Blockchain application ecology and digital incentive system based on NFT and meta universe

White Paper

NFTmeta DAO • 2021

Catalog

Chapter I Project Development Background

The new round of scientific and technological revolution has brought about the widespread application of innovative technologies such as artificial intelligence and big data, and has spawned a large number of new financial technologies. The maturity of the blockchain 1.0 represented by Bitcoin and the blockchain 2.0 represented by Ethereum has made the blockchain have stepped out of the conceptual stage, and will enter the era of blockchain 3.0. Chain 3.0 is a blockchain application that goes beyond currency and finance. It will fit in with the actual applications of various industries, allowing users to feel the true value of the blockchain. With the in-depth development of DeFi and gradually entering the 2.0 stage, the rise of NFT, meta universe, etc., has created a new space with more valuable returns for global investors.

1.1 NFT concept and core value

NFT, the full name in English is Non-Fungible Token, and the Chinese translation is "non-fungible token". It is a cryptocurrency using blockchain technology and can be understood as an advanced version of Bitcoin. To put it simply, NFT is a kind of virtual asset, which puts specific information on the blockchain in encrypted form to prove the uniqueness of copyright and is traded through an online trading platform. Unlike Bitcoin, NFT has the characteristics of indivisibility, irreplaceability, and uniqueness. Its records on the blockchain cannot be tampered with or copied, and transaction records are publicly visible, so NFTs cannot be counterfeited.

For example, if a painting is transformed into NFT form, then it cannot be changed, and a certain amount of tokens will be generated to prove its scarcity. The creator, creation date, and other information of this painting will always be recorded in its NFT. Even if someone plagiarizes or duplicates it later, others can use its NFT to determine whether it is true or false. In summary, NFT is the use of blockchain technology to transform the abstract fact of "ownership of a certain product" into a "token" that can be priced and changed hands, and is recognized by the world and cannot be changed.

The development history of NFT can be traced back to 2017. Ethereum launched 10,000 CryptoPunks pixel avatars that year. Each avatar is different. Those who hold Ethereum cryptocurrency can receive it for free and get traded in the secondary market. Half a year later, Ethereum launched the blockchain game "Cryptokitties" (cryptokitties). Each cat has its own number, which cannot be copied or stolen. The gameplay is similar to the QQ Penguin. The difference is that the cat you spend time and money "captive" will always belong to you and will not disappear due to the suspension of the game. .

In 2018, the NFT ecosystem gradually developed. With the rise of trading platforms such as OpenSea, NFTmetarRare, Rarible, Nifty Gateway, and the rise of NFT, there are also various NFT trading platforms. Among them, the NFTmetarRare and OpenSea operated by Ethereum are the largest, attracting more customers.

In 2019, brands such as Nike and F1 that smelled business opportunities began to intervene in the NFT market. In 2020, NFT will begin to be applied to other fields, including identity authentication, fixed asset backup, and even used as encrypted collections to increase the value of collections.

In 2021, the NFT market finally ushered in explosive growth. According to the CryptoArt.io platform, the NFT market was the most competitive at the beginning of the year. In March, there were more than 2 million U.S. dollars in transaction volume; as of August 1, a total of 8.21 million works of art were sold in the form of NFT, with a total value of about 6.83 100 million U.S. dollars, or 260,000 ETH. Not only are tech giants such as Musk and Jack Dorsey robbing the market, some

well-known artists have also entered the NFT one after another, and there are endless reports of many artworks being sold at high prices.

At present, we can now clearly see that the main application areas of NFT include games, artworks, domain names, collectibles, virtual assets, real asset tokenization (STO) and other fields, especially artworks and games in the market. Degree is higher. Some game props and artworks are naturally unique and inseparable, which are just coupled with NFT, so NFT can effectively prevent the forgery and fraud of such items.

In the context of global digital transformation, NFT will play an irreplaceable role in the future blockchain ecology, and may even become a key driving force and cornerstone for many industries to achieve digital economic transformation. For the exchange, how to seize the opportunity under the new trend and use this to promote the development of the digital economy is worthy of in-depth thinking.

The prosperity of NFT and DeFi are in the same line. NFT belongs to the category of DeFi and is a field with great growth potential in the DeFi field. DeFi (Decentralized Finance) means decentralized finance, which refers to financial behaviors that run on the underlying blockchain systems such as ETH Ethereum and Binance Smart Chain (Ethereum). DeFi uses smart contracts to allow digital assets to rebuild the traditional financial order in the blockchain network and generate synergy with each other. Typical applications include quantification, market making, lending, insurance, bonds, funds, auditing, derivatives, ETFs, exchanges, clearing and settlement using digital assets. Corresponding to the centralized finance of CeFi (Centralized Finance), DeFi decentralized finance has the characteristics of code neutral and open source, decentralized operation, no centralized supervision, and decentralized autonomy:

• Code neutral and open source: DeFi projects running on the blockchain are openly running in the blockchain network and the code is open source. Every smart contract interaction and open source code can be browsed in the block at any time.

• Public access on the device: The mainstream project code on the chain is audited by a code audit company to avoid backdoors, bugs and other vicious events that affect the healthy operation of the system. The code of most traditional Internet applications is not fully open source.

• Decentralized operation: Refers to DeFi projects that can be run on miner

nodes distributed across the world on the blockchain main network, unlike traditional Internet applications, which need to run on a centralized server owned by the company. Decentralized blockchain nodes are more resistant to risks. As long as there are mining machines around the world for mining and accounting for this public chain, the blockchain network can operate normally.

• Non-centralized supervision: The blockchain network application runs on countless blockchain nodes, and the main network of the project does not need to be reviewed by a centralized organization, which makes innovation more free and faster to develop. Without supervision, the DeFi network completed the on-chain reconstruction of the traditional financial system in just half a year, and tried various innovations on the original basis. On the other hand, decentralized supervision also makes investors less protected. The DeFi network has gradually grown in a decentralized organizational form during accidents such as hackers and loopholes.

• Decentralized Autonomous Organization (DAO, Decentralized Autonomous Organization): Most of the top blockchain network applications use decentralized autonomy to manage major projects and development paths. Any community member can initiate a proposal, and all users who hold digital assets can vote on the development direction of the project based on their holdings. DAO is similar to a shareholder meeting initiated 24 hours a day and 365 days without interruption.

The concept of DeFi began to rise in 2014-2017. In 2018-2019, various decentralized lending and other DeFi projects were gradually launched. In January 2021, as the Bitcoin bull market attracted market attention, it became popular. The DeFi lock-up volume exceeded US$80 billion in April 2021. The stock of digital assets in the DeFi network also exceeded $101 billion in early April, accounting for about 5% of the overall volume of digital currencies, and there is a trend of further acceleration.

1.2 Trends and bottlenecks of NFT

1) High-quality assets enhance market liquidity

First of all, it is expected that more high-quality comprehensive trading platforms will appear in the NFT field, providing players from all over the world with a place to mint or trade NFT. In addition, DeFi can provide liquidity for NFTs. High-quality widely recognized NFT assets can be mortgaged in DeFi agreements. Users can purchase new assets after mortgaged NFTs. High-quality NFT assets will

improve market liquidity.

2) More real assets are on the chain

The true meaning of NFT is to provide an on-chain channel for real-world items and act as a bridge between the physical world and the blockchain world. In addition to the existing game props, art collections and other applications, in the future, more real assets such as real estate and copyright can be chained and exist in the form of NFT. In addition, NFT can also be seen as a chaining process of real hobbies, such as movies, music, drama, fashion, etc. can be chained, and the gameplay will be more diverse.

3) Increase in financial attributes

Commercial bills such as bonds and insurance policies need to carry a large amount of information in the process of circulation and trading in the financial market, and they are unique. NFT, as a non-homogeneous token, can be used to mark different physical objects, and the information of bills can be tracked. NFT can empower the financial sector, and financial attributes will increase in the future.

4) The ecological environment is not perfect

Compared with the previous popular DeFi ecosystem, the ecological perfection of NFT at this stage is not perfect. Different from the similar business and investment logic of each track in the DeFi field, the NFT track is clearly differentiated, the projects are quite different, and there are only a small part of the competition. Road development is relatively mature and has investment value, resulting in insufficient NFT project and track combined force and limited influence. Secondly, the concepts of private keys, wallets, and mnemonics involved in NFT have a high threshold for players, and many players are discouraged because of this. In addition, since the NFT market is an emerging niche field, liquidity is worse than that of DeFi projects.

5) High security risk

First of all, the global regulation of NFT policies is still in a blank stage. NFT development is a state of unregulated "barbaric growth". According to the characteristics of NFT non-homogeneous tokens against physical objects, criminals may use NFT to launder money and trade. Criminal activities such as prohibited

items. In addition, as the value of NFT assets continues to increase, the ecosystem is gradually expanding, and it may become a new target for hackers after DeFi. Network security vulnerabilities are also potential risks.

Since the end of 2020, the NFT market has achieved rapid growth. Traditional companies looking for new business are increasingly interested in this. In addition, with the continuous development of technology, more funds are entering this field. In the past few months, our interest in NFTs in the crypto market has risen sharply, and the total transaction volume has exceeded billions of dollars. The market value of NFT exceeds 30 billion U.S. dollars, and the 24-hour transaction volume exceeds 34 U.S. dollars, accounting for 0.7% of the total cryptocurrency transaction value. Although the current proportion of NFT does not seem to be high, its huge potential has attracted industry attention.

In the context of global digital transformation, NFT will play an irreplaceable role in the future blockchain ecology, and may even become a key driving force and cornerstone for many industries to achieve digital economic transformation. For the exchange, how to seize the opportunity under the new trend and use this to promote the development of the digital economy is worthy of in-depth thinking.

1.3 The meta-universe tuyere effect appears

The field of encryption and projects based on encryption technology seem to be in a state of constant change. Some new ideas evolve into new concepts, which has become a trend. On the contrary, some ideas that cannot evolve into new concepts can never proceed smoothly. Similarly, the terminology related to popular items floods the entire radio station, and many of the previous technical languages are eventually lost in the encryption language.

One of the most modern concepts currently being tested is the meta universe. Extracting distributed working principles from the blockchain world and applying them to future Hollywood movies can let everyone understand their possibilities. Compared to the 2D world we explore through games and movies, Metaverse can provide a tangible virtual world, and users can walk through the scenery through a 3D interface. Just as science fiction promotes derivative movies, so the concept of movies also promotes the development of online games.

The concept of meta universe originated from the 1992 science fiction novel "Avalanche", in which the author constructed a virtual world parallel to the real world. Later, the famous movies "The Matrix", "The Number One Player", and the popular anime ip "Sword Art Online" and other film and television works continued to use and improve this concept. Literally, the Metaverse consists of two parts: Meta (transcendence) + Universe (universe), that is, through technical capabilities to build a virtual world on the basis of the real world, so that people in the real world

can use digital forms Can live in a virtual world, and there are also a series of relatively complete systems in this virtual world, such as social networking and economics.

Technically, based on the traditional Internet, Metaverse has put forward higher requirements in terms of immersion, participation, and sustainability. Therefore, it will be supported by many independent tools, platforms, infrastructures, and protocols. run. With the increasing maturity of AR, VR, 5G, cloud computing and other technologies, Meta Universe is expected to gradually move from concept to reality.

As the market's understanding of the metaverse gradually deepens, it is certain that everything from the consumer Internet to the industrial Internet will usher in the metauniverse era of online and offline integration in the future. The mainstream view of the market believes that the meta-universe model will be a brand-new pan-entertainment model, and the unique immersive, real-time, and diversified model of meta-universe will be more welcomed and affirmed by the market.

In general, Metaverse is highly interoperable between virtual and reality, with closed-loop economies attached to open source platforms. Although there is no detailed description of the final form of the meta universe in the industry, we can still determine the four core attributes of the meta universe by refining its characteristics:

- Synchronization and simulation. The virtual space and the real society maintain a high degree of synchronization and intercommunication, and the interactive effect is close to reality. Synchronization and simulation of the virtual world are the basic conditions for the formation of the original universe, which means that all events in the real society will be synchronized with the virtual world, and users can get feedback information close to reality when interacting in the virtual meta-universe.

- Open source and creation. Open source also means open source technology and open source platforms. Metaverse encapsulates and modularizes the code to varying degrees by formulating "standards" and "protocols." Users with different needs can create in Metaverse to form a native virtual world. Expand the margin of the meta-universe.

- Sustainability. The meta-universe platform will not "suspend" or "end", but

will operate in an open source manner and continue indefinitely.

• Closed-loop economic system. The user's production and work activities will be recognized in the unified currency of the platform. Players can use the currency to consume content on the platform, or they can replace the real currency through a certain percentage. The economic system is the engine that drives the constant advancement and development of the meta universe.

The meta-universe industry is still in its infancy, and there is currently no unified and complete definition of the core elements of the meta-universe in the market. However, combining the eight essential elements of the meta-universe given by the CEO of Roblox, one of the earliest and most authoritative development of meta-universe concepts, and the seven characteristics of the virtual world listed by Tencent Research Institute, the ideal state of the meta-universe can be derived, namely one It has an extremely immersive experience, a super-temporal social system, a rich and colorful content ecology, an economic system that combines virtual and real, and a super-large digital community that can mirror the real human social civilization.

1.4 Integration and development of NFT and Metaverse

Meta universe is not a castle in the sky, but a virtual space based on the real Internet world in the future. The scope of coverage will also expand from pan-entertainment to every corner of the Internet. However, the current development stage of the meta universe is still in the ultra-early stage, and it still takes a long time to develop and perfect.

NFT will become an important infrastructure of the meta universe. Its uniqueness and irreplaceability will provide a reliable basis for people to map things in the real world to the meta universe, and it has initially shown its value at this stage, but in the future The core and extension of NFT still have a lot of room for imagination. Based on our assumptions above, NFT will become an important infrastructure of Metaverse, and Metaverse will become the most outstanding application of NFT. From this perspective, the two are interdependent and mutually prosperous.

At the end of June 2021, Zuckerberg announced that Facebook will work hard

to build Meta Universe in the future, and the Meta Universe product group will be led by Vishal Shah, Vice President of Instagram. At the end of 2020, in the preface of Tencent’ s annual special issue, Ma Huateng put forward a so-called "True Internet" concept: "Now, an exciting opportunity is coming. The ten-year development of the mobile Internet is about to usher in the next wave of upgrades. We call it the True Internet." Judging from its interpretation of the True Internet, it is similar to the meta-universe we are discussing today.

This is a process from quantitative change to qualitative change, which means the integration of online and offline, the integration of physical and electronic methods. The door to the virtual world and the real world has been opened. Whether it is from the virtual to the real, or from the real to the virtual, we are committed to helping users achieve a more real experience. From the consumer Internet to the industrial Internet, application scenarios have also been opened. Communication and social networking are becoming video, video conferencing and live broadcasting are rising, and games are becoming cloud.

As we all know, the development context of the Internet from Web1.0 to Web3.0 indicates that NFT and meta-universe will also go through a process of discovering and confirming the value of the individual and all the values created by each individual on the Internet. On the whole, Web3.0 will be an important part of the meta-universe, so the rediscovery of individual values will also be an important core of the meta-universe. Based on the above analysis and the unique advantages of NFT, it is not difficult to find that with the development of human society, especially the deepening of the exploration of the origin of human society, the "unique" value of each individual and the "unique" recording function of NFT will Increasingly deep integration, this will undoubtedly continue to strengthen the interdependent relationship between NFT and meta-universe.

Although the development of Meta Universe is still at a very early stage, through the window of NFT, we have been able to glimpse into many attractive aspects of this virtual world, such as open interconnection and value sharing. With the help of NFT, in the future Meta Universe In, any valuable individuals and things will be discovered, recorded and received due respect.

Generally speaking, regardless of technology or product form, the current meta-universe is still in the initial stage from 0 to 1. Only in terms of technology and privacy, the meta-universe has not really formed yet. However, Metaverse has huge

application scenarios. At present, NFT is very popular, but there are no application scenarios. Meta Universe provides a good place to showcase the advantages of NFT. The complementarity of Meta Universe and NFT will create countless unimaginable technologies in the future.

1.5 The market attaches great importance to Meta universe

On October 28, 2021, Facebook announced at its Connect 2021 online conference that it would rename the company to "Meta". The company logo has also changed from a thumbs-up gesture or a blue F to a bit like "infinity". "symbol.

At the Connect 2021 online conference, the company's CEO Mark Zuckerberg showed the audience the company's definition of Metaverse and the company's development blueprint in the live broadcast. He said: "Metacosm is the next frontier of science and technology, just like when we built a social network."

"When Facebook was founded, people could almost only type on their computers. Later, with mobile phones with camera functions, the Internet became more visual. The soaring Internet speed this year has made movies the main channel for us to experience content. "

Zuckerberg said: "We moved from the desktop to the web, then to the mobile phone; from text to photos, and then to movies. But the progress does not end here. The next stage of the platform and media will make people more immersive The feeling of its surroundings. You will be in the network, not from the side. This is what we call the'meta universe'."

NFT, meta universe, etc. have become popular areas at the moment, and NFTmeta believes that NFT and meta universe are applied in the field of blockchain encryption, mainly to solve the scarcity and uniqueness of numbers, digital property rights, large-scale coordination and protection across virtual environments User privacy. Drive everything to achieve the goal of NFT. At the same time, in the "meta universe", NFT brings digital uniqueness and verifiability, which will completely subvert a series of items such as artworks, collectibles, and games. "Meta universe" adds important independence and uniqueness. NFT allows the "meta universe" to exist in an open, trustless form, and can achieve decentralized ownership. Based on this, NFTmeta will provide a more superior decentralized

solution for the Internet of Everything.

• Completely based on blockchain technology, based on the Binance Smart Chain Ethereum integrated ecological application in the early stage, and will build its own public chain underlying system in the later stage to create the foundation for NFT, Metaverse and diversified DeFi applications;

• Assets are controlled by individuals, and through the application of aggregation tools, more users can freely shuttle between the NFT and meta universe worlds;

• Real-time settlement and settlement are completed through smart contracts, realizing more efficient, convenient and safe settlement and settlement;

• Reduce the cost of trust between individuals by minimizing dependence on trust;

NFTmeta expects that everyone is their own master, everyone can freely schedule their own assets, and will not be peeped, supervised, and blocked by centralized institutions. NFTmeta will build an autonomous ecosystem on the basis of decentralization, privacy, and fairness, ensuring financial security and fairness of participation by each investor, while stripping away the harm of centralization, and building a true decentralized ecosystem and value closed loop. Establish a connection between virtuality and reality, allowing NFT and Metaverse to promote social progress while creating personal value.

Chapter II Overview of the NFTmeta project

2.1 Introduction to NFTmeta

NFTmeta is created by the NFTmeta laboratory in conjunction with the world's top blockchain technology elites and communities. It aims to form application support for NFT, meta universe, DAPP, smart contracts, etc. through independent blockchain underlying protocols.

Adhering to the concept of deeply applying DeFi, NFT, and meta-universe to ecological development, NFTmeta, with the support of innovative concepts and token incentive models, will open a new era of value Internet. Benefiting from the advantages of continuous development and innovation of technology, extensive business applications, and refined governance, NFTmeta's business logic has been implemented, and it is competitive in the following aspects:

• Technology: NFTmeta has a very mature and powerful technical support. It has accumulated rich industry and technical experience in blockchain, games, artificial intelligence, NFT, meta-universe, VR/AR and other fields. It is in the underlying technology of blockchain Industry-leading breakthroughs have been made in development and application. The NFTmeta team perfectly brings together veterans from multiple industries, many years of actual operation experience, and deep insights into the development of the industry.

• Industry resources: NFTmeta will sign a strategic cooperation agreement with top leading companies in the target industry, which will provide strong support for NFTmeta to enter the target industry, so as to truly promote the actual implementation of NFTmeta+ meta-universe applications.

• Business governance: Unlike general projects, NFTmeta has a clear and clear strategic plan for the target industry, and uses an autonomous community model to continue to empower free, fair and high-value ecological prosperity. NFTmeta is more focused and professional with the help of blockchain technology's distributed decentralization, non-tamperable, encrypted security and point-to-point transmission value characteristics to penetrate target industries and quickly gain market share.

• Fund management: The fund management of NFTmeta will establish an investor protection fund under the leadership of the NFTmeta DAO and NFTmeta development team, strictly abide by the principles of fairness, justice, and openness, and take the development of NFTmeta as the primary purpose. The foundation special custody and ensure the safety and sustainability of funds, all funds usage will be regularly disclosed to all investors to ensure the openness of the use of funds.

• Development space: The target industry of NFTmeta is the trillion-level meta-universe market. By formulating a complete governance structure, the development team effectively manages general affairs, code management, financial management, salary management, and privileged operation scope to ensure sustainable development.

2.2 NFTmeta development vision

NFTmeta believes that the true freedom of assets comes from the privacy and security of information. Only by allowing assets to flow at their own will and always in a safe place is the true freedom of assets. Blockchain does not mean to be unconventional. In addition to making assets more free, it must also make the experience more humane.

The vision of NFTmeta is: to provide meta-universe services to everyone, so that modern finance is no longer just a tool for the rich to accumulate money, but a key to the freedom of wealth for civilians.

In order to realize the ultimate freedom of digital assets, create a truly decentralized and distributed future "digital financial service ecosystem and meta-universe parallel world", so that blockchain technology and digital asset applications can be popularized on a larger scale. Technical research, combined with the decentralized characteristics of blockchain and consideration of its application scenarios, the mission of NFTmeta is as follows:

1) Cross-chain asset transfer

It can connect to the existing major digital token networks (such as Bitcoin, Ethereum, etc.) to complete the asset exchange without changing the original chain mechanism and realizing the landing of the pledge mining model. The newly generated digital token network can also be connected to the NFTmeta protocol at

a very low cost.

The blockchain network of the nature of the alliance chain can also be connected to the main chain of NFTmeta to realize the functions of transferring assets from the original chain to NFTmeta, from NFTmeta back to the original chain, and trading multiple assets on NFTmeta. Ensure the security of cross-chain transaction assets and the stability of cross-chain transaction services.

2) Provide privacy protection for transactions

- Both parties to the transaction can choose a transaction with privacy protection.

- Able to provide privacy protection for digital asset transfers and transactions.

- Able to provide anonymity protection for digital asset holders.

3) Extensibility of the scene

- Be able to become a distributed platform for multiple digital token exchanges.

- Able to carry out pledge lending business of different digital currencies.

- Able to complete digital asset transactions using digital tokens as a medium.

- Ability to issue and trade new digital financial assets.

2.3 NFTmeta core section support

With the support of global resources, NFTmeta will realize the landing of the meta-universe with the support of the following models:

1) User ecology

- NFTmeta will create the only pass of digital encryption for all users-meta.

- Provide users with low-threshold, high-security wallets, and become a secure payment platform for users to participate in the encrypted world.

• Create digital tokens that circulate in the global DeFi scene: meta supports the transaction and settlement of the entire ecosystem.

• Build a benign and sustainable ecology around users, including NFT games, pledge mining, meta-universe applications, etc. And form a new game subversive gameplay, integrating "GameFi" and "traditional mining" into a new "Metaverse" model.

2) Technical level

• NFTmeta modularizes blockchain functions, integrates the cross-chain engine and its front-end development tools, directly covers third-party developers of DAPP, penetrates meta tokens into hundreds of thousands of games and applications, and covers more than one billion users worldwide.

• NFTmeta integrates blockchain technology into the back-end service logic and uses node servers around the world to provide developers on DAPP with fast communication solutions and reliable smart contract server-side logic.

• Focusing on developers, we will build a complete set of development tools, documentation and development communities to provide the most complete and convenient developer ecosystem.

3) Operational level

• NFTmeta will cooperate with professional chain games, mainstream mining pools and application global distribution teams to integrate meta payment and pledge mining for global operations to ensure the global circulation of meta.

• Continue to improve the construction of the DAPP chain game platform. In the future, it will reach a strategic cooperation with the world's top media giants to promote games and products based on NFTmeta technology.

4) Incentive level

• In the NFTmeta system, users can realize the pledge mining, efficient circulation and decentralized transactions of game asset value through meta, so as to obtain higher value returns and rewards for participation;

With the support of core competitiveness, NFTmeta's commercialization logic

is clear, and supports multi-chain and cross-chain. Each technical link and organization has a strong target and logic gene, and on this basis, many modularization and transformation are proposed. Technical solutions or mechanisms.

2.4 Technological innovation of NFTmeta

In the first stage, NFTmeta will improve all levels of the blockchain infrastructure on the basis of Ethereum, and put forward breakthrough innovations at some levels, especially in terms of anonymity. The main technological innovations of NFTmeta include:

• At the communication level of the underlying P2P network nodes, combined with the advantages of the existing Tor-based anonymous communication network and the blockchain-based distributed VPN, an original anonymous P2P communication network is realized, and the method for anonymous access of nodes is designed and realized. The private encrypted communication protocol greatly enhances the anonymity of nodes in the underlying communication network, ensuring that the communication between nodes is difficult to track and crack.

• At the level of the underlying data structure, a new data structure is adopted, which greatly reduces the storage space required by the node and improves the efficiency and security of the underlying data storage.

• At the level of the distributed consensus mechanism, a safe and efficient transaction-based DPoS transaction grouping consensus is designed. This consensus mechanism has the characteristics of high concurrency and fast transaction confirmation, which can quickly build an ecosystem for different application scenarios.

• At the level of anonymous transactions, combined with the characteristics of traditional encrypted virtual currencies, through zero-knowledge proofs and ring signatures, a transaction anonymity and privacy protection method with extremely high cost-effectiveness and excellent security is designed to meet the privacy protection needs of different application scenarios.

• At the smart contract level, through the realization of advanced Turing complete smart contracts, the advantage lies in better support for off-chain data

access, support for third-party asset issuance, and can be implemented in actual application scenarios in the form of public chains, alliance chains, and private chains.

• At the level of cross-chain communication and multi-chain integration, relay chain technology is used to implement cross-chain communication and multi-chain integration functional modules as a single layer of Overlay to maintain the independence of cross-chain operations and various functions.

• At the level of ecological incentives, use meta distribution methods and methods to support innovative mining for ecological incentives.

• At the industry application level, covering financial information, asset management, liquidity mining, payment, lending and other application levels.

Chapter III NFTmeta meta-universe ecology

3.1 Meta universe ecological design

Metaverse is a relatively new concept and technology, and it is still in the research stage. No meta-universe is formed, and most are obviously immature. They are often centrally controlled by certain centralized companies or project parties.

NFTmeta will be the world's leading decentralized metaverse project, and it is seeking to combine the concept of Metaverse with an economy based on cryptocurrency. It is based on a space-themed environment to enhance the experience, and is dedicated to discovering the uniqueness of human beings: the motivation and desire to explore, learn and transcend.

meta (platform token) will be used as a medium of exchange in the meta universe. It will be used to buy, sell, trade and modify in-game assets. In addition,

meta will be used as the entrance to various fields of NFTmeta for accessing games, virtual concerts and clubs, media, entertainment, education, travel in the meta universe, investing in virtual real estate, mining materials in games, paying other players for services, Social experiences and programs, as well as anything else that currency can be used in the physical world, are just meta functions in the virtual world. All in all, it is the digital currency of the virtual world.

3.2 GameFi service system based on Metaverse

MetaNFT's GameFi ecological section will provide service support for scenarios including NFT+GameFi, Play-to-earn, NFT game crowdfunding, etc., with the support of Metaverse.

The NFTmeta meta-universe game ecology and GameFi system aim to establish an NFT+GameFi application platform and a high-value chain travel revenue ecology. Adhering to the concept of deeply applying the concept of DeFi+NFT+GameFi, NFTmeta will open a new era of value Internet. Thanks to the advantages of continuous development and innovation of technology, extensive commercial applications, and refined governance, NFTmeta is competitive in the following aspects:

• Increased player participation, can modify or optimize the game: Every player can participate in the improvement and upgrade of the overall game. Players who have obtained game governance tokens can upgrade and improve the game by voting to obtain a better gaming experience. Players and games have higher interaction and stickiness.

• Chain games have no central control and no unified operation center: it is not owned by a certain company. Players and developers jointly maintain the game. It is completely driven by the market. The higher the popularity and the better experience, the higher the game player. For games placed on the blockchain, the computing company that was originally developed cannot fully grasp the development trend of the game, or close the game.

• Play-to-earn can realize the odd loose control: playing and earning is the biggest selling point of NFTmeta games. Upgrading to play monsters in the game will not only get the joy of the game, but also tokens, equipment, props, NFT, etc., all of which can be used Sold in the blockchain market.

• Distributed decentralization: Since each node and miner in the NFTmeta underlying system must follow the same accounting transaction rule, and this rule is based on a cryptographic algorithm rather than credit, and each transaction requires the approval of other users in the network, so, The NFTmeta decentralized trading system does not require a third-party intermediary structure or endorsement by trusted institutions.

• Non-tampering and encryption security: The NFTmeta underlying system adopts a one-way hashing algorithm, and each newly generated block is advanced in strict time-line order. The irreversibility of time leads to any attempt to invade and tamper with the data and information in the blockchain They are all easily traceable, leading to rejection by other nodes, which can limit related illegal acts.

In addition, NFTmeta will provide more users and third-party developers with a high-performance, highly scalable blockchain game basic service aggregation platform, which has the ability to quickly build upper-level application services and meet the application scenarios of large-scale users. Based on the team's continuous technological breakthroughs and innovations, NFTmeta has formed a series of technical features and advantages in terms of performance, scalability, security, and operation and maintenance. That is, with the support of the underlying technology, the NFTmeta mainnet can provide developers on Dapp with an easy-to-use and complete blockchain game infrastructure, including a visual development kit and an on-chain ecological environment. Developers do not need to pay attention to blockchain technology. The realization of the block chain game can be completed directly in a graphical manner, with a low threshold, and quickly and efficiently.

NFTmeta hopes to provide players with a fair, just and open game environment in which data is transparent, rules are transparent, there is no background manipulation of item drop rates, and consumption is maliciously induced. At the same time, NFTmeta hopes to carry the value fission of the digital asset economic model through the NFT+GameFi model.

3.3 meta universe game

The meta meta universe game is a nearly complete 3A-level space exploration, action, adventure, and massively multiplayer online game. It generates high-value anchored NFT collections by launching physical satellites, and uses meta universe as the core support , To provide users with options to explore, collect assets, mine

asteroids, trade on the NFTmeta market, and interact with others.

As a focus on space travel and machinery, space base connections, asteroids and mining, planets, space battles, and complex and interesting virtual game economic ecology, the core of the meta universe game will be continued through a global satellite network and NFT satellite assets. .

The meta meta universe game is not only limited to NFT-based satellites and applications for exploring high-value space collections, but can also achieve higher-value extended applications in the following three directions:

• Space data security storage: a single satellite of meta universe game has TB-level data storage space, and additional safe and effective encryption algorithms and encrypted transmission channels can create a complete data security storage system, which is digital assets and token keys. And other important digital information is provided-a safe storage backup outside the earth. When the ground data is lost or damaged, a complete backup data is provided to the user, which greatly increases the safety factor of the system.

• Blockchain software and hardware testing platform: In the future, blockchain technology will inevitably go into space with mankind. The existing blockchain application software and hardware systems are designed for terrestrial networks and cannot be run and applied directly on satellites. , It is necessary to complete the space environment adaptability test of the hardware system and the running test of the meta universe game of the software system.

• Blockchain application "star" platform: meta meta universe game uses satellites as blockchain computing nodes, moves blockchain technology to space, and completes global coverage data transmission through the low-orbit satellite network, which can apply blockchain Promote faster to people or things around the world. Therefore, the meta meta universe game can provide a broader "star" platform for the application of blockchain technology from the three dimensions of satellite computing, global coverage, and the Internet of Everything. Develop new application scenarios in almost all industries such as management and digital asset transactions.

3.4 Virtual reality applications supported by the meta universe

To become a metaverse, at least eight key characteristics must be met: identity, friends, immersion, anytime, anywhere, diversity, low latency, economy, and civilization. The meta-universe is the carrier of human beings in the digital age, that is, the ubiquitous and uninterrupted digital network. It is divided into three levels: digital twins, digital natives, and virtual reality. Based on this, NFTmeta can provide value support for the meta-universe virtual reality ecosystem of the Internet of Everything.

- Social: Based on the technology of Metaverse that allows people to experience most of the virtual world in games, Metaverse enables users to socialize through various activities, not just by sharing photos and news links.

- Consumption: The traditional retail business model is still highly immersive. Consumers can directly contact products, and merchants will also actively introduce products to interact with consumers. These traditional business models will have huge potential under the influence of Metaverse immersive business.

- Real estate: The use of VR immersive experience may become an important way for people to screen real estate in the future. At the same time, this kind of experience can also display enhanced information related to real estate.

- Tourism: Metaverse allows people to experience visiting world-famous scenic spots at home. The company Matterport can already use VR technology to enable users to experience the five major relics of Egypt. However, most of the current tours in Metaverse are static and pre-customized "single person" experiences. However, in the future meta-universe, tourism can support multiple people to experience together, and several friends can visit a certain scenic spot together through the remotely presented virtual world.

- Architecture, engineering, and design: Create an interoperable collaborative space, allowing architects, engineers, and designers to work together on space design on the platform. The platform can even integrate AI models of fluid mechanics and other physical libraries that simulate the real world.

- Learning and education: In the future, Metaverse will make education more

immersive and social. Meta Universe will enable outstanding educators from all over the world to make better use of immersive experience tools and make the educational experience more interesting. The impact of Meta Universe in this regard may include everything from traditional education to corporate training to skill-based learning.

• Immersive physical world: In addition to being a digital space concept, the metaverse can also be a physical space concept. The Internet of Things will input data and geospatially triggered content mirroring into the meta-universe, allowing us to understand, manipulate and simulate the real world in new ways. Therefore, in the future, the physical secret rooms, theaters, concerts, etc. of the metaverse will have an unparalleled enhanced experience.

NFTmeta expects that everyone is their own master, everyone can freely schedule their own assets, and will not be peeped, supervised, and blocked by centralized institutions. NFTmeta will build an autonomous ecosystem on the basis of decentralization, privacy, and fairness, ensuring financial security and fairness of participation by each investor, while stripping away the harm of centralization, and building a true decentralized ecosystem and value closed loop. Establish a connection between virtuality and reality, allowing NFT and Metaverse to promote social progress while creating personal value.

Chapter IV NFT Ecosystem

NFTmeta will provide the market with more valuable NFT trading ecological solutions through the functional design of platforms such as NFT market solutions, NFT auctions, NFT creation, and NFT fragmentation transactions.

4.1 NFT market solutions

NFTmeta will help high-quality projects, users, investors, and related institutions conduct primary issuance, trading and circulation of NFT assets. Through NFTmeta, users or players can buy before the NFT flows into the secondary trading market, so as to obtain a better entry price or the priority right to experience the project earlier. For example, users can directly participate in market subscription on the NFTmeta platform in order to obtain a better entry price or the priority right to experience the project earlier.

In terms of secondary market liquidity, the NFTmeta secondary market will rely on the huge flow of the community to help users solve the problem of secondary market liquidity. On the NFTmeta platform, buyers and sellers can trade freely on the NFT secondary market.

In terms of GAS fees, compared with general NFT trading platforms, NFTmeta has no user threshold and no issuance restrictions. At the same time, NFTmeta transaction has zero handling fee, which perfectly solves the problem of excessive GAS fee. In addition, for the NFT cast on NFTmeta, the data is stored in a decentralized storage network, which ensures the durability and non-tamperability of the data.

The advantages of the NFTmeta solution are: a one-stop trading platform, no Gas fee for NFT casting, decentralized storage, low threshold and clear fees.

- NFTmeta is a cross-chain, cross-category, and cross-project NFT comprehensive investment platform. This comprehensiveness provides users with one-stop transaction services, and also concentrates user traffic, bringing more exposure to products. No matter which NFT users want to buy or browse, they can meet related business needs on NFTmeta.

- There is no Gas fee for casting NFT on NFTmeta. Only when the user

successfully sells the product, the minted NFT will be listed on the chain and the Gas fee will be charged.

• The data content of the NFT cast on NFTmeta is stored in a decentralized storage network, which guarantees the durability and immutability of the data.

• Compared with a trading platform that focuses on a single NFT field, NFTmeta has no user threshold and no issuance restrictions. At the same time, NFTmeta only charges a very small portion of the transaction fee, and the fee model is clear.

In the future, relying on first-mover advantages and continuous accumulation of network effects, NFTmeta will surely become a comprehensive NFT investment platform covering the widest range of categories and the most digital products, and around its diversified ecology, NFTmeta will continue to cultivate in the field of NFT transactions. , And form an irreplaceable dominant position.

4.2 NFTmeta auction ecology

NFTmeta will create an auction service for NFT items and valuable products, providing artists, players, investors and collectors with a new and reliable business model. The auction of NFTmeta items and value products is based on the DApp developed by Ethereum, which provides infrastructure for NFT creation, trading and circulation. NFTmeta also established a special NFT investor protection fund, including: cooperating with Binance NFT, creating NFT works, incubating top NFT artists, providing bridges for traditional top artists to enter the NFT, sponsoring art galleries, organizing art exhibitions or publishing, The establishment of awards, support for artistic creation and art criticism, and the establishment of related art collections, etc.

For the real world, the biggest advantage of the NFTmeta sector is to create new value for the physical industry. Helping art and collections to obtain better liquidity, from the capital side, to solve the core difficulty of retail funds difficult to enter the market. For the world on the chain, NFTmeta+ value items also bring brand new conceptual categories to all digital currency investors. At present, the growth dividend of the NFT industry is visible to the naked eye. In the future, for all investors, the best way to participate is to enter the NFTmeta ecosystem in order to share the industry development dividend.

4.3 NFTmeta creation

NFTmeta is building a NFT creation platform that belongs to everyone, hoping to drive creators' economy to a new level, so that creators can enjoy permanent royalties, revenue sharing and affordable minting fees. NFTmeta will provide global artists and NFT institutions with low-cost and high-performance blockchain technology support through independent innovation of the underlying system and cross-chain agreement. Artists only need to focus on the creation of their works to enjoy the ultra-high DON incremental user market. Liquidity empowers its NFT works and fully obtains value benefits from the NFT wave.

By linking NFT artists/institutions and users, NFTmeta has become an important channel for the popularization of NFT concepts, market education and liquidity expansion, and provides artists, ordinary users and professional NFT organizations with platform empowerment, low-cost coinage, work display and sales. Experience, promote the popularization and promotion of NFT, and jointly explore the infinite possibilities of NFT in the field of artistic value and application, so that everyone can become an NFT artist!

4.4 NFT Fragmentation Trading

Users can fragment one or more NFT assets they hold on the NFT fragmentation trading platform of NFTmeta. On the basis of NFT fragmentation, automatic market maker (AMM) and liquidity mining (Liquidity Farming) are introduced.

NFT holders can create MToken by depositing and locking their NFT based on the ERC-721/ERC-1155 standard in a smart contract. MToken is an ERC-20 token, and the issuance is set by the creator. MToken contains one or more NFT collections.

Buyers can obtain partial ownership of the NFT collection by purchasing MToken (determined according to the number of MToken holdings). NFT collectors can bid for a single NFT in the NFT collection, and MToken holders vote on whether to accept the highest bid. When the votes that agree to accept the highest bid reach a certain percentage (this percentage is set by the creator when creating the MToken), the NFT will be unlocked, the highest bidder can apply for the NFT, and the holder of the MToken can get the proceeds from the sale of the NFT in

proportion .

The essence of MToken is a governance token that gives holders the right to vote and share profits. In order to obtain more revenue, the model encourages MToken holders to actively participate in voting when the bid for the NFT collection reaches the expected valuation, and also gives MToken holders an incentive to promote the collection, giving NFT a chance to obtain higher bids.

NFTmeta's fragmented NFT trading service will provide two trading methods, one-time price trading and auctioning, for global NFT works. The NFT works created on the NFTmeta platform or other NFT platforms, and the NFT works recharged to the NFTmeta NFT fragmentation trading platform can be fully displayed and traded. The sales income will directly become the income of the creator, and a small amount will be included in the NFTmeta fund. , And used for the creation support of the creators who signed on the platform.

Chapter V NFTmeta technology system

NFTmeta is based on reality and does not blindly use all blockchain technologies. It is the combination of technology and actual needs, with the support of Ethereum, to create a set of efficient NFT + meta-universe application system.

MetaNFT technical support includes:

- Hybrid storage system based on IPFS/Storj/Cloud Service;

- Support multi-chain and cross-chain high-performance underlying systems, bridge more third-party public chain projects, and provide continuous liquidity support for the liquidity pool;

- An open NFT ecosystem, creating NFTs with unique attributes and rarity levels, anyone can create NFTs, initiate NFT mining, auctions and transactions, etc.;

- Improved NFT data structure and realization mechanism of meta-universe virtual reality;

- Virtual machine support and token incentive model for large-scale games.

5.1 Smart Contract

With the development of the second-generation blockchain platform led by Ethereum, the blockchain world has gradually moved towards the era of programmable. Essentially, a smart contract is a program that realizes the automatic processing of traditional contracts in the form of computer instructions. Simply put, a smart contract is a piece of code that triggers execution when both parties trade on a blockchain asset. This code is a smart contract.

"The smart contract program is not just a computer program that can be executed automatically. It is a system participant in itself. It responds to the received information, can receive and store value, and can also send information and value. This program is like a People who can be trusted can keep assets temporarily and always perform operations in accordance with the rules in advance."

With the support of Ethereum, NFTmeta supports smart contracts in languages such as C++, and can build a variety of traceability applications on top of it, including but not limited to game asset confirmation platforms, so as to ensure fairness and efficiency of transactions.

As far as NFT works are on the chain, the key information of the work will be on the chain, and its circulation and quality are subject to the supervision of various nodes. The relevant participants of the blockchain record all the information on the public chain, and all nodes confirm through the consensus mechanism and receive rewards in digital currency. This is also based on two very important features of the blockchain:

First, the transaction recorded on each block is after the formation of the previous block, and the value exchange activities that occurred before the block was created will be recorded, which ensures the integrity of the database;

Second, once the new block is almost completed and added to the end of the blockchain, the data record of this block can no longer be changed or deleted, ensuring the rigor and authenticity of the data. Every piece of data on the blockchain can be passed

The structure of the blockchain is traced back to the source and verified one by one, forming a database that cannot be tampered with or forged. As for the accuracy of the data on the chain, the current stage mainly relies on offline verification. However, due to the particularity of the works, the whole process from production to transaction can be realized on the chain for new works.

Regarding the issue of revenue rights and ownership, NFTmeta will design a unique derivative mechanism, that is, only the revenue rights of the collectibles will be allowed on the platform, and its ownership will not be transferred. So as to ensure that the transaction is separable and achievable at the executable level. Users can initiate NFT mining, auctions and transactions on NFTmeta, and the platform will share their products and sell the right to return to users to ensure the value-added of the product.

5.2 Multi-chain and cross-chain

In recent years, the popularity of the blockchain has brought about the prosperity and development of the DAPP ecosystem, but as we all know, most

DAPPs are facing the same dilemma: the existing blockchain performance on the market simply cannot meet the high concurrency and large-scale enterprise-level performance. Scale application requirements. The specific manifestations are as follows:

• The immutability of the blockchain itself must exist in some applications, but the increasing amount of ledger data makes the blockchain network nodes bloated and heavy, consumes storage resources extremely, and causes storage expansion.

• The homogeneity of blockchain node types is serious, and the execution speed is relatively slow, resulting in transaction scale and transaction speed far from reaching the requirements of high concurrency and high response speed for commercial applications.

• Existing smart contract programming requirements are high, business expression ability is insufficient, and there is no suitable solution for large and medium-sized enterprise applications.

Therefore, NFTmeta realizes the cross-chain transfer of NFT assets based on the Ethereum cross-chain bridge, and integrates applications and underlying protocols. At the same time, support for multi-chain and cross-chain high-performance protocols can also be used to solve the problem of parallel computing. The NFTmeta ecosystem provides users with a high-efficiency and low-cost experience in the early stage. Later, multiple chains will be parallelized, and ecological transplantation will be spread to mainstream public chains such as Ethereum and Ethereum, and decentralized assets will be deployed in the later stage of ecological development. Bridge, to help users realize asset transfer in many mainstream public chains such as Polkadot, Ethereum, and Ethereum.

NFTmeta's cross-chain philosophy:

We saw. The traditional block chain with high market value, the conceptual block chain with low market value, and the testnet with close to zero handling fee all exist together. We see that the fully encrypted dark alliance chain and the high-functional sweeping blockchain also exist together. Even provide services for it. We saw. Experimental new virtual machine blockchains, such as the Wasm blockchain, which is billed at viewing time, are changing the difficulty calculation problem from an Ethereum-like blockchain method to a Bitcoin-like blockchain method.

In order to manage the blockchain upgrade. NFTmeta will endogenously support some form of physical structure. It is likely that based on the existing stable political system, there will be a two-chamber structure similar to the Yellow Paper Council. The holding of underlying equity tokens is regarded as the highest authority. There will be referendum control. In order to reflect the needs of users and developers, we hope to establish a reasonable two-house structure, adopting the opinions of users (determined by the bound validators), the opinions of major client developers and ecosystem players. Token holders will retain the highest legal rights, and can form a Supreme Court to participate in politics, discuss politics, replace or dissolve this structure, and those final needs that we do not doubt.

However, it is trivial to organize political participation in a large-scale consensus mechanism. It is more about replacement and new qualitative changes. Hopefully, it is not through non-automatic weak laws (such as the block height and the formal proof of the new agreement. To achieve consistency, it is not to change all aspects that may need to be changed by including an efficient high-level language in the core knowledge algorithm. The latter is an ultimate goal, but in order to implement a reasonable development roadmap, it is more likely to choose the former.

The main principles and rules that NFTmeta values are:

• Minimal: MetaNFT needs to have as little functionality as possible.

• Simplicity: As long as they can push to middleware, put it in a parachain, or use an optimization method described below, they will not add extra complexity to the basic protocol.

• General: There is no need to add any requirements, constraints or restrictions to the parachain;

• Robust: NFTmeta needs to provide a stable base layer. For economic stability, it is necessary to adopt a decentralized method to reduce the possible problems caused by the attack vector of high rewards.

5.3 Hybrid data storage mode

In NFTmeta, due to the traceability and tracking of all assets generated by NFTs, meta universe, etc., a large amount of data will be stored. Considering the purpose

of large-scale storage and commercial use, we base TIPFS/Storj/Cloud Service on three storage media , Proposed a hybrid data storage solution, which aims to provide a faster, safer and more reliable storage system for the underlying traceability chain.

1) IPFS

IPFS is a point-to-point network hypermedia protocol, its full name is Interplanetary File System. Its goal is to become a faster, safer, and more open next-generation Internet.

IPFS is a content-addressable peer-to-peer hypermedia distribution protocol. Each node in the IPFS network will form a distributed file system, making the network faster, safer, and more open.

Since IPFS is based on content addressing instead of file names, it uses content addressing instead of traditional IP and domain name-based addressing, so users do not need to care about the location of the server, and the name and path of file storage. At the same time, IPFS calculates a unique encrypted hash value based on its content, which directly reflects the content of the file. When IPFS receives a file hash request, it will use the DHT algorithm to find the node where the file is located, retrieve the file and verify the number of the file data. In NFTmeta, we use IPFS as one of the underlying foundations, and it is perfectly integrated with the blockchain. The virtual machine can read the information on the IPFS chain and store the results after execution in the IPFS network.

2) Storj

Storj aims to be a cloud storage platform that is resistant to censorship, monitoring, or downtime. It is one of the first batch of decentralized, end-to-end encrypted cloud storage platforms. Storj is composed of a large number of interlocking parts that cooperate to create a unified system. Because people interact with different parts of the system, their understanding of Storj is different. Home users can share storage space without any knowledge about Bridge or protocol, and developers can use StorjAPI without knowing any home users. Therefore, in NFTmeta, Storj is also used as one of the underlying storage protocols.

3) Cloud Service

At present, with the development of cloud computing, cloud storage is increasingly favored and supported by many blockchain manufacturers. On the one hand, cloud storage can provide massive, secure, and low-cost cloud storage services, providing 99.9999999999% of data reliability . On the other hand, cloud storage generally uses RESTful APIs, which can be stored and accessed anywhere on the Internet, with elastic expansion of capacity and processing capabilities, and a variety of storage types to choose from to fully optimize storage costs.

5.4 Identity system

The ownership of NFTmeta is an identity authentication system. In this system, the authentication information is the coordinates of the pass. Setting up economic incentives is necessary to ensure that creators continue to create and distribute avatars, objects, and scripts. Since the content can be copied arbitrarily, we must rely on some social consensus to enforce punitive measures.

Social consensus has brought the possibility of digital scarcity. In a centralized system, the company that creates the platform can resist scarcity. But for Bitcoin and other proof-of-work blockchains, computational problems and the economic cost of mining blocks are bound to cause scarcity.

NFTmeta can use a decentralized identity system to create an ownership layer on items in the virtual world. Such systems must be user-friendly, by linking the public key and signature with a human-readable name to verify the consent of the founder.

Projects like uPort or Ethereum Naming Service can be used. Social reputation also needs to be used to promote the contributions of the founders. In a decentralized economic system, the incentives for content creation will evolve very rapidly. Potential solutions include Mediachain, Basic Attention Token, Curation Markets, Rare Pepes, etc.

5.5 Payment channel

General-purpose public distributed HTLC networks (such as the Lightning Network) will take at least a year to land, but the low-trust hub-and-spoke payment channel network is fast and low-cost, and it can be implemented now. Payment channels are very important to NFTmeta for two reasons:

- Realize the purchase behavior in the virtual world
- Encourage content servers and P2P servers to improve service quality

Nowadays, major platforms have alleviated the inherent risks of credit card payment itself: users trust the platform, and do not trust the application to protect their payment details. With payment channels, users can make purchases directly from developers without worrying about the theft of identity information.

Part of NFTmeta's infrastructure usage fees support micropayments. The cost includes hosting content, providing content, running P2P agreements, etc. The marginal cost of a developer running an application on NFTmeta is close to its actual cost, because it is commoditized in nature. However, in order to allow later developers to have no barriers to entry, NFTmeta will use meta sales revenue as a reward for providing these services.

5.6 Improved NFT data structure

1) NFT digital asset data structure

NFT digital assets are a type of digital asset used in distributed accounting networks. Asset instances are unique. By optimizing the structure of NFT digital assets, it can be used to serve blockchain games more flexibly. NFTmeta redesigned the data structure and added custom data storage to accommodate possible game data and expanded content. At the same time, key processes such as consensus, witness, and block production are adjusted accordingly to match the new data structure. The token data in NFTmeta is only fully recorded in the block data when it is generated and attribute changes. During ordinary transactions and circulation, only the hash pointer is recorded to ensure that the volume of the block data will not be too fast due to long-term transactions. increase.

2) Data separation of assets and contracts

Homogeneous, non-homogeneous assets and smart contract data are stored separately on the chain. There will be a large number of continuous transactions in the NFTmeta network. It is necessary to reduce the computational cost of asset analysis and circulation as much as possible. The separation of assets and contracts can realize the separate analysis and execution of contracts and the operation of necessary results on the chain.

Under the design of separating the storage of assets and contract data, the asset owner has all the rights of the asset, and the operation of the asset can only be completed by the owner's authorization. It can avoid the occurrence of damage to asset properties or calling others' assets by modifying the content of the contract due to the non-separation of the asset contract, and it is easier to achieve cross-chain acceptance of non-homogeneous assets without considering the constraints of contract factors, so the asset and contract are separated It is a safer design.

3) Improved PoS consensus mechanism

The consensus layer of the NFTmeta test chain uses the PoS consensus algorithm supported by Ethereum. The improved PoS algorithm uses predetermined witnesses and specified time slots to predict the block producer and block generation time. Usually, the time slot interval is 5 seconds. In actual use, for faster network broadcast speed and greater For network throughput, the time slot interval is set to 3 seconds. If the scheduled witness arrives at the specified time slot, due to network reasons or equipment hardware failure, there is no normal block generation, then the time slot will not generate blocks. The network will wait for the arrival of the next time slot to select another scheduled witness for block production. The improved PoS consensus mechanism can effectively solve the situation that a lot of resources are wasted in the POW mechanism.

In NFTmeta, all scheduled witnesses are voted by all stockholders from among the witnesses. The scheduled witnesses are collectively referred to as active witnesses, and the number of active witnesses is usually 11-101. All active witnesses have the same block generation probability in the witness reservation algorithm of the improved PoS consensus algorithm, which ensures that the block generation probability of all witnesses is consistent with the block generation reward. The graphene voting update time is usually 24 hours, but due to security, stability, and fairness considerations, the initial network voting update time of the project is usually shorter, which may be 12 hours or even shorter.

4) Use modern cryptography to ensure security

The full name of ECC algorithm is Elliptic curve cryptography (elliptic curve cryptography), which was proposed by Neal Koblitz and Victor Miller in 1985. Modern cryptography technology is a cryptography technology based on mathematical principles. It has been widely used in various industries in the Internet

field. Common symmetric encryption technologies include AES encryption used by WiFi and asymmetric encryption algorithms (public and private key cryptosystems) RSA, ECC, etc., among which ECC (Elliptic Encryption Algorithm) is a commonly used encryption algorithm in the blockchain field. These algorithms use mathematical principles to design an encryption and decryption system with unacceptable solution consumption to prevent encryption from being compromised. Without obtaining the key correctly, attempts to crack such encryption algorithms will take too long to implement due to the large amount of calculation (usually it takes nearly a hundred years to try to crack/guess the key system). Lose the value of cracking behavior.

5.7 Virtual machine support for large-scale games

NFTmeta has enough high concurrency processing capabilities. For most of the current online games, when the user scale reaches a certain level, the server needs to process a large amount of data in a short period of time, which is not possible in the existing Ethereum network.

NFTmeta uses an innovative consensus mechanism with a theoretical throughput of about one million TPS. Its high concurrent processing performance is sufficient to support the development and normal operation of existing games under a reasonable data management model design, and basically meets the operational demands of large-scale online games on the platform. , To ensure that the user’ s gaming experience is almost the same as the existing centralized games.

Due to the very high data interaction frequency of large-scale online games, DNF has set a record of 600,000 people online at the same time, and the Steam game platform has an amazing data of 14.2 million people online at the same time. If every online user submits data as an initiation of a consensus application, the ultimate throughput capacity of NFTmeta is not enough to support such level of processing requests. The development team has designed different witness delegation models (Delegation Templates) according to the requirements of witness speed. , So that a single witness client does not have to witness and process all running games at the same time, but instead focus on witnessing and counting multiple games of the same type. Moreover, in this mode, the data submission/witnessing of different games is a relatively asynchronous process. Each game will select the appropriate delegation mode, and the data verification in the asynchronous mode can be completed through the on-chain database service,

that is, the user Verify and complete data access on the chain. This process is very efficient and is enough to support player data operations in large-scale game scenarios.

A contract is a program that can be executed automatically. At the same time, as a system participant, it performs preset tasks in accordance with the basic rules of the environment (compiler rules). The contract can define inputs and outputs, accept and store value, and send information and value. Smart contracts are designed on the premise of the "no-trust principle", and each node considers each other to be untrustworthy. Due to the distributed storage characteristics of the blockchain, each node on the chain saves the same contract execution code, and the operation result of the contract is witnessed by the computing power of the entire network, and the whole vote is used to determine whether the calculation result is approved. The NFTmeta contract supports the definition of witness delegation.

5.8 System expansion and security

1) Expandability

• Meet the multi-business block chain structure: MetaNFT's block chain structure can meet the needs of different business fields and improve the scalability and maintenance efficiency of the system. It can be used to mark assets and asset transfers, can also provide non-tamperable multi-dimensional event records, and can also be used for traceability to track the circulation process of high-value NFT items.

• Permission control strategy: Provides two types of permission control strategies for writing and reading data information. Data information write permissions, multiple users are set up under the same account, and corresponding permissions are set for different operations to meet the use scenarios of multi-party signature control. Data information read permission, users can grant and revoke single user or user group operation permissions on data, and user groups can be flexibly configured by users. The data includes user account information, transaction information, etc. The granularity can be refined to each attribute field of the transaction or account.

2) Security

• Secure private key access: In order to facilitate users to use blockchain products and services, in addition to the traditional client-side generation and storage mechanism, NFTmeta also provides two solutions: network hosting access and private key hardware access (U-key). Web hosting access, that is, the user name and password are mapped into a private key through a specific algorithm and stored on the server. The private key stored on the server is encrypted data, and the private key can only be decrypted on the user side; the hardware private key is to meet the needs of the financial industry and the Internet of Things industry.

• Multiple privacy protection schemes: provide multiple privacy protection functions. First of all, the bottom layer of the blockchain provides a homomorphic encryption method, all user data is encrypted and stored, and only the user himself can see it. Secondly, NFTmeta Adaptors provide encryption middleware services, users can choose according to business needs. Finally, the upper-level application can encrypt the data during input, and NFTmeta is responsible for writing and reading the encrypted data generated by the user.

Chapter VI Meta Token Economic Model Design

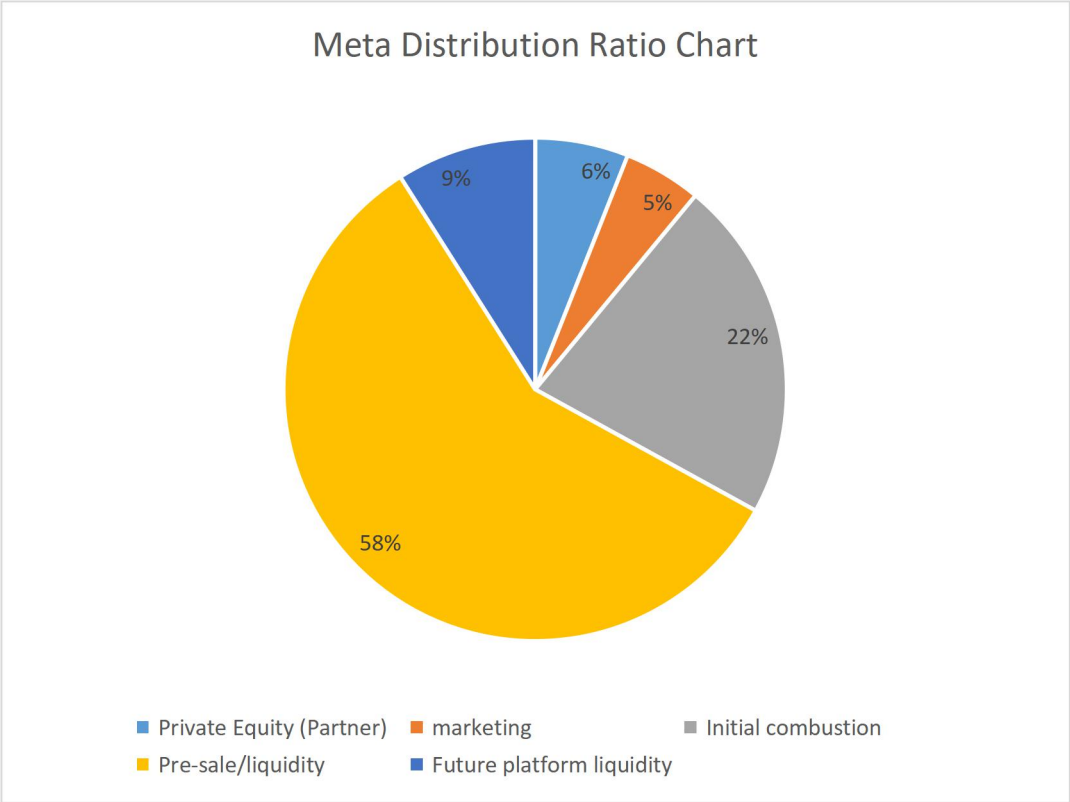
6.1 Meta issuance and distribution

meta is a high-value token issued by NFTmeta based on ERC20 and used in NFT and meta-universe scenarios. It is also a functional token used in the platform and ecology. It can be used for liquid mining, NFT auctions and purchases, and deduction of transaction commissions. , Metaverse games and circulation in multiple scenarios, pledge lending, social entertainment, life investment (real estate, art investment, life services, etc.), and global payment and other scenarios.

1) Meta issuance and distribution

Total circulation of meta: 1 billion

Allocation plan: 6% private equity (partners), 5% marketing, 22% initial combustion, 58% pre-sale/liquidity, 9% future platform liquidity-locked for 6 months, linear release.



Note: 5% marketing will be carried out when needed, and all token holders will vote according to their share of tokens.

2) Repurchase and destruction mechanism

Meta has a mechanism for buying 5% to destroy and selling 5% to repurchase.

In order to enhance the value of meta digital assets, the platform will adopt a destruction mechanism. In the NFTmeta ecosystem, all projects and transactions need to pay a certain fee, which is the common practice of all exchanges. The commission is consumed in the form of fuel, and meta is the main way to generate fuel. This can also be understood as a way of holding money to earn interest. Users and investors obtain fuel by holding meta, and realize the offset and discount of exchange fees. This allows meta to release value in a clear trading scenario.

The NFTmeta platform uses part of its profits/income/transaction fees to repurchase meta from the market on a regular or irregular basis, and destroy the repurchase part (send it to a designated black hole address), which means that the market should The total circulation of meta will be reduced, causing a deflationary effect, thereby stimulating the appreciation of meta currency prices.

That is, the official uses a portion of the net profit every quarter to repurchase and destroy meta digital assets until the total amount of tokens in circulation reaches a constant amount. This mechanism realizes the binding of meta digital assets and NFTmeta official net profit, enabling meta holders to continue to enjoy the profitability of the platform.

6.2 Acquisition and circulation of meta

Meta can be obtained from official task rewards and resource rewards, from the exchange of secondary assets, or through pre-sales and liquidity mining.

1) How to obtain

Ways to obtain meta include but are not limited to:

• Value creation: including (A) the contribution of the act of creating digital assets. For a single digital asset, the amount of platform incentives issued is proportional to the value of the asset created by the participants, and inversely

proportional to the duration of the NFTmeta platform and the total asset value of the system. The total amount of incentives has an upper limit; (B) creating digital asset value The contribution of the creation of assets reaches a certain fee and the scale of asset circulation can obtain meta. For a single digital asset, the amount of incentives issued is proportional to the total asset circulation of the asset created by the developer;

• Platform contribution rewards: users who contribute to the community can get meta. In the initial stage, we conducted meta distribution based on the historical contribution of the developer community. In the later period, the platform will adopt various forms such as bounty tasks and free assets to encourage developers to develop new features, upgrades, bug fixes, and test community behaviors on the platform. This part will be allocated from the platform foundation' s asset reservation and platform division;

• Game scenario asset circulation: sell the item assets obtained in the meta universe game to obtain meta. The incentives for this part are related to game play and economic system, and are determined by game developers and market rules. In principle, the platform does not have rules and quantity restrictions;

• Behavioral incentives: A variety of effective behaviors in the meta meta universe game, community and NFTmeta platform will be converted into meta according to a certain degree of contribution. For example, users register for platform accounts and participate in various interactions in the community to obtain meta. NFTmeta confirms whether the user's behavior is valid by analyzing the dimensions of access effectiveness, information integrity, and behavioral rationality, and conducts meta-incentives. The number of incentives in this part is directly proportional to the interactive content, inversely proportional to the total number of users on the platform, and the duration of the platform. There is an upper limit on the total amount of incentives;

• Contribution rewards for meta consensus work.

2) Value circulation of meta

As a value medium in the ecology, meta has a wider circulation value, which is reflected in the following aspects:

On the basis of the NFTmeta network, many physical applications will be

derived.

Meta can realize the exchange with all digital currencies, and supports the circulation and payment of all links in the ecology, such as collection and payment, transfer, legal currency transactions, deposits, withdrawals, mortgages, public welfare, game malls and other circulation transactions using meta as the medium. Meta is settled with global legal currency. In addition to the circulation in the NFTmeta ecosystem, it will also be circulated in third-party applications developed based on the Ethereum public chain technology, and it will exist as the only value token. This will accelerate the circulation rate of the meta, add more circulation value attributes to the scarce meta, and increase the overall value and price.

For users, meta can be used for all kinds of consumption. At the same time, it can also be used as a basic means of cross-border payment, which can bring more benefits to itself. When meta is connected with global mainstream platforms, gamers can enjoy the broader global entertainment and leisure convenience that meta brings.

The usage scenarios of meta include but are not limited to:

- Exchange development resources from third-party developers;

- Exchange value-added services such as developing functional components from the platform;

- Exchange and invest in other mainstream currencies from the asset circulation platform;

- Initiate and participate in community affairs voting in community ecological construction and node elections.

In terms of versatility, meta adapts to more diversified business needs through continuous improvement and business model exploration, and satisfies data sharing across business chains. This means that meta has sufficient commonality and standards for data recording methods and can express each A kind of structured and unstructured information, and can meet the cross-chain requirements required by the expansion of business scope. And this provides more value flow basis for the versatility of meta.

Chapter VII Global Team and Autonomous Community Construction

7.1 Global team

NFTmeta brings together a large number of core technical personnel and top talents in the fields of blockchain, big data, cloud computing, NFT, meta-universe virtual reality, artificial intelligence, etc., and has comprehensive R&D capabilities with global competitiveness.

Joyce-an internationally renowned data engineer, has held key positions in many world-renowned Internet big data research centers, responsible for the research and development of Internet basic technology applications, participated in many internationally renowned projects, and is a pioneer in the field of blockchain technology.

Algernon-PhD in computer and big data, architect, database expert, exchange construction technology expert, has long been engaged in database application, data warehouse, big data and blockchain development in the trading industry, and has rich experience in blockchain project development.

Michell-a world-renowned blockchain game application expert, and a global leader in the commercial application of blockchain technology. He was a member of the European Business Council, a PhD in sociology at Columbia University, and a researcher at the Financial Research Center. He is an authority in the field of global intelligent game and entertainment technology applications.

Paddy-has authoritative influence in the development of the underlying technology of the blockchain, covering two areas of academia and business in his career, is a research scholar, engineer and leader. He has held multiple engineering management positions at Google and Amazon.

Bradley-Bradley's research focuses on big data parallel computing and distributed algorithm optimization, and has rich research experience in blockchain, cryptography, and data mining. Bradley will provide in-depth algorithm support for the project at the core mathematical model of the blockchain, the core algorithm of artificial intelligence, and the parallel computing of big data.

Wesley-proficient in the principles and implementation of mainstream blockchain technologies such as Bitcoin, Ethereum, and HyperLedger, and has a deep understanding and rich practice in blockchain consensus mechanisms, smart contracts, cross-chain technology, side-chain technology, and privacy protection.

Minkevich-technical consultant, a world-renowned computer technology application development expert, has worked for Apple, SGI, Microsoft, Google and other companies, and has more than 15 years of global IT development and operation experience.

Colbert-Director of Legal Affairs, graduated from the Law Department of Harvard University, has more than ten years of legal research experience, is good at business structure, facilitates the formulation of financial regulations, and has a basic legal direction to control the financial control of the blockchain alliance, which is very good Carry out project development and promotion amicably, and organize and control financial and legal ideas in a friendly manner.

Donovan Mitchell-Global Market Consultant. With decades of rich experience, we continue to provide guidance on the game market for the project.

7.2 Construction of Autonomous Community (DAO)

A decentralized autonomous organization is an entity without a central leadership. The decision is made by the community with reference to a set of specific rules implemented on the blockchain. A decentralized autonomous organization is an organization native to the Internet and collectively owned and managed by its members.

The NFTmeta community has a strong consensus that it will create a DAO autonomous community, with 100% community self-management. After the project goes live, the community will vote to develop its own decentralized applications and DAPPs.

The global community construction of NFTmeta DAO follows a high degree of decentralization and is carried out through a combination of on-chain and off-chain models. After all the programs of NFTmeta DAO are set successfully, it can start to operate according to the original rules. In the process of operation, it can continuously maintain and upgrade itself according to the actual situation. Through the continuous self-improvement mechanism, it not only eliminates the trust

problem, but also achieves an unprecedented level of collective coordination, thus forming the technical foundation of NFTmeta DAO.

- Smart contracts enable the technical implementation of the rules of NFTmeta DAO;

- The token economic model provides a realistic incentive basis for the benefit distribution of NFTmeta DAO;

- The blockchain itself connects individuals or organizations around the world, allowing the expansion of NFTmeta DAO to break through geographical restrictions.

MetaNFT tokens are used as value circulation proof and incentive means, and then smart contracts are used to determine the cooperative relationship and benefit distribution mode of members. There is no clear identity division among members. For example, investors, developers, collaborators, operators, consumers, etc., will become part of the community because of holding NFTmeta tokens. Members can continue to optimize the contract structure on their own, constantly seek the shortest path, maintain efficient coordination and better development direction.

With the development of NFTmeta meta-universe, NFTmeta will allow all token holders to vote on the future development direction or improvement of the project. This will ensure that the NFTmeta metauniverse is an interesting metauniverse that is connected to players and centered on decentralization.

Chapter VIII Disclaimer

This document is only for the purpose of conveying information. The content of the document is for reference only and does not constitute any investment advice, abetting or invitation to sell stocks or securities in NFTmeta and its related companies. Such invitations must be made in the form of confidential memorandums and must comply with relevant securities laws and other laws.

The content of this document shall not be interpreted as forcing participation in the public issuance of tokens. Any behavior related to this white paper shall not be regarded as participating in the public issuance of tokens, including requesting a copy of this white paper or sharing this white paper with others.

Participating in the Token public offering means that the participants have reached the age standard and have complete civil capacity, and the contract signed with NFTmeta is true and effective. All participants signed the contract voluntarily and had a clear and necessary understanding of NFTmeta before signing the contract.

The NFTmeta team will continue to make reasonable attempts to ensure that the information in this white paper is true and accurate. During the development process, the platform may be updated, including but not limited to platform mechanisms, tokens and their mechanisms, and token distribution. Part of the content of the document may be adjusted accordingly in the new version of the white paper as the project progresses. The team will publish the updated content to the public by publishing announcements on the website or the new version of the white paper. Participants must obtain the latest version of the white paper in time, and adjust their decisions in a timely manner based on the updated content. MetaNFT expressly stated that it will not be liable for any losses caused by participants (a) relying on the content of this document, (b) the inaccuracies of the information in this article, and any actions caused by this article. The team will spare no effort to achieve the goals mentioned in the document. However, due to the existence of force majeure, the team cannot fully commit to fulfillment.

The meta token is an important tool for the effectiveness of the platform, not an investment product. Owning a token does not mean granting its owner the ownership, control, and decision-making power over the platform. As an encrypted asset used in the ecology, tokens do not belong to any of the following categories

of currencies; (a) securities; (b) equity of legal entities; (c) stocks, bonds, notes, warrants, certificates or other An instrument that grants any rights.

The value-added of meta tokens depends on the market rules and the needs of the application after landing. It may not have any value. The team does not make a commitment to its value-added, and is not responsible for the consequences of its value increase or decrease.

To the fullest extent permitted by applicable laws, the team is responsible for damages and risks arising from participating in the public issuance of Token, including but not limited to direct or indirect personal damage, loss of commercial profits, loss of commercial information or any other economic losses. Not liable.

NFTmeta complies with any regulatory regulations and industry self-discipline declarations that are conducive to the healthy development of the industry. Participants' participation means that they will fully accept and comply with such inspections. At the same time, all information disclosed by participants to complete such inspections must be complete and accurate. The platform clearly communicates possible risks to participants. Once participants participate in the public issuance of Token, it means that they have confirmed their understanding and approval of the various terms and conditions in the detailed rules, accepting the potential risks of the platform, and bears the consequences.