ECCS

– High Performance Public Chain Based on E-commerce cloud storage Storage

—— Leading the Future of Decentralized Internet

Abstract

With the rapid development of blockchain technology and the continuous improvement of smart contract, the blockchain applications will be heavily landed; E-commerce cloud storage distributed storage is the key to the landing. The implementation of smart contract and distributed storage technology will promote the coming of the blockchain 3.0 era. Compared with centralized storage, E-commerce cloud storage distributed storage improves the capacity and efficiency of information storage. The distributed technology solves the problem of waste of storage space and network resources by automatically allocating data which achieves flexible expansion, reduces operating costs, and avoids resource waste. Therefore, E-commerce cloud storage distributed storage will be the trend to replace the traditional centralized storage.

ECCS: A high-performance public chain based on E-commerce cloud storage distributed storage.

E-commerce cloud storage distributed storage not only provides a secure, reliable, and low-cost storage platform, but anyone can freely use the distributed storage provided by ECCS while defining smart contracts. Based on multichain and multi-consensus, and combined with verifiable storage certification and token economy, ECCS aims to achieve the efficient governance of nodes on the blockchain. The goal of ECCS is to build a new type of distributed encryption storage network, provide users with efficient storage services, and build a distributed application (DApp) with rich feature.

——ECCS makes data storage more secure.

The fault-tolerant mechanism ensures that the users'data are copied a certain quantity and stored on different nodes. Even if the data of one node disappear due to abnormal conditions, the backup of other nodes can completely restore the users'data, which greatly guarantees the data security stored on ECCS. Distributed data storage reduces the loss and damage of the data caused by war, natural disasters, human factors, etc., which is beneficial to valuable data to be permanently stored. Data files are split into multiple parts and distributed to different storage nodes so that the data are more secure and difficult to snoop or copy. Moreover, since it is decentralized and without a centralized server, the ECCS network is hardly affected by DDOS attacks. Therefore, when a large number of centralized accesses enter the network, they will be dispersed to different nodes without causing network congestion or even collapse.

——ECCS makes data storage more efficient.

A file will be distributed into many copies and stored in different storage nodes around the world. When downloading files, users only need to query the corresponding address (Hash) to obtain data from multiple storage nodes at the same time, so the storage speed is faster compared with centralized storage. In terms of data transmission speed,   ECCS is also more advantageous. When the users need to read data, all the storage workers will send the data they have saved to him at the same time, and the server will automatically integrate the data after receiving. Accordingly,   the download speed will no longer be subject to the bandwidth of the server, but mainly depends on the network download bandwidth.

——ECCS makes storage cheaper.

On the ECCS network, all files are unique and not likely to be maliciously tampered with, which greatly reduces the waste of storage resources and the cost of storage resources. ECCS distributed storage makes full use of the resources of public idle storage and bandwidth, which improves the utilization rate of the resources and reduces the   use cost.

——ECCS can better support the blockchain applications.

One of the bottlenecks in the development of blockchain is the distributed storage capacity. At present, the biggest problem with most public chains is impossible to store a large amount of hypermedia data on their own chains. ECCS distributed storage will be the infrastructure of all blockchain projects, laying a good foundation for the large-scale development of blockchain applications.

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01   Background

Nowadays, the world is in a phase of gradual transition from the Industrial Age to the Information Age, and data are becoming the most valuable resource in the world. With a huge amount of data being generated along with the various behaviors of human beings, it is more and more significant to store and further utilize the data. The migration from on-premises storage to cloud storage is not only the subject of the past decade but this trend is now being accelerated. On the other hand, a large amount of storage space is idle on the hard disks of people around the world, virtually wasting many resources.

The birth of blockchain technology, which opens up a new path for the development of software defined storage, creates the possibility to rethink cloud storage and find ways out of industry dilemmas at the technical and economic levels. Firstly, the pooling of storage can be implemented in a wider space and in a richer form. Secondly, the Token incentive mechanism can drive people to contribute the remaining storage space of enterprise storage, servers, PCs, mobile storage. Finally, the actual data stored in each node are just some slices stored in encrypted form, which securely protects the date, and hence even if users providing the storage nodes has the opportunity to view the slices, the data segments they have seen are not meaningful. The distributed business model of blockchain, DAO, can accelerate the development of the distributed storage industry with the help of global resources and talents. Distributed storage based on blockchain is safer, faster, less costly, more censored and more widely distributed than the cloud storage, and it creates a market that allows people around the world to monetize their spare storage space, which will lower the storage prices of the market with the influx of the suppliers all over the world. The blockchain ensures that these are achieved in a secure, trust-free, peer-to-peer manner. From centralized storage to decentralized storage and from a centralized Internet to a decentralized Internet, we are at a turning point in history.

Advantages of distributed storage based on blockchain:

1) Distributed storage takes advantage of the sharing economy. Users can make full use of the free space of the hard disk and gain revenue.

2) The data are split into small pieces that are spread over many nodes only after being encrypted, which avoids the event of centralized storage "stealing" files, and even if users unlock a piece of data, it is only part of the data, not all. In addition, there is no need to worry about the risk of data leakage caused by the failure of the centralized server.

3) During the download process, the fragments will be reorganized, and the parallel speed of the download will be much faster than the centralized storage.

4) Through smart contracts, the network can automatically determine the situation and incentives of the use.

02   What is ECCS?

ECCS is a high-performance public chain based on E-commerce cloud storage distributed storage.

Built on the public chain, the distributed storage service platform is developed to achieve decentralized storage, which is faster, safer and less costly than the centralized storage. Files will be divided into multiple small parts (guaranteeing certain redundancy) and stored in a number of nodes on the network. As long as a certain number of nodes are functioning, files can be secured and complete.

When a user enters a URL in a web browser to obtain information, the URL is parsed to an IP address which will find the server that stores the information the user is looking for. Almost every publisher, vendor and service provider on the web store information in the servers of the particular data center they control, which makes the network centralized today.

ECCS network protocol enables users ⚊files stored. As a by-product of the ECCS mining process, the innovative encryption and proof of work create a set of useful and valuable service for customers. The miner's hard drive space needs to be verified on the ECCS network protocol firstly. After verification, the miner will be eligible for storage on the market. The more he stores, the more proof of stake (Token) he earns, which motivates miners to use their hard drive space to get paid from verifiable storage market of ECCS.

We believe that the addition of decentralized storage space will enable customers to reduce network storage costs and enjoy better storage services. Since it is a decentralized protocol, the data and the link stored on the network are not controlled by a central point, which improves reliability. Compared to single centralized servers and content distribution networks, information that is transmitted on a large scale between ECCS miners is stored closer to users, making information search faster. The data, retrieved by the encryption algorithm on the ECCS, enable customers to manage and update a large amount of data more efficiently. Finally, as an open source project, unlike most cloud storage and distribution platforms today, ECCS is openly subject to inspection, verification and promotion. With the continuous upgrade of ECCS and the addition of the new features, we hope that ECCS network can be a platform for the mass (even if not everyone) to store and distribute network information.

03   ECCS Mission

The mission of ECCS is to lead the future of decentralized storage and decentralized Internet.

ECCS will always adhere to the following principles in the development process:

·The principle of value sharing:

ECCS will realize the value transfer of sharing ecosystem. Through an effective motivate mechanism, users are encouraged to share idle storage space, which will continuously expand the scale of the storage network, and form a benign ecosystem.

·The principle of data security:

The data are distributed to the distributed storage network through the process of blocking, encoding, etc., so as to enhance the security to a high level to enable that no other people and company in the network can snoop the users ' data.

·The principle of platform development:

By providing the standardized underlying technology platforms and supporting standard tools, ECCS provides distributed resources to companies and organizations in need, including storage resources, computing power, and more. Companies or organizations can develop their own DAPP (distributed applications) on this platform.
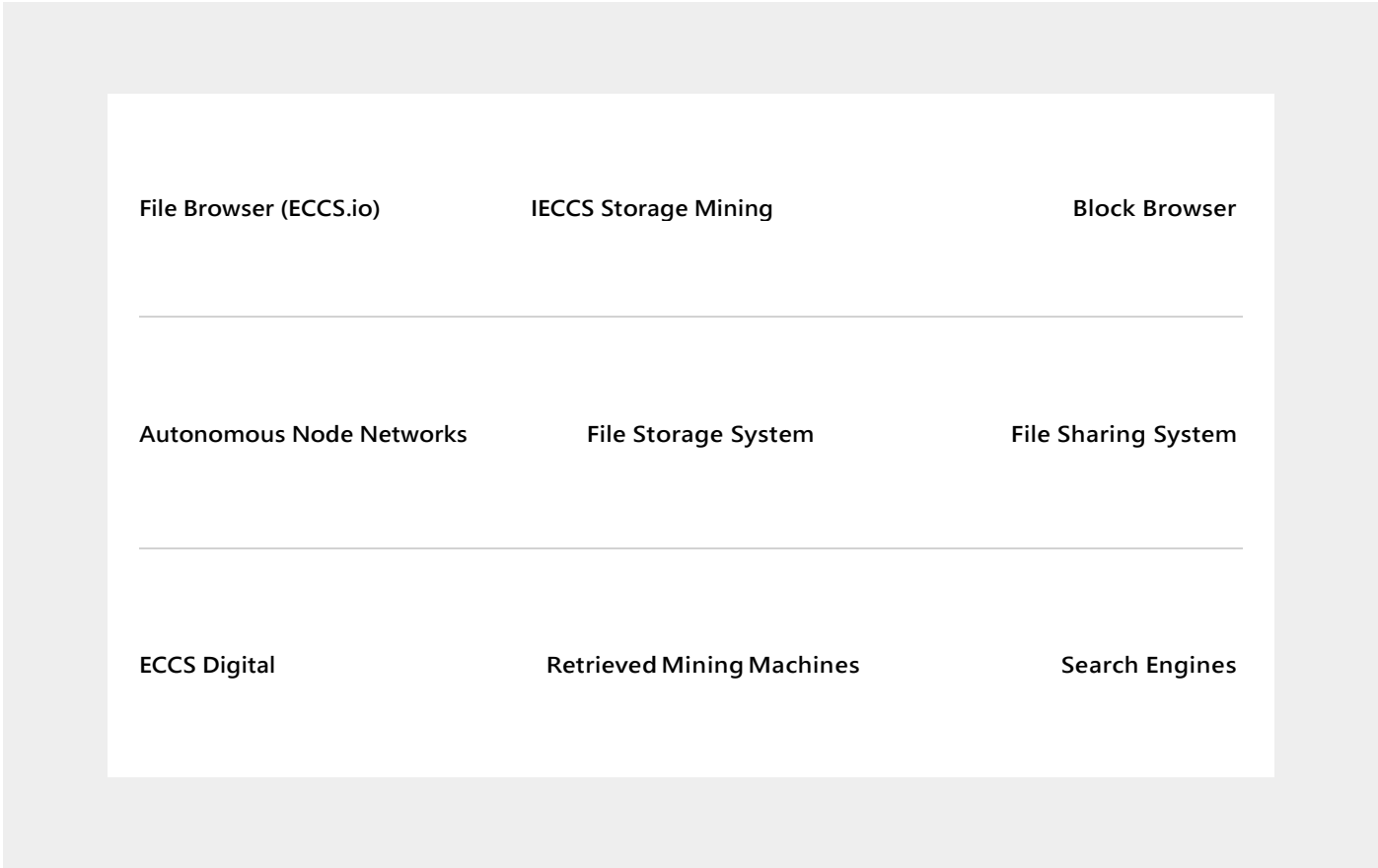
·The principle of scalability:

ECCS can simultaneously multiplex many peer-to-peer connections. With such flexibility and scalability, ECCS's scalability will be the same as HTTP, enabling unlimited expansion.
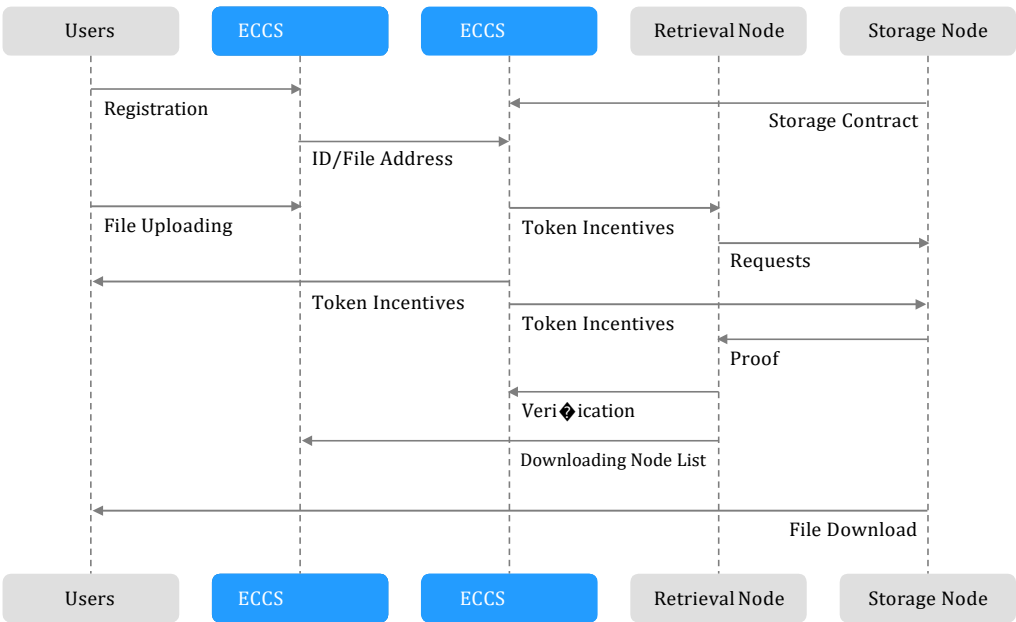
04   ECCS Infrastructure

ECCS will provide a variety of infrastructure for all participants of the ecology:

· E-commerce cloud storage cloud storage services based on the sharing economy model;

· E-commerce cloud storage data trading platforms connecting global data;

· E-commerce cloud storage decentralized Internet (domain name system and browser under ECCS protocol);

· Decentralized service and content platform;

· High-performance public chain, customized side chain;

· Digital currency based on decentralized Internet ecosystem.

File Browser (ECCS.io)	IECCS Storage Mining	Block Browser
Autonomous Node Networks	File Storage System	File Sharing System
ECCS Digital	Retrieved Mining Machines	Search Engines

05 ECCS Token Economy Model

The economy model of ECCS is a set of economic incentives mechanism that motivate producers (service providers) and consumers to participate in the ECCS system and that stimulate the storage and retrieval of the data. ECCS has a simple and clear underlying incentive model and a rich and scalable multi-layered incentive model.

From infrastructure to C-side content consumption/service provision, there are rich production-consumption relationships in the Internet ecosystem. Multi-level and rich production-consumption relationships can stimulate the vigorous development of the ecosystem. In the early days of the birth of the Internet, the Internet ecosystem was very simple and thin; only large scientific projects and large enterprises were using the Internet, and even producers and consumers are the same people who use the Internet as tools for their work. Later, some people created content on the Internet, and others needed a channel to browse the content. At this time, the browser came into being. Subsequently, producers and consumers were beginning to differentiate. In addition to the producers of the content, the producers of the first layer of tools (browsers) were beginning to appear. Since then, the number of websites had become more and more, and portals such as Yahoo had become a   new tool in the Internet ecosystem. The number of producers and consumers of the Internet   had further increased, and the growth of the second-tier tools (portal) had also emerged along with further enrichment of the production-consumption relationships. From the past development, we can see that only multi-level and rich production-consumption relationships can support a great ecosystem.

In the underlying economy model, the producers in ECCS ecosystem are mainly the storage nodes and the retrieval nodes, while consumers are mainly the users who initiate the requests of the data storage and retrieval. Consumers initiate the requests of the data storage and retrieval on the ECCS, and pay the ECCS tokens as the storage gas and retrieval gas. The storage nodes contribute idle storage space and bandwidth, provide consumers with E-commerce cloud storage distributed data storage services, and obtain storage gas tokens as rewards. The retrieval

05   ECCS Token Economy Model

nodes contribute idle computing power and bandwidth, provide consumers with E-commerce cloud storage distributed data retrieval services, and obtain retrieval gas tokens as rewards. In addition to the storage rewards and retrieval rewards, some super nodes can also participate in the accounting of the ECCS and get the rewards generated by the blocks.

The simple storage and retrieval service can only build a decentralized data storage and retrieval platform, which is a platform for benchmarking the cloud storage services, but such infrastructure is just similar to the first phase of the Internet, with only large enterprises and large projects (such as video imaging companies) considering the costs of E-commerce cloud storage storage and becoming corporate paying users. Only with the underlying facilities, but without the rich application-layer producers and consumers, ECCS cannot support the great idea of decen- tralized Internet, so ECCS also designs a high-level economy model based on the underlying economy model.

In the second-tier economy model, as a traffic carrying tool for ECCS network, the ECCS browser will have two functions of storage mining and ECCS wallet. By setting it in the browser, the users can contribute the idle storage space for storage mining; the rewards obtained by the storage will go directly to the users ECCS wallet. Browser mining allows almost all users to become producers to get ECCS incentives. Users can also easily perform payments and trans- fers in the browser, and those who have ECCS in their wallets will be more likely to participate in the high-level economic activities.

In the third-tier economy model, we have a set of economic incentive mechanisms to encour- age developers to develop ECCS-based websites and applications. In this layer, the decen- tralized Internet ecosystem is close to the centralized Internet ecosystem. The goal of ECCS   is to shape a decentralized version of the Internet application ecosystem, make ECCS the cur- rency of this application ecosystem, and allow developers to get ECCS profits from consumers   to pay for ECCS development costs. ECCS motivates more nodes and users to join the decen- tralized storage and decentralized Internet through a multi-layered and constantly improving economy model. This is a new era brought about by the sharing economy and the blockchain technology.
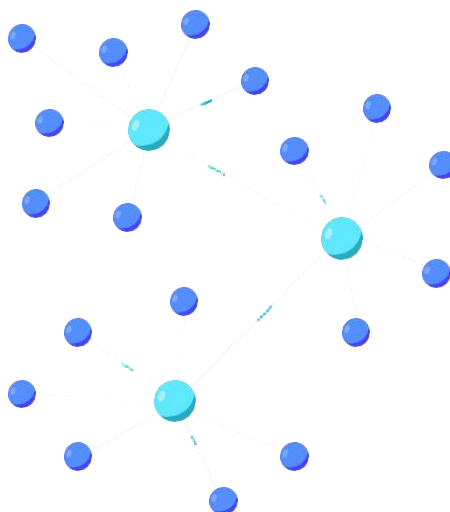
06   ECCS Token- ECCS

ECCS, a digital asset under the ECCS sharing ecosystem, is a value measurement storage and incentive tool built into the system and used for tool attributes. The total amount of ECCS is 100 million and will never be issued. The value can be transferred between the main chain and side chains, and between side chains, such as the payment of transaction fees, the purchase of storage services, the incentives to contributions, etc. ECCS is the blockchain-based certificate of rights and interests, the key element of a distributed storage system, and the economic driver that drives users to contribute storage space and bandwidth. The value of ECCS is endorsed by the storage, the bandwidth and the revenue that utilizes these resources. By realizing the commercial operation of the platform, the actual value of ECCS under the ecosystem will be gradually improved. In addition, ECCST(ECCS Token) will be issued as a circulating token. The initial number of issuance is 10 billion, and it will be destroyed by stages to 100 million in one year after issuance. The main network token (ECCS) and the circulating token (ECCST) are equivalent,i.e. 1 ECCS = 1 ECCST, and The official exchange channel is available.

ECCS	
Source	ECCS
Uses	Payment of Transaction Fees, Purchase of Storage Services, Incentives to Contributions, etc.
Users	ECCS Ecosystem Participants

The Uses of ECCS

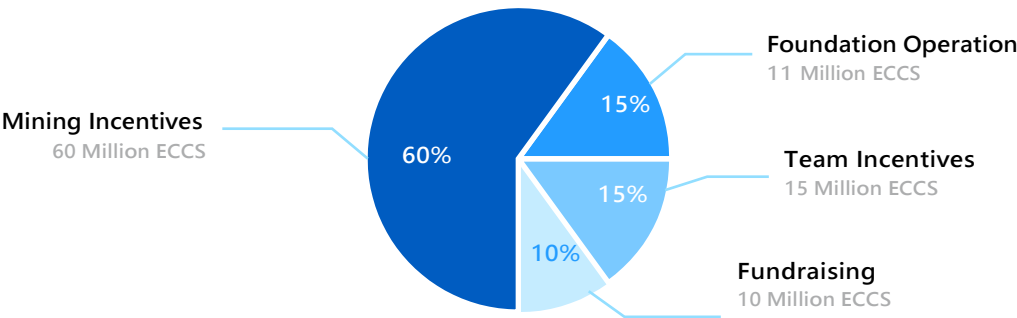ECCS is a native Token issued by ECCS and will be used for:
· Ecosystem incentives (including maintaining public ledger, uploading and sharing content, contributing storage space and contributing retrieval power);
· Fees for file storage and smart contract deployment;
· Fees for retrieval and file downloading;
· Gas costs for trading.

Users can obtain ECCS by:
· Campaigning super nodes and participating in public ledger maintenance to obtain the accounting incentives of the platform;
· Joining the retrieval node and sharing the computing power to obtain the retrieval incentives of the platform;
· Sharing storage space to obtain the storage incentives of the platform;
· Contributing traffic to the platform, uploading content and sharing content to make more users share premium content;
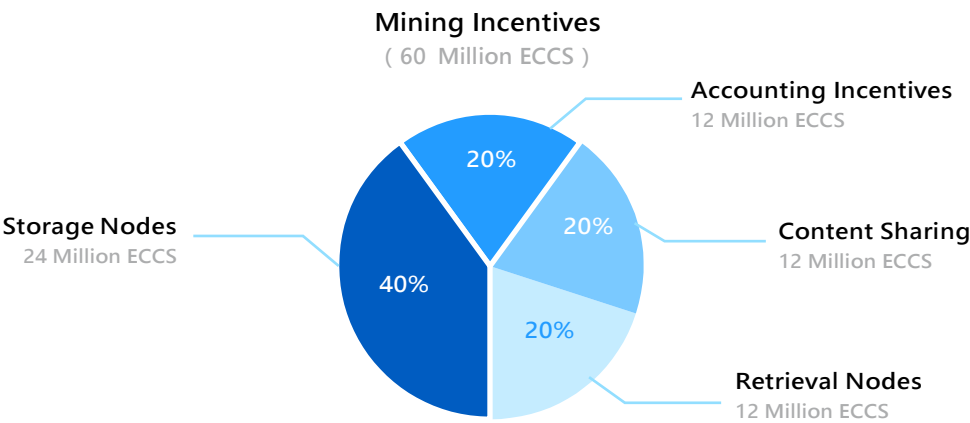· Trading on the market (including giving, purchase, etc.).

06 ECCS Token- ECCS

6.1 The Allocation of ECCS

Foundation Operation
11 Million ECCS

Mining Incentives
60 Million ECCS

60%

15%

Team Incentives
15 Million ECCS

15%

10%

Fundraising
10 Million ECCS

Note: The 15% ECCS held by the founding team will be locked for 2 years and then released linearly in 2 years.

6.1 ECCS Incentives

Users can obtain ECCS by contributing their own resources (storage space, computing power, content, etc.). ECCS provides 60% of the total ECCS(60 million) to motivate users to build the ECCS ecosystem, of which 20% is used for public ledger maintenance to ensure the stability and effectiveness of the entire ECCS-based public ledger, 40% for mining incentives for storage nodes, 20% for user content upload and sharing incentives to enrich the ecosystem of ECCS, and 20% for incentives of retrieval nodes.

Mining Incentives
（60 Million ECCS）

Accounting Incentives
12 Million ECCS

20%

20%

Storage Nodes
24 Million ECCS

40%

20%

Content Sharing
12 Million ECCS

Retrieval Nodes
12 Million ECCS

06 ECCS Token- ECCS

6.1The Release Rules of ECCS

From the date of starting mining, the block output will gradually decrease, and all ECCS will be completed within 10 years. The time for the block is 1s. After 10 years, the block no longer generates new ECCS. The ECCS platform will go online the demand docking system, after which the miners' incentives are provided by the demand sides. In the ECCS ecosystem, the more resources users contribute, the more ECCS they will get. ECCS is allocated every 24 hours. The system allocates ECCS obtained by users and nodes in each valid period within 24 hours and writes the information on the ECCS.

07   ECCS Application Scenarios

7.1Distributed File Storage

The ECCS distributed storage platform provides the basic cloud storage service. Customers can easily access and use the ECCS cloud storage service through OpenAPI, which makes the service safer, more reliable and cost-effective.

7.1Distributed File Sharing

The distributed sharing platform is based on the storage service of the distributed storage platform. Users can share their files such as digital media or other valuable content, and they can set a certain amount of ECCS incentives for the sharing according to the specific content. If other users want to download or view the files in full, they will need to pay the corresponding amount of ECCS as incentives to the uploader. As a file sharing service platform, ECCS will review and manage content uploaded by users in strict accordance with the legal requirements of the location where it operates.

7.1Multimedia Applications

At present, the traditional online video websites adopt the centralized storage service that requires high storage costs and bandwidth charges, and the related expenses are converted into watching long-time advertisements and restricting non-members' viewing. However, the use of ECCS as the storage service will greatly reduce the redundancy of the same resources, and at the same time save a lot of bandwidth costs generated by users when playing video, which makes watching video more efficient and cheaper.

7.1Digital Content Trading

Thanks to the blockchain technology and the distributed storage technology, the ECCS storage platform is ideally suited for copyright transactions of long-tail content to store. Distributed ledgers can provide open, transparent and unalterable records for transactions, and also leave an unalterable and unique digital signature on the blockchain for the digital content work as a copyrighted logo. With the support of the ECCS platform, a large number of long-tail videos, audios and photography creations have a low-cost and sustainable trading platform.

7.1Social Applications

A decentralized social network can be created by the technology of ECCS. As a decentralized application, the ECCS network allows social applications to work without any central point and is completely peer-to-peer.

08   ECCS Ecosystem

8.1Storage Ecosystem

Storage miners provide data storage for the network and participate in ECCS operations by providing disk space and responding to customers᾽requests. To become a storage miner, users need to provide storage space and bandwidth resources. Miners earn ECCS by storing the users᾽data segments into the sector, and respond to the users᾽requests of storage by storing the data for a specific time. Miners generate proofs and submit them to the blockchain network to prove that they have stored the data for a specific time. If the data fail or are lost, the storage miners will be fined for partial ECCS. The workflow of storage miners is as follows:

· Storage miners store the mortgaged ECCS on the blockchain to ensure stable storage to the network. The mortgaged ECCS exist to guarantee the service. If miners generate the proof of storage for the stored data, the mortgaged ECCS will be returned; in contrast, if failing, they will lose the mortgaged ECCS.

· Once the mortgage transactions occur on the blockchain, miners can provide storage services on the market.

· Once orders are matched, storage miners will receive customers' data. After the data are received, miners sign the transaction orders with the customers and submit them to the blockchain.

· When storage miners are assigned data, the proof of storage must be generated repeatedly to ensure that the proofs they are storing data are published on the blockchain and veri�ied by the network.

· After the veri�ications are successful, storage miners will receive the corresponding storage incentives.
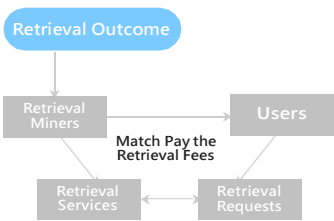
8.1Retrieval Ecosystem

The retrieval miners provide data retrieval services for the network and participate in the ECCS operations by providing the data needed by retrieval requests of users. Unlike storage miners, they don't need to mortgage ECCS, submit storage data or provide proof of storage.

8.1Application Developer Ecosystem

ECCS needs more business to prosper the entire ecosystem and requires corresponding application developers to run the business to allow more users with storage requests to come in.

8.1Application Service Ecosystem

ECCS provides users with the services of file storage and retrieval; users use various services provided by ECCS through ECCS browser.

09 Risk Statement

Participants in the ECCS project, please read the white paper carefully, fully understand the technical characteristics of ECCS, the risk-return characteristics of ECCS, and comprehensively take into account your own risk tolerance, participate rationally and make prudent decisions. Whether as a purchaser, user or investor, it may face the following risks:

Political Risk

Blockchain technology has become the subject of regulation in all major countries in the world. However, the current policy regulation in the areas of blockchain and digital currency is unclear; therefore, if the relevant policy changes in the future, the project may be affected.

Risk of Development Progress and Technology

Due to external factors or the inadequate execution of product development cases, the development schedule may be slowed down; the ECCS landing application may cause poor user experience or even loss due to problems such as untimely updates and serious functional defects.

Cybersecurity Risk

Hackers or other organizations have the possibility to attempt to destroy the functions of ECCS applications or ECCS tokens in any way, including service attacks, Sybil attacks, guerrilla attacks, malware attacks or consistency attacks. In addition, the rapid development of cryptography and quantum computers may bring the risk of cryptocurrency and ECCS platforms being cracked, which may lead to the loss of ECCS tokens.

Risks Associated with the Credentials

Any third party who obtains the purchasers ﹔login credentials or private key may directly control the purchasers ﹔ECCS tokens. To minimize this risk, the purchasers must protect their electronic device from unauthorized access requests passing through and accessing the device content.

Risk of Brain Drain

The situations are not conducive to the project development, including the shortage of talent resources in the blockchain field, the loss of core technical and operational talents of the team, and the disclosure of nuclear technology secrets.

Risk of Market Competition

There is a possibility that ECCS applications are not used by a large number of individuals or organizations, which means that the public does not have enough interest to develop these related distributed applications. Such a phenomenon may have a negative impact on ECCS applications. Furthermore, ECCS platform has an impact on traditional business factoring and bank pledge business, and therefore, when the competitors make market adjustments in the future, some users and resources will be lost.

Transaction Risks

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09 Risk Statement

applications. Furthermore, ECCS platform has an impact on traditional business factoring and bank pledge business, and therefore, when the competitors make market adjustments in the future, some users and resources will be lost.

· Property loss

Since ECCS applications are currently in the development phase and may undergo major changes before the release of the official version, ECCS's own or the buyer's expectations of the function or form of the ECCS applications (including the behavior of the participants) may not meet expectations, and any price inconsistency caused by incorrect analysis may result in loss of user property.

· Risk of not participating in insurance

Unlike accounts of banks or other financial institutions, assets stored on ECCS accounts or Ethereum networks are generally not covered by insurance, and in no case will any open individual organization cover your losses. However, institutions such as FDIC or private insurance companies will provide protection for buyers.

· Dissolution risk of ECCS

ECCS projects can be hit or directly disbanded at any time for a variety of reasons, including fluctuations in ETH prices, problems with ECCS application development, disruptions in business relationships, or intellectual property claims.

10 Disclaimer

ECCS is a non-profit system. The system's internal incentive mechanism and the operation and maintenance mechanism will use virtual digital assets (ie, virtual goods) rather than monetary incentive mechanisms as the incentives. The digital tokens generated by the system itself can be used as rewards for system maintenance, but in order to exchange resources between the system and other systems or other social entities, a certain amount of Bitcoin or other virtual assets are needed. Accordingly, the assets acquired from ECCS are only similar virtual digital assets, such as Bitcoin. The white paper only intends to convey the purpose of the information and does not constitute any investment advice, investment intention or instructed investment. The white paper does not constitute or be construed as any purchase or sale, any invitation to buy or sell, any form of securities, or any form of contract and commitment. Participants in the ECCS project, please be sure to read this white paper carefully to fully understand the technical risk-return characteristics of the blockchain, consider your own risk tolerance, judge rationally and make prudent decisions. Once you participate in the project, it means that you understand and accept the risk, and are willing to bear the corresponding results or consequences.

ECCS - High performance public chain based on E-commerce cloud storage storage