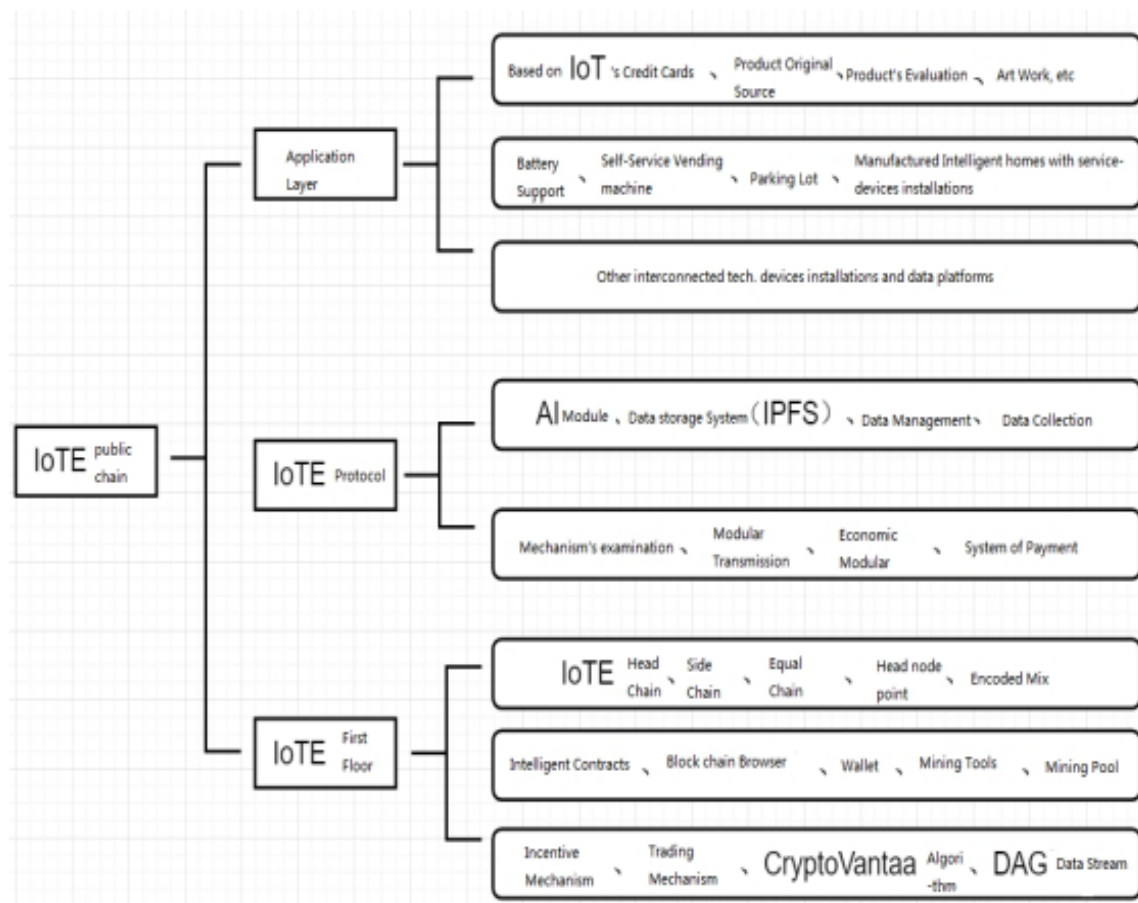

Figure6：DAPP Application Framework

Through the IoTE Internet of Things Explorer DAPP, the large transaction data of the Internet of Things or Internet of things Explorer --can be accessed and released at an unmeasurable speed. When Its transmission value gets to be established, the powerful and unalterable super account book can be functional, our investors and consumers can then

keep their interests (of investing, investments, transactions, ect.) without worrying.

4.2 IoTE's use of a large range of protocols

IoTE will use a large number of relatively mature protocols, such as IPFS star file system; and often will use the head chain, measurement chain and parallel chain's structures in order to ensure the speed of DAPP application data interaction.. In a short-term future DAG data stream structure will be used to greatly improve the speed of TPS and fully meet with the user's interaction. At the same time, the common view   the mechanism and algorithm of POW+iPOS+CryptoVantaa are adopted to make CPU a friendly and effective system to reduce the possibility of adding GPU and ASIC.

4.3 AI Module

The Internet of Things (IOT) or Internet of things Explorer (IDB) mainly solves the problem of information collection and perception,. Whereas, block chain mainly solves the problem of trustworthy information transmissions, and artificial intelligence mainly solves the problem of intelligent processing of information (Fig. 7). AI is a science and engineering that enables intelligent machines and computer programs to learn and solve problems in a way that usually requires human intelligence (including natural language, translation, visual perceptions, pattern recognitions, decision-making and so on.). Efficient data sharing among nodes can be an important and needful feature of distributed database. Artificial intelligence needs large data, especially data sharing. The more data is available for analysis, the more accurate will be the prediction and the machine's evaluation, capacity and quality.... And the more reliable the algorithms will also be generated!

Figure7：AI Artificial Intelligence Module

4.4 Based on IPFS

IPFS (Inter Planetary File System) is a distributed hypermedia distribution protocol (Figure 8). Large files are cut into small chunks and can be downloaded from multiple servers at the same time. IPFS network is a fixed, fine-grained, distributed network, which can also meet and fulfill the requirements of the network's content distribution.

Figure 8：IPFS Storage Protocol

4.5 Based on DAG's graph and transaction data model

DAG is actually a data structure just like arrays, permutations and block chains (Figure 9). But unlike block chains, DAG changed the longest chain consensus to the heaviest chain consensus. In traditional block chains, the newly released blocks will be added to the original longest chain, and all nodes will consider the longest chain as the criterion, and then spread indefinitely. In DAG, each new unit is added not only to one block in the long chain, but to all of the previous blocks. If we assume that when you publish a new transaction, there are two valid blocks in front of you, then your block will actively link to the first two at the same time, each new unit in DAG, verify and confirm its parent unit, and from a parent unit to another parent unit, it slowly reaches the Genesis unit, and include the hash of its parent unit in its own unit. As time goes on, the block chains of all transactions are interconnected to form a graph structure. If you want to change the data, it is not only a matter of several blocks, but also the data change of the whole block diagram. Compared with DAG, this mode is more complex and difficult to change. The following figure is a restructured DAG frame:
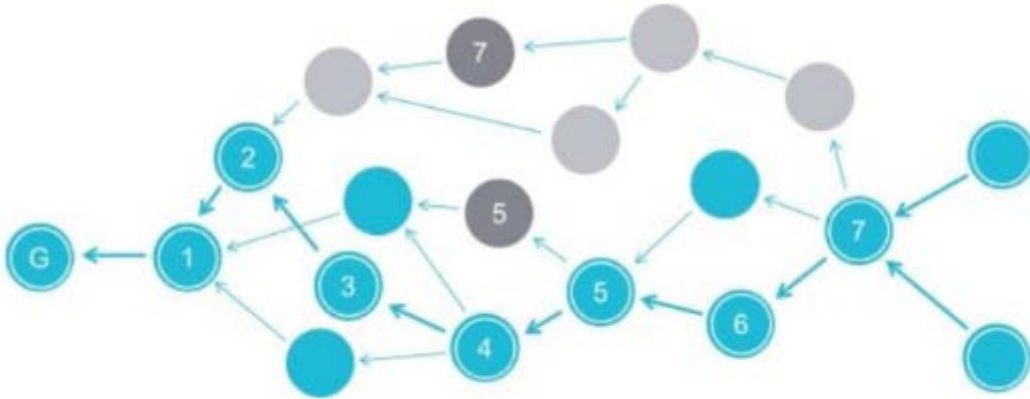
Figure 9：DAG Data flow

DAG is not a block chain technology in theory, but if the block chain uses DAG data stream structure, TPS (number of transactions per second) can be greatly improved. At present, IOTA's TPS (number of transactions per second) can reach 600-900, which has exceeded PayPal's trading capacity. As more people apply, the efficiency will be higher. ByteBall (byte ball), XDAG, SPECTRE and shell chain are all optimized on DAG structure, and the effect is very good. **The TPS of shell chain has reached 100,000 times.**

5.IoTE's specialty

5.1 PoW+iPoS's Common algorithm

IoTE uses a combination of PoW (Proof of Work) and iPoS (IoT Proof of Service) as consensus algorithm.. PoW uses CPU mining algorithm. Through the original CryptoVantaa algorithm, the results of each round of hash calculation are submitted to the next round of block chain calculation. The GPU operation's efficiency is lower than the CPU's, while   we will be reducing the probability of ASIC used by professional miners.

5.2 Implementation of PoW's common view in CPU's mining achievements

As we all know, Bitcoin is the first encrypted digital currency to attract a large number of users. Since its establishment in 2009, Bitcoin has adopted CPU mining, then GPU mining, and then ASIC professional mining machine. At first, a server used to dig 3-5 Bitcoins a day. But the after several years of development, the computing power has increased

dramatically. However, if you dig with CPU for hundreds of years, you won't be able to dig even one bitcoin. While GPU, and ASIC professional miners need to consume a lot of power, resulting in a lot of waste... So IoTE's POW uses CPU to mine because in reality, there are a lot of CPU resources available. After completing other works, it can realize mining.CPU is a surplus. Especially with IPFS/filecoin on-line, a large number of IPFS miners have surplus CPU resources. CPU's POW mining consensus participation is simple and is energy saving.

5.3Implementation of iPoS in Host Node Network

The IoTE host-node or full node wallet is a server running on a P2P network, allowing peers to use it to receive updates about events on the network. These nodes need a lot of traffic, hard disk and other resources, resulting in costs significant increases, which is not a good way to the healthy development of P2P network. The introduction of IoTE into the primary node network can effectively avoid the reduction of the primary node, accelerate the speed of propagation and strong privacy encryption. Miners running the primary node need to invest in a fixed IP, sufficient bandwidth and storage space, and each primary node locks 150,000 IoTE communications to ensure the effective operation of the P2P network. The primary node can get 35% of the block's total reward. of IoTE and the main node will not be lost nor reduced, preventing price fluctuation of IoTE passport.

5.4Anonymous and advanced privacy safety

Based on the two-thirds network, IoTE can provide innovative functions in some non-trustable and decentralized way. The function of primary node service can be used to drive anonymous payment and instant payment system.

It is well known that Bitcoin provides hidden and pseudo- transactions in public ledgers, but there is a one-to-one relationship between the sender and the receiver. This provides a permanent record of all transactions occurring on the network. Through the Block Chain Explorer, we can inquire all directions of the passport in detail. Bitcoin has special advantages and respect following this theory, but it has also a low level of privacy protection, which is not conducive to the application's developments in the field of the Internet of Things (IoT) or Internet of things Explorer (IDB).

The privacy function of IoTE is an optional strong anonymous encryption asset. IoTE programs start random ports. All network transport layers use a secure elliptic curve cryptographic suite. Mixed transmission makes the user's privacy impossible to find and ensures a high degree of anonymity in transactions. Using a large number of primary node P2P network, it has tamper-proof instant transaction, which realizes the function of instant

transfer, and can be completed within seconds. It has the functions of asset attributes, anonymous protection and instant transaction.

IoTE really protects your data privacy by confusing your sources of funding. All the assets in your wallet are made up of different "inputs", and you can imagine them as discrete currencies. Anonymous payment uses an innovative transmission method that mixes input with other IoTE's without leaving your assets in your wallet. You always keep control of assets. IoTE implements a privacy protection strategy based on hybrid anonymity, which is a transaction compression method, and improves privacy protection by discarding useless information. The principle is very simple and effective, mixing several unrelated transactions together, confusing the input and output of the transaction, making the input and output difficult to know where they come from.

5.5 Design against Quantum attacks

Many other encrypted assets are usually not quantum-resistant using ECDS algorithms. Quantum computers will become more sophisticated and they are likely to come out soon. Even if researchers, governments, businessmen, or the public are studying it, we will eventually see that quantum computing becomes possible. Although this is an incredible new technology, it can greatly improve our lives. However, there are many problems that we need to focus on in order to contribute to the development of this technology. One problem is that contemporary cryptography can be easily cracked by future quantum computers. For many encrypted coins, this means that the block chain has been broken.

6.loTE'S communication mechanism

IoTE's pass is the digital pass of IoTE Internet of Things, with a total of 2 billion of digital pass, but will never be issued. IoTE pass is used for asset publishing, intelligent contract, direct or strongly anonymous data submission and payment on IoTE network, and strives to create tamper-free super accounts in the field of the Internet of Things. IoTE adopts the mixed mining method of PoW + iPoS to design the master node system. 70% of all the digital passes are allocated to POW billing miners and iPoS nodes. Miners are rewarded for maintaining the safety of block chains and forming consensus. Primary node holders should be encouraged to receive additional incentives for users to authenticate transactions, store data, and provide multiple services.

6.1 POW Miner's Accounts and Operating Mode of iPoS Node

POW book keepers' block rewards are halved every six months in the first six stages, while the number of blocks remains constant in the seventh stage. Everyone can participate in POW miners bookkeeping and get block rewards. On the other hand, more professional iPoS miners are encouraged to participate in providing services and sharing rewards to better ensure the stability of the P2P network.

Compared with the single network transmission of Bitcoin, IoTE has a two-thirds of the network's mechanism. The network's second level is supported by the main node, so it has asset privacy, instant sending, decentralized management proposal system. Because the second level is very important, the primary node will get a part of the block reward. Specifically, the division of block awards is as follows: 50% to miners, 35% to master or main node holders, and the remaining 15% to decentralized management proposal system.

6.2 DAPP's Ecological Construction

DAPP's ecological construction is: 8%, release through 3years, according to DAPP flow linear release. It is a strive to create the internet of things Explorer field through the ecological construction because it can't be tampered with super accounts. Although, if we input the field of applications in the ecosystem of the Internet of Things will, it will give corresponding results.

6.3Protocol Laboratory

Protocol Laboratory: 8%, 3 years, linear release. The development team has completed the development of basic chains such as algorithm, consensus and common mechanism, mining software, wallet, etc. of IoTE Internet Explorer Common Chain, including chains and protocols not limited to DAG data stream, measurement chain and parallel to ensure the normal operation of IoTE network.

6.4 IoTE's Foundation

IoTE Foundation is a non-profit organization with 5% of the total number of IoTE passes and donations from individuals or businesses, government grants and unclaimed tokens. Research and develop is the basic protocol layer, and they constantly innovate technologies, new things, new economy and other ecosystems. The expansion of the ready-to-use software production promotes new technologies and practical cases to ensure the success of IoTE.

6.5 Community of Technology Development

Community of Technology Development: 4%, 3 years, linear release. Block chains are open. We welcome technological developers working in the field of the Internet of Things to participate in the joint development of IoTE Internet of Things Explorers. After reviewing the code and evaluating the quality of tasks developed by developers, the IoTE technology development community will give corresponding rewards to encourage global developers to develop jointly.
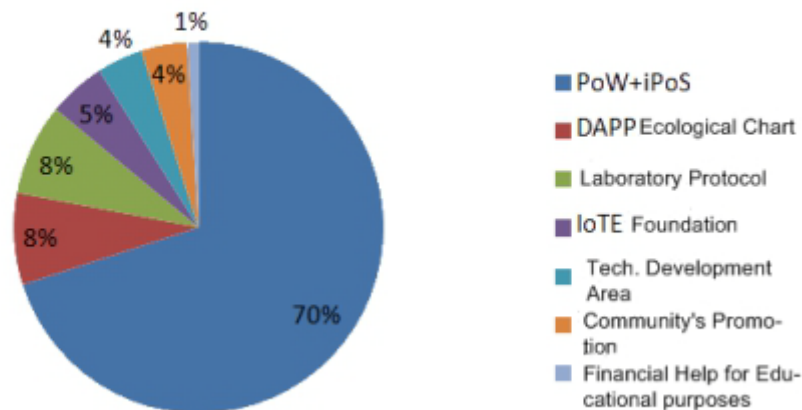
6.6 Community's Promotion

Community's Promotion: 4%, 3 years, linear release. Any good product cannot be separated from good promotion and publicity. In the early stage of IoTE, an open autonomous promotion community was established. All enthusiasts interested in IoTE's ecology were welcome to participate. The community members voted to award appropriately passes to community contributors. After preliminary completion of the IoTE ecological construction, community members can also promote the application of DAPP in IoTE's ecology to obtain returns.

6.7 Assistance of funds for education

Educational Assistance Fund: 1%. IoTE is committed to creating an untouchable super account book in the field of Internet of Things with internet of things, but we can't forget our social responsibility. From the beginning, IoTE has put out 1% of the permits for educational assistance for poor children and left-behind children on a worldwide base. It uses Block Chain Explorer to track the flow of funds. In the future, it will cooperate with world-renowned educational assistance charities, and at the same time, it will also be on IoTE. DAPP construction is an important part of it. Over the past 100 years, education was fundamental, and still is. In the spirit of "teaching people to understand how to fish is better than teaching people to take a fish", we devote ourselves to the education of poor children and left-behind children in the world. At the same time, we also welcome charitable donors from all over the world. You can donate anonymously.

The address of the donated wallet is xxxxx.

IoTEToken Distributed Chart

- PoW+iPoS
- DAPP Ecological Chart
- Laboratory Protocol
- IoTE Foundation
- Tech. Development Area
- Community's Promotion
- Financial Help for Educational purposes

7. How to get loTE's pass

7.1 Providing CPU arithmetic mining

The simplest and most common mining equipment is the universal CPU on every computer. Mining refers to providing solutions when encrypting problems arise and thus maintaining block security on block chains. Miners create new money in the process of mining and are rewarded by blocks. So miners need to solve the algorithm problems to get block rewards. Mining requires a series of hardware equipment. IoTE uses CryptoVantaa algorithm, which is CPU-friendly and can effectively reduce the possibility of adding GPU and ASIC.

The profitability of mining activities depends on the power of mining equipment used by miners, the more the difficulty of the current algorithm of the network, the more the expenditure of the hardware equipment and electricity charges.

7.2 Participation in IPoS 's fabrication project

The primary node system provides the key services for the network. Miners would be the first level of the network, providing users the sending and receiving services of funds and preventing the occurrence of double-flower payment. The main node is the second level of the network, it provides support services. The main node does not participate in the mining activities, so the mining equipment cannot act as the main node. We use a specific need to provide fixed IP, computing and storage server resources to participate in the construction of the main node of the iPoS can get IE incentives, to run the iPoS node must lock 150,000 IEs to provide services for customers on the network, and receive regular payments as a

reward from the block. The locked IE is always under the owner's full control and can be freely controlled by the owner. Once the locked IE is transferred or paid, the corresponding primary node will be offline and will stop receiving block chain rewards. Like miners, the iPoS master node comes from 35% of the block reward. The total number of incentives is 24.5% of the total number of IoTE licenses' issued, total of 490 million.

The Income estimating formula, in which: N is the number of primary nodes of iPoS, T is the total number of primary nodes, R is the current block reward, B is the average number of days. A is the average block reward, usually fixed at 35%.

7.3 Providing scenarios of applications for the IoTE

IE incentives can be obtained by providing application scenarios in the field of Internet of Things to participate in DAPP ecological construction. The total amount of incentives is 10% of the total amount of IoTE issuance, with a total of 200 million.

7.4 Participating in IoTE's Technology Development

The incentives can be obtained by participating in the development of IoTE's technology development. The total amount of incentives is 4% of the total number of IoTE licenses' issued, with a total of 80 million.

8.IoTE'S Economic Model

IoTE adopts a classical notarization economic model, that is, Vitalik Buterin, founder of ETF, whom carries on the analysis and demonstrates the IE model, according to Fisher equation optimized by block chain economics.

$$P = \frac{T}{MV}$$

PRICE · TRADE CAPACITY · CONSUMPTION CAPACITY

AMOUNT, QUANTITY · MOBILE SPEED

T: Total trading volume, total consumption. The higher the T value is, the higher the price P is. IoT's ecological construction is to expand the use of IE scenarios and stimulate the use of demand. Massive landing applications are the ultimate driving force to promote IE consumption and circulation.

M: Number of passes. If the number of circulation permits decreases, the price then increases.

V: Pass flow rate. The lower the flow rate, the higher the price.

9. Extra Informations

(1) Q2, 2018: IoTE project planning started

   Research and Analysis of POW Algorithm

(2) Q4, 2018:IoTE program framework design

   CryptoVantaa algorithm development

(3) Q1, 2019:Desktop Wallet (Win32/64/Linux)

   WhitePaper V1.0

(3) Q2,2019:IoTE's Design Framework,

   For user's accessibility in cryptocurrency. Exchanges List

(4) Q3, 2019:Super Masternode plan

   WhitePaper V2.0

(5) Q4, 2019:Desktop Wallet (Mac)

   P2P Network Integration

(6) Q1, 2020:Proposal Tracking Platform

   First Voting Cycle Begins

(7) Q2, 2020:Mobile Wallet

   Store data based on IPFS

(8) Q3, 2020:Merchant Cash Integration

   DAG data structure layer fusion

10.References

[1] IoTE BTT ANN THREAD: https://bitcointalk.org/index.php?topic=5107543

[2] IoTE Algorithm paper:

https://github.com/IoTEChain/Document/blob/master/IoTE_Algorithm_CryptoVantaa.pdf

[3]A peer-to-peer electronic cash system (2008):https://bitcoin.org/bitcoin.pdf

[4] https://blog.ethereum.org/2015/12/28/understanding-serenity-part-2-casper

[5]https://bravenewcoin.com/assets/Whitepapers/blackcoin-pos-protocol-v2-whitepaper.pdf

[6]http://research.microsoft.com/pubs/156072/bitcoin.pdf

[7]http://www0.cs.ucl.ac.uk/staff/s.meiklejohn/files/imc13.pdf

[8]http://eprints.qut.edu.au/69169/1/Boyen_accepted_draft.pdf

[9]https://www.cryptocoinsnews.com/3-solutions-instant-bitcoin-confirmations/

Contact us

Github: https://github.com/IoTEChain/

Facebook: https://www.facebook.com/iote.one

Twitter: https://twitter.com/IoT_explorer

Telegram: http://t.me/IoT_explorer

E-mail: info@ iote.one

Web: https://www.iote.one

Disclaimer

As it is a new industry, block chain has very high investment risk and technology risk, and belongs to high-risk industry. Following the product's description of this new technology, the white paper expounds the layout and Prospect of this technology and industry. The technological level and regulatory environment are constantly changing. It is not recommended for people with economical risks to invest.

Version statement

When there are contradictions between different versions, the latest version shall prevail.

Right of interpretation

The IoTE Foundation reserves the right of final interpretation to this document.