

Atomic separation

White Paper V1.0



Atomic 原子分離技術 technology
プラットホーホル暗号ブロック 암호화
占庭機序 آلة البرقية 原力永动机
Across the chain system チェーン方式



Content



01

The first chapter

■ Preface: digital economy big explosion

- 1.1 The first big bang of the digital economy: the Internet
- 1.2 The second big bang of the digital economy: blockchain
- 1.3 The singularity of the superposition of two big explosions: atomic separation

02

The second chapter

■ Atoms are born from separation

- 2.1 What is an atom
- 2.2 The definition of Atomic separation
- 2.3 The origin of Atomic separation
- 2.4 The principle of Atomic separation

03

The third chapter

■ Atomic separation runs ecology

- 3.1 The Atomic separation model
- 3.2 Black hole communication protocol
- 3.3 The force is a perpetual motion machine
- 3.4 Decentralized Exchange

04

The fourth chapter

■ Separation energy principle design

- 4.1 Introduction to the economic model of Separation can
- 4.2 The economic model of Separation can

Content



05

**The fifth
chapter**

■ **Atomic technology**

5.1 Atomic interchange theory

5.2 POS + Byzantine fault tolerant consensus mechanism

5.3 Plasma capacity expansion mechanism

06

Chapter vi

■ **Miles (L) token allocation**

07

Chapter vii.

■ **Project rules and revenue**

08

Chapter viii.

■ **Team to introduce**

09

Chapter 9

■ **The appendix**

Digital Economy

디지털경제

2020

大爆發

대폭발

Большой взрыв.

الانفجار الكبير

그리고 세



Atomic 原子分離技術 technology

ブラックホール暗号ブロック暗号암호화

占庭機序البرمنطيةآلية原力永动机

Across the chain system チェーン方

FLY

The first chapter preface

1.1 the first big bang of the digital economy

No doubt the two laws that best mirror the first big bang of the digital economy are those that have been talked about so often in recent years: Moore's Law and Metcalfe's Law. The inventor of Moore's Law, Gordon Moore (1929 -), who was one of the founders of Intel, proposed in 1971 that the number of components that an integrated circuit could accommodate would double every 18 to 24 months at the same price, and the performance would also double. This law reveals the rate of progress in information technology. In 1995, Moore wrote in the economist magazine, "what worries me most is the increase in costs... it's another exponential curve." This is known as Moore's second law.



The core of Metcalfe's law is that the value of the network is equal to the square of the number of nodes in the network, and the value of the network is proportional to the square of the number of users in the network. In other words, metcalfe's law reveals the rule that the value of the Internet increases mathematically or quadratic as the number of users increases.

Metcalfe's law was proposed by George Gilder in 1993 in honor of and affirmation of Robert Metcalfe (Robert Metcalfe, 1946 -), a computer network pioneer and founder of 3Com. According to metcalfe's law, the greater the number of users in a network, the greater the value of the whole network and each computer in the network, that is, the value of the network $V = K \times N^2$ (K is the value coefficient, N is the number of users). Since the 1990s, the Internet has not only taken on this extraordinary trend of exponential growth, but has also exploded into a wide range of economic and social spheres of penetration and expansion.



It is worth highlighting that the biggest change of the 1990s was the "perfect" combination of WallStreet, Venture Capital and Silicon Valley in the explosive organisation of the digital economy. Once obscure and unorthodox, nasdaq dominates the capital market. The nasdaq has been around since 1971. The index is 100.

Entering the 1990s, nasdaq entered the golden age of ten years, from 500 points in 1991, after the acceleration of 1998, to March 9, 2000 to reach 5000 points. But a few days later, on March 13, 2000, the dotcom bubble burst. 500 companies listed on nasdaq went bankrupt, 40% delisted, and 80% of them fell by more than 80%, wiping out \$3 trillion. Nevertheless, after the bubble, the surviving digital economy entered a new stage of development.

So far, **The period of history from 1961 to 2008, the main course of the first big bang of the digital economy**, The idea of "singularities" to "big bang" is not far-fetched, but apt: the digital economy did start with an idea, a PhD thesis.

At the time, not many people in the world would have thought so. China's 1961 was an extremely difficult time, and no Chinese communications expert, or scientist, was able to ask such questions at that time. Since 1961, there has been one explosion after another, and the world financial crisis in 2008 has completed a cycle. The rapid development of digital economy, which was once embraced and supported by people, has led to the large-scale development of the world's macro economy. At the same time, it has not allowed mankind to avoid the larger economic crisis, namely the world financial crisis in 2008.

■ 1.2 The second big bang of the digital economy

In 2008 a man named **Satoshi Nakamoto** The mysterious man published an article **«Bitcoin: a peer-to-peer electronic cash system»**, Because this bitcoin paper has set off another kind of sustained explosion in the digital economy over the past decade, changing people's cognitive inertia about wealth.





■ Atomic separation vision:

颠覆全球金融科技

Disrupting global fintech

世界の金融技術を破壊

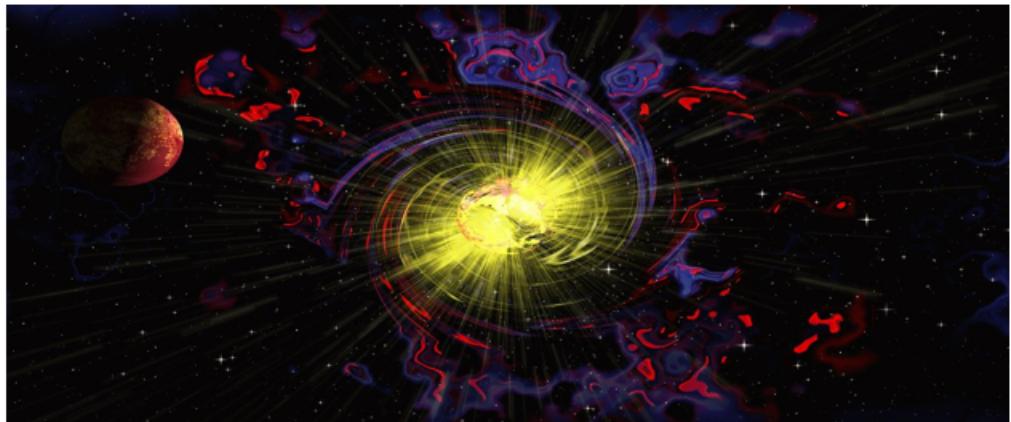
전세계 금융 과학 기술을

Подрывн деятельн

subversión



We are now at a point where atomic separation combined with blockchain will combine to create a new financial model that will amaze financial experts around the world. The superposition of two kinds of digital economy explosion, already begun, will continue to produce huge energy!



Chapter 2 atomic separation

2.1 What is an atom

(Atom) A basic particle in which an atom is indivisible in a chemical reaction. But in the physical state you can split it. An atom consists of a nucleus and electrons moving around it. The smallest unit of matter made up of atoms is called an element. There are 118 known elements. So it has a nuclear structure.

In the order of atomic diameter is about 10^{-10} m. An atom has a very small mass, usually to the -27 power, and the mass is concentrated in protons and neutrons. Electrons are distributed outside the nucleus, and their transition produces a spectrum. The electrons determine the chemical properties of an element and have a great influence on the magnetism of the atom. All atomic elements with the same number of protons, most of which have an unstable isotope that can undergo radioactive decay.

The atom was originally an abstract concept with ontological meaning in philosophy. With the progress of human cognition, the atom gradually changed from an abstract concept to a scientific theory.



Spectrum phenomenon

Electrons absorb energy and jump to higher orbitals, where the atoms are in an excited state. Because the atomic orbital is quantized, the atomic energy changes, so will absorb (out) of specific energy, produce different spectral image, gustave Robert Kirchhoff (Gustav Robert Kirchhoff) and Robert William Bunsen (Robert Wilhelm Bunsen) the earliest application properties of atoms of different elements.



■ 2.2 Atomic separation definition

Physics states that electrons in atoms can be in many different states of motion, each state has a certain amount of energy, under certain conditions, the number of atoms distributed in each energy level is certain, most of the atoms are in the lowest energy state, that is, the ground state. Atomic physics and quantum mechanics of atomic structure were established and developed in the process of studying and analyzing atomic spectra. An atom is the basic unit of matter.

Separation law:

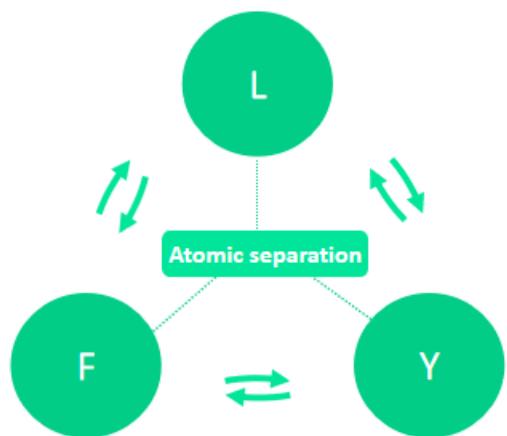
The law of separation in living things is also known as Mendel's first law. The idea is that a pair of alleles, which determine the genetic traits of an organism, separate from each other and enter a gamete when the gamete is formed. The law reveals the heredity of an isotopic gene. The cytological basis of the separation law is that genes are located on chromosomes and homologous pairs of chromosomes in cells are copied and separated during meiosis.





According to Mendel's law of gene separation and the principle of Bohr's atomic structure model, when the player is in the queue state at the beginning of the coordination, he will get the unique token number at the same time, and enter the atomic separation channel in sequence according to the timeline. The queue time shall be determined according to the market. After into the atoms in the process of separation, can immediately separation energy accumulation, after reaching the separation value point separation occurs, Y will be isolated, L will be accompanied by the process of separation, separation can reached 100% after storage pool will trigger the black hole agreement, L isolated according to the circulation of intelligent automatic destroyed 40% of the contract amount, to reach the state of conservation of energy.

```
require "file.hashed.asset"
1 // This file is part of the Black Hole environment
2 // It defines the basic structure of the environment
3 // and its interaction with the user
4 // It also contains some basic functions
5 // and variables
6
7 // Author: [REDACTED]
8 // Date: [REDACTED]
9 // Version: [REDACTED]
10 // License: MIT
11
12 // This file is part of the Black Hole environment
13 // It defines the basic structure of the environment
14 // and its interaction with the user
15 // It also contains some basic functions
16 // and variables
17
18 // Author: [REDACTED]
19 // Date: [REDACTED]
20 // Version: [REDACTED]
21 // License: MIT
22
23 // This file is part of the Black Hole environment
24 // It defines the basic structure of the environment
25 // and its interaction with the user
26 // It also contains some basic functions
27 // and variables
28
29 // Author: [REDACTED]
30 // Date: [REDACTED]
31 // Version: [REDACTED]
32 // License: MIT
33
34 // This file is part of the Black Hole environment
35 // It defines the basic structure of the environment
36 // and its interaction with the user
37 // It also contains some basic functions
38 // and variables
39
40 // Author: [REDACTED]
41 // Date: [REDACTED]
42 // Version: [REDACTED]
43 // License: MIT
44
45 // This file is part of the Black Hole environment
46 // It defines the basic structure of the environment
47 // and its interaction with the user
48 // It also contains some basic functions
49 // and variables
50
51 // Author: [REDACTED]
52 // Date: [REDACTED]
53 // Version: [REDACTED]
54 // License: MIT
55
56 // This file is part of the Black Hole environment
57 // It defines the basic structure of the environment
58 // and its interaction with the user
59 // It also contains some basic functions
60 // and variables
61
62 // Author: [REDACTED]
63 // Date: [REDACTED]
64 // Version: [REDACTED]
65 // License: MIT
66
67 // This file is part of the Black Hole environment
68 // It defines the basic structure of the environment
69 // and its interaction with the user
70 // It also contains some basic functions
71 // and variables
72
73 // Author: [REDACTED]
74 // Date: [REDACTED]
75 // Version: [REDACTED]
76 // License: MIT
77
78 // This file is part of the Black Hole environment
79 // It defines the basic structure of the environment
80 // and its interaction with the user
81 // It also contains some basic functions
82 // and variables
83
84 // Author: [REDACTED]
85 // Date: [REDACTED]
86 // Version: [REDACTED]
87 // License: MIT
88
89 // This file is part of the Black Hole environment
90 // It defines the basic structure of the environment
91 // and its interaction with the user
92 // It also contains some basic functions
93 // and variables
94
95 // Author: [REDACTED]
96 // Date: [REDACTED]
97 // Version: [REDACTED]
98 // License: MIT
```



●Atomic separation process

When you go into the atomic separation process;

The first step: separation of energy

When the separation begins, the separation energy will be accumulated, and when the separation value reaches the critical point, the separation will occur.

The second part: Y

Y will isolate L , with the accompanying separation energy;

The third link: the black hole protocol

When the separation energy storage pool reaches 100%, the black hole protocol will be triggered, and the separated L will automatically destroy 40% of the flow amount according to the intelligent contract, so as to achieve the energy conservation state.



2.3 The origin of atomic separation:

The idea of an economic model for atomic separation was developed by international free anonymous hackers on the dark web. Anonymous is the world's largest hacking organization and the world's largest political hacking organization. It is mainly distributed in the United States, followed by European countries, Africa, South America, Asia and other places have its branches. Anonymous has its roots abroad, where pranksters and gamers gather. They support online transparency, but often people impersonate them to post fake videos. Anonymous is a huge international group of hackers, most of them motivated by their love of computers.



● Physical model of atomic separation

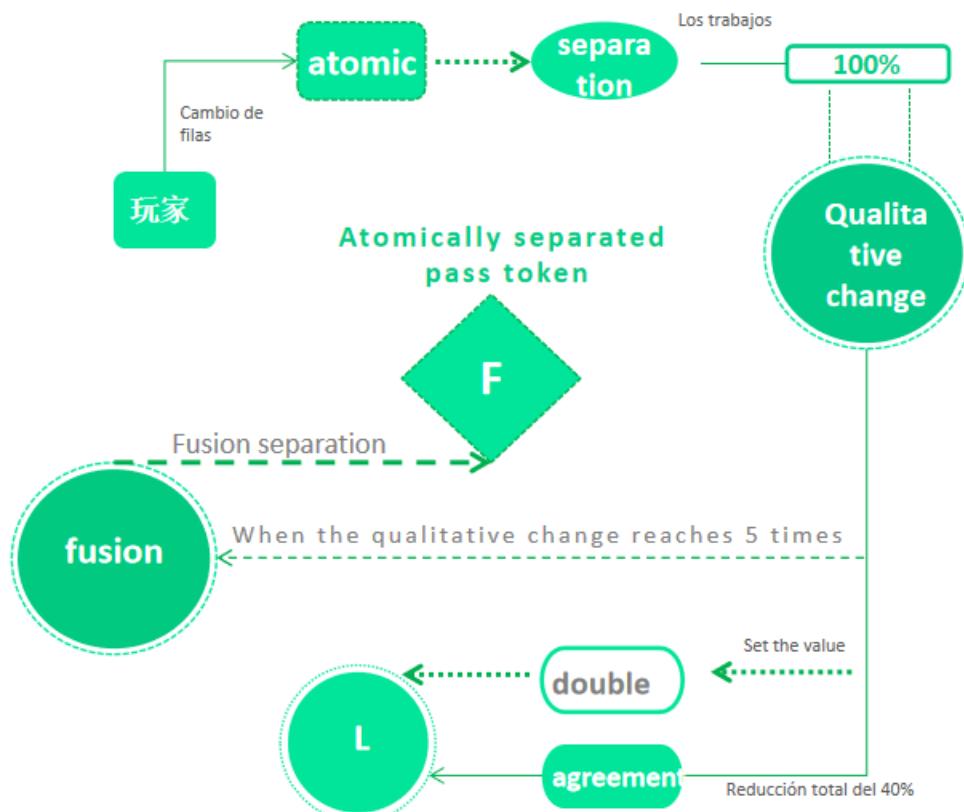
International free anonymous boldly proposed an economic model of atomic separation based on the physical model of atomic separation, inspired by the fact that atomic separation not only separates other ions, but also generates separation energy. Block chain technology is then used to go to the center

Make anonymity the design principle, adopt the latest mixed currency technology, enhance the anonymity of all transactions through mixed currency service, build an anonymous network system in the distributed network, and create a set of free and fair economic concept.



2.4 El principio de la separación de los átomos

When the player through the qualifying system after corresponding number of atoms, the atoms will immediately, in the process of its release certain separation can, when the progress reached 100% after separation of qualitative change will happen, L set value will be doubled, and the permanent black holes destroy L total amount will be reduced 40%, when the qualitative change to what will happen after five fusion, L will fusion isolated F, F will constitute the whole atom separation to the original card token, consumption decreasing and according to the community.



The third chapter

Atomic separation runs ecology

3.1 Atomic separation model

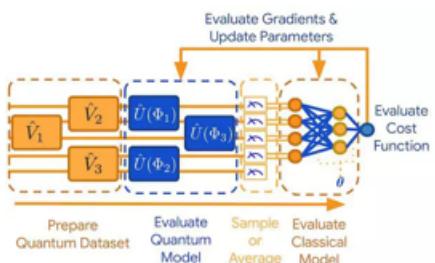
Atomic separation model The only difference is that the L coin is separated from the Y coin.

Y coin is the medium that generates L, which is converted by USDT. In order to adjust the market demand during the conversion process, it is necessary to queue up for exchange. Everyone will get a unique number when setting the queue.



Note: queuing, token, separation energy

According to Mendel's law of gene separation and the principle of Bohr's atomic structure model, when the player is in the queue state at the beginning of the coordination, he will get the unique token number at the same time, and enter the atomic separation channel in sequence according to the timeline. The queue time shall be determined according to the market. When the separation value reaches the critical point, separation will occur. Y will separate L, and the separation energy will be generated in the



process. When the separation energy storage pool reaches 100%, the black hole protocol will be triggered to separate L, According to the smart contract automatically destroy 40% of the amount in circulation, so as to achieve the energy conservation state.



■ 3.2 Black hole communication protocol

• 3.2.1 What is the atomically separated black hole communication protocol?

wormhole communication protocol

The basic communication protocol
of cross - chain technology

A bridge between different chains

Cross-chain system (black hole protocol)



• Black HOLE

By asymmetric encryption algorithm of elliptic curve 用 local P2S light nodes, quick access to nearby node communication access service chain. Through the one-way encryption of the data, a unique communication node is formed on the cross-link. When this node is obtained from the other article — chain transmission over the same experience of one-way encryption communication nodes into 行 after the match, back dealmaking information. Activate the accounts on the different links across the chain to complete the transaction.

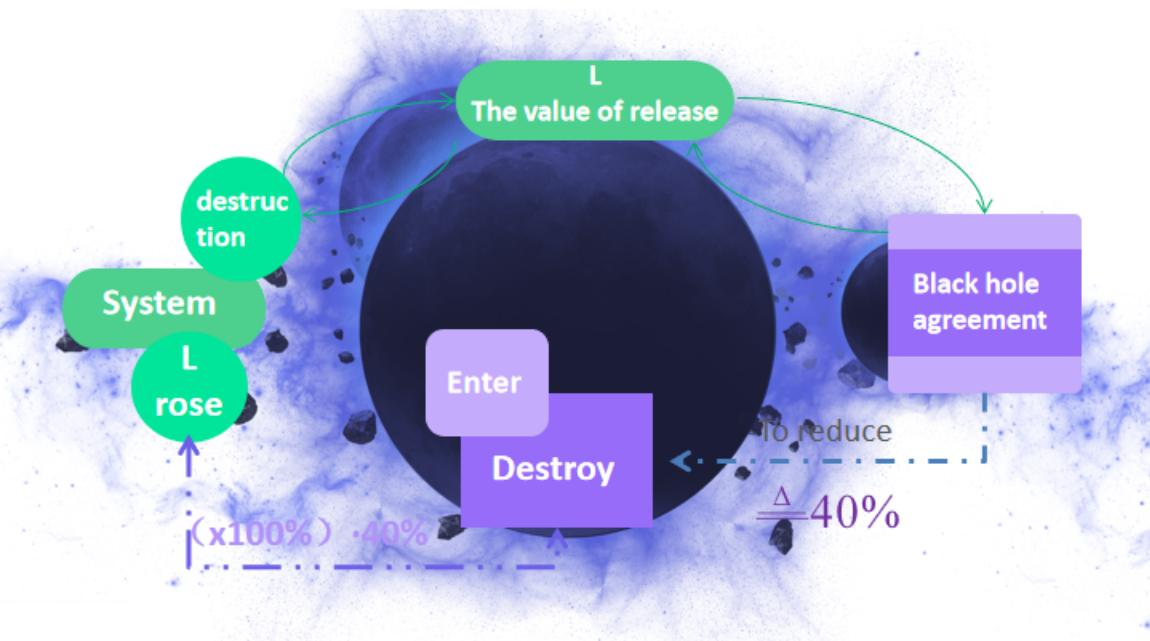
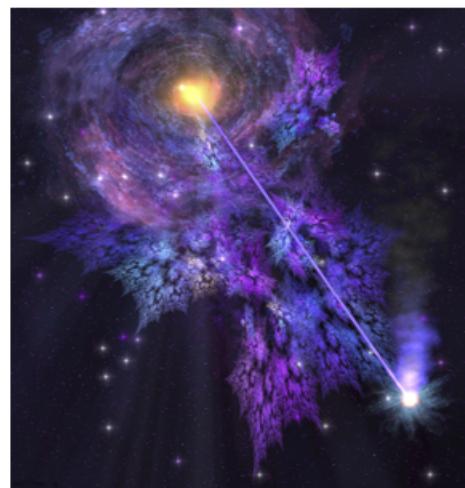




■ 3.2 Black hole communication protocol

• 3.2.2 What is the black hole mechanism?

Atomic separation systems have a value - release mechanism for self - destruction of L (mi) through the black hole protocol. A 100 percent increase in the price of an L (mi) results in a 40 percent decrease in the flux of the L (mi) and a reduction in the direct destruction of the L (mi) into a black hole, thereby increasing the value of the L (mi).





• 3.2.3 What is the use of the black hole mechanism?

As investment properties of L (miles Ya), factors affecting its price follow the rules of the traditional financial target price, so the mechanism of the black hole, under the stimulus of negotiable L total Ya (mile) will be affected to reduce gradually, and the higher heat along with the market, the more frequently the use of the separation of the atoms, L (miles Ya) prices will promote at the same time.



■ Solve the access point

1. Black hole mechanism ensures open and transparent destruction
2. Cross-chain system ensures transaction security
3. Black hole protocol constructs secure encrypted communication





■ 3.2 The force perpetual motion machine

- As long as there is a player involved in the atomic separation system, the separation will continue, producing the separation energy In order to achieve the ultimate atomic separation measure of the law of conservation.



Agreement as long as the trigger black hole, then I convert from quantitative change to qualitative change, and the qualitative change after reaching 5 L also produce fusion, isolated F, F atoms decentralized exchange certificate assets, the player can freely in the atomic decentralized exchange freedom to participate in the business, is the player to master node of atomic community assets, community vote, node the activities of the campaign, launched by some in the form of community node will use F, and permanent destruction of F. In order to achieve the ultimate atomic separation measure of the law of conservation.





3.4 Decentralized exchanges

With the development of technology, cryptocurrency and decentralization technology have been applied globally. The core of blockchain is decentralization, but at present, most digital currency transactions are still centralized. Multiple safety accidents have proved that the centralized exchange contains the security hidden danger, therefore the development of decentralized exchange with industry expect decentralized exchange for its assets by the user control the advantages of high security, more and more popular with COINS ring users, many people agree with decentralized trading is the future.

- Sky-high fees and high operating costs make the cost of the entire blockchain industry very high, and small businesses pay the bill in the end.
- The cost of doing evil is too low, when cutting leek, want how cut how cut, both when the referee and when the athletes.
- Security is a big problem with centralised exchanges. Over the past decade, hackers have stolen more than \$1.5 billion from centralized exchanges. Research groups estimate that hackers stole between \$950m and \$1bn from centralised exchanges in 2018 alone.
- The centralization, monopoly, corruption and blockchain spirit of the centralized exchange are totally at odds with each other. The young dragon slayer who claimed to change the world with decentralization turned out to be the dragon.





The new decentralized exchange makes the whole industry have a new turning point, and the atomic exchange exchange has become the leader of the decentralized exchange. The traditional centralized exchange has the common problems of almost all centralized architectures. It can be said that it is the most traditional place in the whole blockchain industry. Instead of innovating for many years, it has turned back the historical clock.

Compared with traditional centralized exchanges, decentralized exchanges have solved many problems:

- Decentralized community governance means lower operating costs. There is no need for huge institutions and teams, and no need for expensive currency fees. Without these, the cost of the whole transaction ecology is much lower.

- Decentralised exchange structures have reduced the problems of monopoly, corruption and so on. You can monitor every decision and transaction, and open and transparent governance will keep everything in the light and avoid many problems.



- Financial security is guaranteed. Your money is always in your own custody, eliminating the security issues that a centralized exchange can cause, which means your money is safe under your control.





■ Based on the above ideas, atomic decentralized trading has more advantages and a more detailed community management architecture:



First, atomics has more than a million loyal followers on the dark web, and more active users. A complete and active ecological loop has been constructed to ensure mobility. The atomic exchange is the first trading platform in the world to serve the community. Behind the traditional trading platform are all kinds of consortia and organizations, bearing all kinds of profit pressure, in order to obtain high profits will take a variety of means. The various users who participate in the transaction contribute high profits to the trading platform but do not get corresponding returns. The atomic exchange's mission is to share the profits of the traditional exchanges with the community organizations that participate in the transactions, so that everyone can prosper together.

Finally, the atomic exchange has a number of leading technical advantages and bank-level security guarantees to ensure that the governance of decentralized exchanges is open and transparent. Atomic exchange.com has dozens of security and bank-level risk control security measures, convenient and fast trading services, five-star trading experience. Their mission is to empower the traditional economy with blockchain and build the world's leading digital asset trading platform.



In the era of the central exchange cutting chives, the decentralized community autonomous exchange represented by the atomic exchange is more like a clear flow of the coinage, and the most essential features and technologies of the block chain are used to reshape the ecosystem of the law of the jungle.

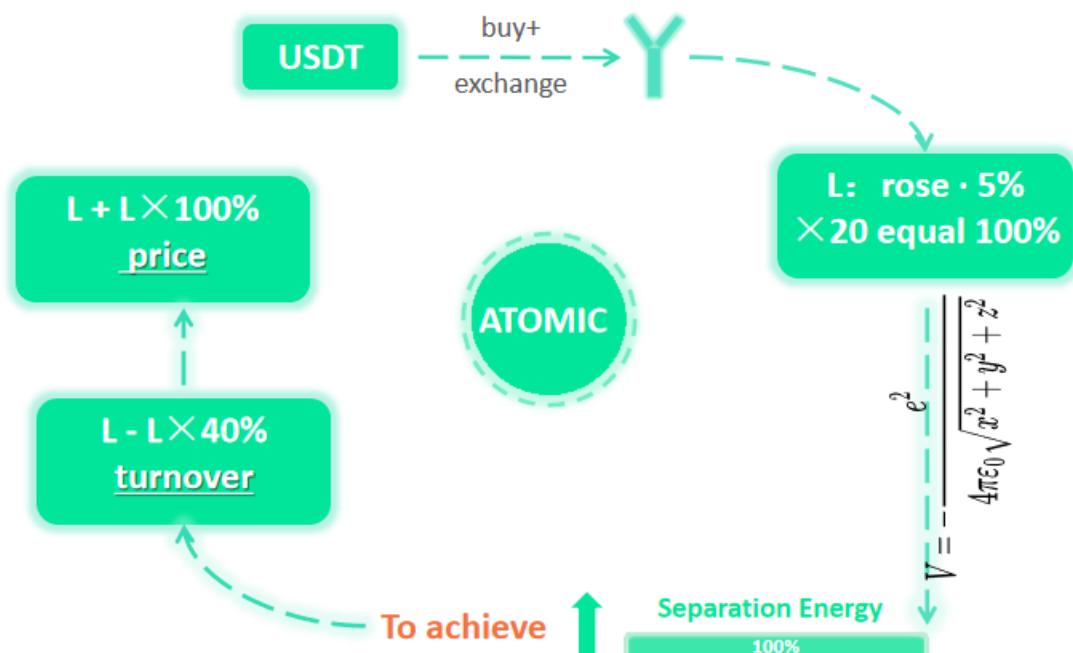
The fourth chapter

Atomic separation runs ecology

4.1 Separation can produce logic

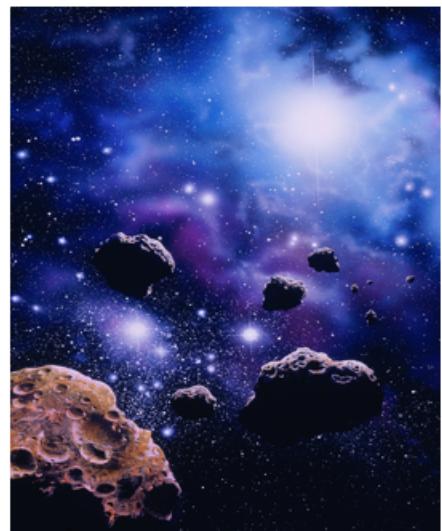
Atomic separation model The only difference is that the L coin is separated from the Y coin.

Y coin is the medium that generates L, which is converted by USDT. In order to adjust the market demand during the conversion process, it is necessary to queue up for exchange. Everyone will get a unique number when setting the queue.



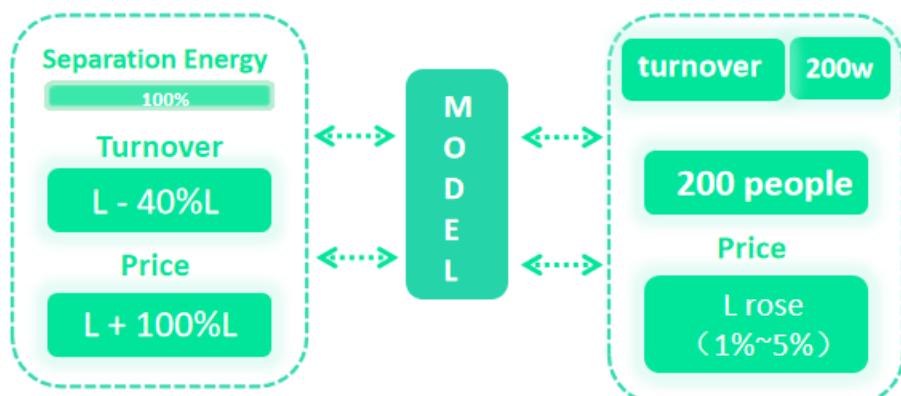


- In the atomic separation model, the bar represents an increase in the price of L (miles), and a 5% increase in the bar represents a 5% increase in the price of L (miles). When the separation can accumulate to 100 percent, the atomic separation structure is qualitatively changed, and the L (milv) flux is reduced by 40 percent and the L (price) increases by 100 percent.



■ 4.2 Model design

The L flux in the model was designed to be 40% less and to double in price when the separation accumulates to 100%. The rate of increase is set at 1 per cent for a maximum daily increase of 5 per cent for a system with 200 participants and 2 million USDT transactions.





原子が分離する

Usher in a new era of finance

金融の新紀元を開く

금융신기원을열다

لبدء حقبة مالية جديدة



Y · L · F



4.3 Perpetual motion machine

- Only in the continuous separation of atoms will produce separation energy, separation energy progress is also in accordance with the mathematical logic, the rules of the game open and transparent.
- The immediate result of separation is an increase in the price of L (miles), and when the price of L doubles, the separation can also be 100 percent.
- This triggers a qualitative change in the atomic separation model, triggers the black hole protocol, and destroys 40 percent of the L (mi) flux.



- To keep assets from shrinking, the price of L doubled, or four times the original price.
- At the same time, the separation energy progress bar returns to zero again, and the separation energy perpetual motion machine repeats itself in this logic.



The fifth chapter

Atomic separation runs eAtomic technologycology

5.1 Atomic interchange theory

All material changes in nature are accomplished by the coincidence and separation of atoms, which are the smallest particles in chemical changes. Different atoms can form certain chemicals under certain chemical conditions. Atomic separation simulates a decentralized trading system, while using the anonymous technology of mixing COINS to encrypt the trading process. In short, trading is mining.

One type of transaction in the blockchain is atomic exchange. It is a transaction that deals with both malleability and interoperability.



Atomic Swap allows cryptocurrencies on two separate blockchains to make Atomic, cross-chain transactions that do not rely on a trusted endorsement from a third party. Atomicity means that either the transaction succeeds or the transaction fails, and there is no third state.

Atomic exchange is a technique that allows you to complete peer-to-peer transactions without a third party. They also arrange for you to deal with unknown users without trust. Others must first send their money because they may decide not to honor their deal. Atomic exchange enables the parties to exchange different currencies on terms they have agreed in advance, without the need for trust, without fear of losing money.



■ ALICE

If Alice and Bob want to exchange A certain amount of two cryptocurrencies A and B, without using A centralized exchange, they need to agree on the exchange rates of the two cryptocurrencies. Then, through an atomic exchange, Alice sends A to Bob, and Bob sends B to Alice.

Blocks in the chain of trading, however, Z is irreversible, without center endorsement for currency trading will involve different operating successively, if Alice sent him A money first, then Alice is in the condition of bad, because she is not sure if Bob will be in accordance with the contract will be sent to A certain amount of B.

In order for decentralized peer-to-peer transactions to work, a machine is needed

Hashing time lock (HTLC) is a common solution to ensure that both parties will not cheat.

● HTLC

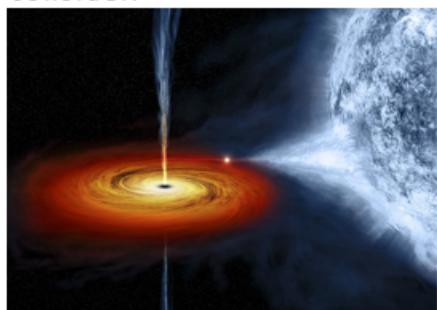
The main solution to achieving atomic exchange is Hashed Timelock Contracts (HTLC). The idea is to lock up a deal and use it only when certain conditions are met. Suppose that Alice and Bob are exchanging digital tokens A and B. Alice first creates an encrypted digital cipher box and informs Bob of the lock's specifications. And put the digital token A into the password box. To open the password box, you need the key and Bob's signature. Bob will use the same size lock to create a similar password box, and unlock Bob's password box requires the same key and Alice's signature.



● HTLC

Since opening the password box requires the signature of another person, only Alice can open Bob's password box, and only Bob can open Alice's password box. When Alice opens Bob's password box, the key is displayed on the blockchain. Bob can use Alice's published key to open the password box created by Alice to get the A dollar. If there is a problem or one party exits during the transaction, that is, the password box is not opened within the agreed time, according to HTLC's design, the digital currency will be returned to Alice and Bob respectively.

The above is the design concept of HTLC, but the actual implementation of the algorithm will be more complex and there will be more practical problems to consider.



● Beam

Beam is a cryptocurrency based on the MimbleWimble protocol, with strong privacy, substitutability and extensibility. MimbleWimble keeps transactions secret by hiding data such as the user's identity and the amount of the transaction.

MimbleWimble requires the parties to the transaction to interact to negotiate some parameters before initiating the transaction. Therefore, the generation of a transaction requires both parties to jointly sign online. It is worth mentioning that Beam provides a Secure Bulletin Board System(SBBS) mechanism to provide a buffer time for both parties to be online at the same time. Let's say there are two users, Alice and Bob, and Alice owns BEAM and Bob owns ATomic. Alice wants to exchange 200 beams for Bob's 80 atomics.



● Transaction process

1.1 Bob generates ATOMIC Lock Transaction

Alice first passes her public key to Bob, who locally generates an Image (Hash Preimage), calculates its Image (Hash Image), and USES Alice's public key and Image (Hash Image) to generate a lockout script transaction that locks 80 Bob's ATOMICUTXO, which can be used only if any of the following conditions are met.

- The time of the atomic exchange has passed (as determined by the height of the current block), and Bob claims ownership of the UTXO by using his private key. This condition is primarily used for Bob's ability to retrieve the UTXO after the atomic exchange fails for some reason.

- The original image (Hash Preimage) is exposed and authenticated using Alice's private key. This condition is mainly used in normal cases where Alice accepts the ATOMIC data Bob sends to her by exposing the private Hash Preimage.
- Bob sends the generated ATOMIC Lock Transaction to Alice, so that Alice has the ability to verify the Transaction on the ATOMIC network.

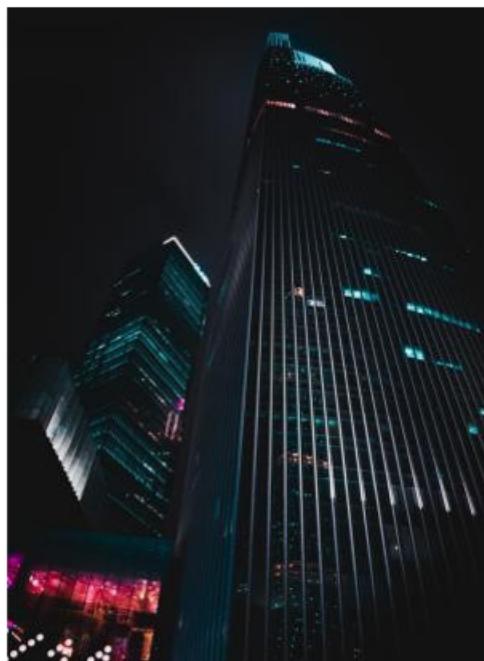




● Transaction process

1.2 AliceBuild in collaboration with BobBeam Lock Transaction and Beam Refund

Because Beam USES the MimbleWimble protocol, which eliminates scripts and hides properties such as the amount of currency, a locked transaction requires the collaboration of two participants. Since the focus of this paper is ATomic exchange, the generation process of MimbleWimble transaction is not introduced too much. For details, please refer to the ATomic quantum chain research institute: a new privacy protection protocol, MimbleWimble. Alice and Bob interact, including blinding factor negotiations, Bulletproof signatures, and so on. This generates a Beam Lock Transaction on the Beam network, which locks Alice's upcoming transfer



BEAM UTXO for Bob. Since there is no script in the Transaction to determine the branch, Alice also needs to generate a Beam Refund Transaction, which transfers the locked Beam UTXO back to Alice. This is to prevent Alice from getting her BEAM back if the exchange fails.



● Transaction process

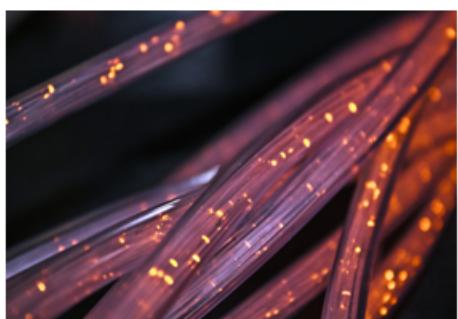
1.3 Bob and Alice confirm to each other that the two UTXO strokes are locked

When the two individual locking transactions of ATomic and BEAM are completed, Alice and Bob need to check whether the two transactions are correctly locked. Alice also needs to determine whether the lock time of the ATomic locking transaction is longer than that of Beam, so as to prevent Bob from retrieving the ATomic by the timeout condition when he gets the Beam.

1.5 Alice by ATomic Redeem Transaction

Alice got Bob in Beam network generated by the original like (Hash Preimage), launched on ATomic network ATomic Redeem Transaction, the Transaction will trigger ATomic Lock Transaction script the second condition, through revealing the original like (Hash Preimage) and transfer ATomic to Alice's signature under your account.

1.4 AliceLaunch in collaboration with BobBeam Redeem Transaction When the parties have determined the correct deployment of the locked transaction, they enter the exchange currency phase of the atomic exchange. Alice and Bob are MimbleWimble based interactive consultation, to generate a Beam Redeem Transaction, the Transaction will lock Beam UTXO belongs to Bob. During the transaction, Bob will expose the Hash Preimage generated by himself, and Alice learns about the Hash Preimage.





● Atomic exchange completed

The whole process ends when the atom-exchange transaction has received enough confirmation in the respective network. When any link goes wrong and the atomic exchange cannot take place, the locked transaction guarantees that the currency can be returned to the original account after the lock time.

Atomic exchange completed

Most centralised exchanges now trade by forcing traders to hand over their wallets to these exchanges for control and custody. What does it mean that these escrow wallets are called "hot wallets"?

With a hot wallet, the trader does not control the private key of the wallet. As a result, this leaves a trader's crypto-assets at the mercy of a centralized exchange.

Therefore, the special technology of atomic separation atomic exchange allows users to keep a firm grip on their digital assets. Atomic exchange also has advantages over traditional exchange trading, such as:

Truly realize

decentralization: Atomic exchange is truly decentralized, allowing cryptocurrency traders to complete transactions without resorting to third parties and without counterparty risk.

Reduce investor risk: Atomic exchange also keeps cryptocurrency holders in full control of their own cryptocurrency, eliminating the risk of a hacker attack on a centralized exchange.

Reduce transaction costs: The only transaction cost involved in atomic exchange is the usual blockchain transaction cost, which makes atomic exchange an almost free transaction.



■ 5.2 Consensus 1 mechanism

An Atomic Network is a Network of independent blockchains called "partitions "(zones). Run under the support of Tendermint BFT, Tendermint BFT is a Byzantine fault-tolerant security consensus engine with high performance, consistency and the ability to deter vandals under a strict bidirectional accountability mechanism. The Byzantine fault-tolerant consensus algorithm of Tendermint BFT is very suitable for the expansion of the public chain under the PoS mechanism. And blockchains that use other consensus models, including Ethereum like Casper CBC, and Bitcoin can also be connected to the Atomic network through the use of adaptive partitions (Peg zones).



The first partition of Atomic BFT is called an Atomic Hub (Hub). The Atomic hub is a multi-asset equity proven cryptocurrency network that can be adapted and upgraded through a simple governance mechanism (voting). In addition, Atomic hubs can be extended by linking other partitions. Atomic network hubs and partitions can communicate via the black hole communication (ABH) protocol, which is either the virtual user datagram protocol (UDP) or the Atomic exchange protocol (TCP) for the blockchain.



■ Atomic BFT

Tokens can be transferred safely and quickly from one partition to another.

Instead, all token transfers across partitions are made through Atomic hubs that track the total number of tokens held by each partition. This hub separates each partition from the other failed partitions. Since everyone can connect new partitions to Atomic hubs, partitions will be backward compatible with new blockchain technologies.

Interoperability between blockchains can be achieved with Atomic BFT. This is a potentially valuable Internet in which assets are published and controlled by different validators and can be transferred and traded seamlessly across the chain without relying on a trusted third party.



● What problem to solve

This architecture addresses many of the issues facing the blockchain world today, including interoperability, scalability, and the ability to seamlessly upgrade and system performance for blockchain applications. For example, partitions derived from Bitcoin, Ethereum, or other blockchain systems can be anchored to Atomic hubs. These partitions allow Atomic BFT to extend indefinitely to meet the needs of global transactions. In addition, partitioning is fully applicable to distributed exchanges, and vice versa.



■ Atomic BFT

Atomic BFT is more than just a single distributed ledger. It is designing a protocol for an open network of distributed ledger that will be based on cryptography, robust economics, consensus theory, transparency, and accountability as a new foundation for the financial system of the future.



- **The application layer** The application layer is responsible for defining state transitions and updating the state machine state after a transaction has occurred.
- **Consensus layer** The consensus layer consists of algorithms that are responsible for ensuring that each state machine stores the same state after the transaction is executed (that is, a state machine cannot forge a transaction that does not exist).
- **Anti-witch attack layer (abstract)** A replicated state machine trying to run on a decentralized public network also needs a fourth layer (the "anti-witch attack layer") to ensure that no state machine can break the network.
- **The network layer** The network layer is responsible for propagating transactions executed on one state machine to all other state machines in the network.



■ Tendermint

Tendermint is essentially an open source complete blockchain implementation that is the core technology of Atomic BFT.

We can try to interpret Tendermint in this way. Tendermint can be understood as a modular block chain software framework, which allows developers to customize their own block chain without considering the realization of consensus and network transmission.

Tendermint is software for securely and consistently replicating an application on many machines. By securely, we mean that Tendermint works even if up to 1/3 of machines fail in arbitrary ways. By consistently, we mean that every non-faulty machine sees the same transaction log and computes the same state.

Secure and consistent replication is a fundamental problem in distributed systems; it plays a critical role in the fault tolerance of a broad range of applications,

$$d(a, b) = \left((I_a - I_b) + C \right) \bmod C$$

■ Tendermint principle

Tendermint is essentially an open source complete blockchain implementation that is the core technology of Atomic BFT.

We can try to interpret Tendermint in this way. Tendermint can be understood as a modular block chain software framework, which allows developers to customize their own block chain without considering the realization of consensus and network transmission.



Tendermint

from currencies, to elections, to infrastructure orchestration, and beyond. Tendermint consists of two chief technical components: a blockchain consensus engine and a generic application interface. The consensus engine, called Tendermint Core, ensures that the same transactions are recorded on every machine in the same order. The application interface, called the Application BlockChain Interface (ABCI), enables the transactions to be processed in any programming language.

$$T = \begin{cases} t_w & , d(I_{me}, I_{receive}) = 1 \\ \left(d(I_{me}, I_{header}) - 1 \right) * t_o & , d(I_{me}, I_{receive}) > 1 \\ T & , d(I_{receive}, I_{header}) < 0 \cup d(I_{receive}, I_{header}) > 1 \end{cases}$$



Unlike other blockchain and consensus solutions, which come pre-packaged with built in state machines (like a fancy key-value store, or a quirky scripting language), developers can use Tendermint for BFT state machine replication of applications written in whatever programming language and development environment is right for them.



■ Tendermint

Tendermint It's one that can be on different machines,

Secure and consistent replication of applications The software of.

Tendermint has Byzantine fault tolerance **Byzantine fault-tolerant consensus algorithm**.

The Tendermint mainly consists of two parts:

Tendermint Core: Blockchain consensus engine,

Responsible for data transfer between nodes as well as Byzantine consensus.

ABCI: blockchain application program interface, It is also a protocol that supports transaction processing implementations in any language.

● compatibility

Tendermint's compatibility is demonstrated by its theoretical ability to support developers using any language to develop their application layer and chain logic without concern for the network layer and consensus layer.

At a higher level, Cosmos compatibility is reflected in its compatibility with deterministic chains (chains with block determinism) and probabilistic chains, bridging the Hub with probabilistic chains through the Peg Zone. This will be covered in subsequent chapters.

● Lightweight sex

Lightness is reflected in that, except for the nodes responsible for verification and block out, other nodes do not need to download and store the complete state of the block, but only need to store the block head of the corresponding chain to query and verify specific transactions on other chains through Merkle Proof.





■ conclusion

Plasma is a framework for motivating and enforcing smart contract execution. It can scale up to a large number of status updates per second (up to 1 billion per second), and it can support a large number of decentralized financial applications worldwide on the blockchain. These smart contracts are used to encourage continuous automation through online transaction fees, ultimately relying on the underlying blockchain to force the locking of transaction status.



Atomic's BFT approach ties the security of the economy as a whole to the integrity of most economies, rather than the integrity of a small number of economies. The system is safe when most of the money is in the hands of honest people. With other methods, a small part of the economy determines the security of the entire economy, which means that only a small number of users are needed to prevent other users from making transactions. Atmic, the owner of a small part of the money, is unlikely to harm the system as a whole, and the owner of a large part of the money is unlikely to behave badly, because it will weaken the purchasing power of the currency and ultimately devalue their own assets.



■ 5.3 Expansion and perfection

Plasma is a framework for motivating and enforcing smart contract execution. It can scale up to a large number of status updates per second (up to 1 billion per second), and it can support a large number of decentralized financial applications worldwide on the blockchain. These smart contracts are used to encourage continuous automation through online transaction fees, ultimately relying on the underlying blockchain to force the locking of transaction status.

This build forces a state lock on the main chain by writing an intelligent contract on the main chain, using fraud proof. Plasma groups the blockchain into a tree-like hierarchical structure, treating each blockchain as a separate branch, and forcing the entire blockchain history and mapreduce-capable calculations to be submitted to Merkle proof. Through the main chain to force a chain of account information into the sub-block chain, the chain will be through the minimum trust to meet the needs of expansion.



This way of building allowed external parties to hold funds, and calculate according to contract, their behavior is similar to a miner, but Plasma is running on an existing block chain, thus we don't have to every time in status updates on the main chain to create the corresponding trading books (even including adding new users), and only need combined state change wrote such a small amount of information on a chain.

Atom separation will use Plasma for horizontal performance expansion based on multi-chain systems. This multi-chain parallel computing mechanism enables extremely high levels of state updates per second (potentially in the billions) for atomic separation. Thus, the performance of atomic separation has been greatly improved to replace the carrying capacity of the current centralized cluster.

Chapter vi

Distribution of tokens

L : Distribution mechanism

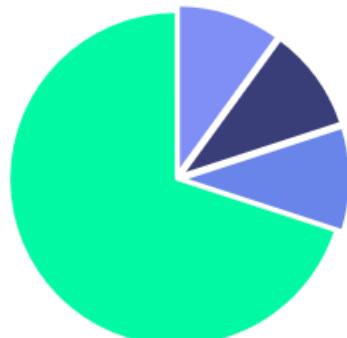
10%: Reward the dark web community techies for their contributions to the GitHub repository code update.

10%: Reward users of the dark web community and early project evangelists for their advocacy efforts.

10%: Rewards become super node users for their contribution to the entire atomic separation network.

70%: Atomic separation model

Distribution of L



- Code contributions
- Community outreach
- The super node
- Atomic separation





ATOM

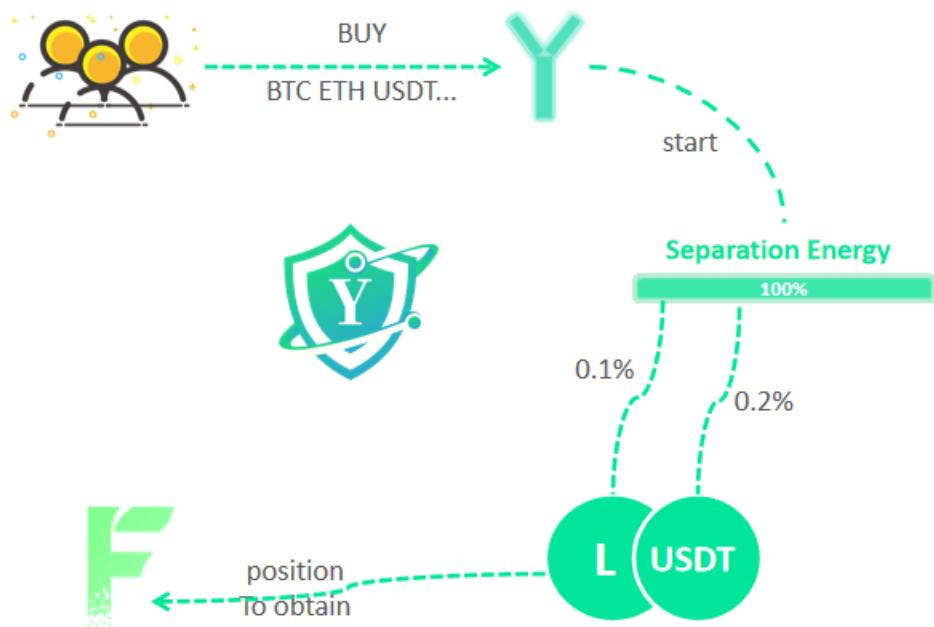
Before BTC, I could hardly imagine the value of blockchain;
It's hard for me to predict what the world will look like after
the atoms are separated



Chapter vii.

Project rules and revenue

■ Separation mode



■ L Separate energy progress bar

The total number of L releases is constant, derived from the Y (ima) atom-separated business model. Every time the price of L increases by 100%, the number of L in circulation will self-destruct by 40%. At the same time, the price of L doubles again (e.g., there are 10,000 L in the account, starting at 1USDT, and when it rises to 2USDT, the number of L becomes 600 and the price of L rises to 4USDT).



A black hole agreement

40%

A dense wave of values
There would be no inflation



■ L inflation logic

L only static output, 1/1000 per round

It takes L to buy activation energy for automatic exclusion, and L to consume the withdrawal commission.

When the price of L increases by 100 percent, the flux of L decreases by 40 percent, the fraction goes directly into the black hole to destroy it, the price of L doubles again, and so on!

L circulation is only 21 million, with each reduction in circulation of 40%, the number will become less and less

F (fay) is one of the molecules in the L (milo) ecosystem, and the results are valuable

Ten times...

100 times...

Still 1,000 times...



Chapter 7 the dark web hacker

Dark network hacker

■ anonymous

Anonymous is the world's largest hacking organization and the world's largest political hacking organization. It is mainly distributed in the United States, followed by European countries, Africa, South America, Asia and other places have its branches. Anonymous has its roots abroad. It champions transparency and human freedom. Anonymous is a loose-knit but massive group of international hackers, most of them motivated by their love of computers.

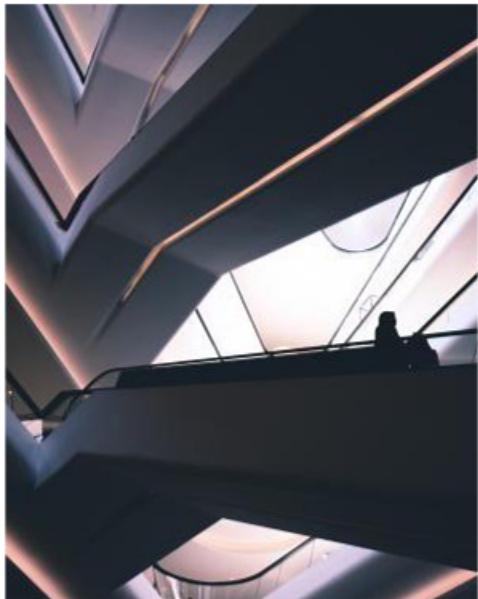


Chapter 8 risk warning & disclaimer

Risk Tios&Disclaimer

■ Policy risk

At present, the regulatory policies of countries around the world on blockchain projects are not clear, and there is a possibility that participants may suffer losses due to policy reasons. If the regulatory body imposes regulatory means, such as prohibition by law, atomic separation or TEP communication may be affected, limited or even terminated. In the market risk, if the overall value of the digital asset market is overestimated, the risk will be increased. Participants may expect the growth of the atomic separation project to be too high, but these high expectations may not be realized.



■ Regulatory risk

All digital asset transactions, including atomic separation, are highly uncertain. Due to the lack of strong supervision in the field of digital currency transactions, there are risks such as the rise and fall of digital currency and the manipulation of dealers. After entering the market, individual participants should bear the asset shock and psychological pressure brought by the market instability. Although literary experts and official media all put forward Suggestions of cautious participation, there is no written supervision method and provisions.

Therefore, it is difficult to avoid this kind of risk effectively at present.

There is no denying that in the foreseeable future, regulations will be issued to regulate the blockchain and digital currency fields. If regulatory bodies regulate the field, atomic separation may be affected.





■ Security risks

In terms of security, digital tokens are anonymous and difficult to trace, which are easy to be used by criminals, or attacked by hackers, or may involve in illegal asset transfer and other criminal ACTS. Other unknown risks include the development of blockchain technology and the overall situation of the industry.

Atomic separation may involve some unforeseen risks. Participants are invited to fully understand the team background, understand the overall framework and thinking of the project, reasonably adjust their vision, and participate in the ecological construction of atomic separation rationally before making a decision

■ Technical risk

Atomic separation based on block, chain, distributed, decentralized, tamper-free, big data, artificial intelligence and other technologies support the development of core business. The atomic separation team has completed the landing of the technology, but there are still unknown uncertainties in the technical breakthrough. In the process of updating and adjusting the project, it may be found that there are loopholes, which can be made up by issuing patches, but the impact of the vulnerability cannot be fully understood.

■ Overall risk

The atomic separation founding team will spare no effort to achieve the development goals mentioned in the white paper and extend the scope for the growth of the project. In view of the development of the industry as a whole is unpredictable factors, however, the existing business model and the overall train of thought or not fit well with market demand and so the project progress, this white paper may be adjusted to update as the project details, if ecological participants cannot get details update project in time, or the public do not understand the latest progress of project, the information asymmetry caused by the insufficient cognition of project, will influence the follow-up development project





■ disclaimer

This document is for information purposes only and is for information only: it does not constitute any investment advice, solicitation or solicitation for the sale of stocks or securities in the atomic separation and related companies. This solicitation shall be made in the form of a confidential memorandum in accordance with the relevant securities laws and other laws. The contents of this document shall not be construed as forcing participation in atomic separation. No act in connection with this white paper shall be construed as participation in atomic separation, including a request for a copy of the white paper or an analysis of the white paper to others. To participate in atomic separation means to reach the age standard and have the civil capacity of junior generation. The contract signed with atomic separation is true and valid. All the participants are willing to sign the contract and have a clear and necessary understanding of atomic separation before signing the contract.



The atomic separation team will continue to make reasonable attempts to ensure that the information in this white paper is true and accurate. In the process of development, the ecology may be updated, including but not limited to the ecological mechanism, common securities and its mechanism, common securities distribution, etc. Some parts of the document may be adjusted in the new white paper as the project progresses, and the team will publish the updated content through an announcement on the website or a new white paper. Participants should be sure to obtain the latest version of the white paper in a timely manner and adjust their decisions accordingly.





■ disclaimer

Atomic separation expressly disclaims any liability to participants for (1) reliance on the content of this document (2) inaccuracies in the information contained herein (3) any action resulting therefrom. The atomic separation team will spare no effort to achieve the goals outlined in the documentation, however, due to force majeure, the team will not be able to make 100% of the commitment.

The platform is an important tool for additional functionality, not an investment. Having an ima, A milo, or A faye does not confer ownership, control, and decision-making rights over the atom separation ecology on the owner. As A digital cryptocurrency, faye does not fall into the following categories :(A) any kind of currency; (B) securities; (C) equity in the legal entity; (D) stocks, bonds, notes, warrants, certificates, or any other instrument granting any right.

The value added of Irma, mi and fay may or may not be of any value, depending on market rules and post-application requirements. The team does not commit to the value added and is not responsible for the consequences of any increase or decrease in value. To the maximum extent permitted by applicable law, the team shall not be liable for damages and risks arising from its participation in atomic separation, including but not limited to direct or indirect personal damages, loss of commercial profits, loss of commercial information or any other economic losses. Atomic separation ecology to comply with any healthy development of regulations and industry self-regulatory statements. Participant participation represents full acceptance and compliance with such checks. At the same time, all information disclosed by participants to complete such inspections must be complete and accurate. The ecology of atomic separation clearly communicates the possible risks to the participants. Once the participants participate in atomic separation, they will accept the potential risks of the platform and bear the consequences

