SZNP

Super Zeus network project

SZNP network system integrating blockchain distributed storage technology and cloud computing

White paper

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Abstract

SZNP builds the next generation of decentralized data network for blockchain industry and Web 3.0. It can have high load computing power on the basis of massive data storage. We call it super Zeus network plan.

SZNP's super spatiotemporal operation proof mechanism, through technology research and experiment, focuses on the advantages of the early distributed storage technology, and solves the disadvantages of the early distributed storage technology.

SZNP's decentralized data network supports scalable, cloud computing, self-healing, AI learning, and self balancing next-generation data storage. Regardless of the size of data, it can retrieve data from the blockchain simply, efficiently, and flexibly. Make it easier for everyone to manage decentralized data.

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1. Background

1.1.Industry background

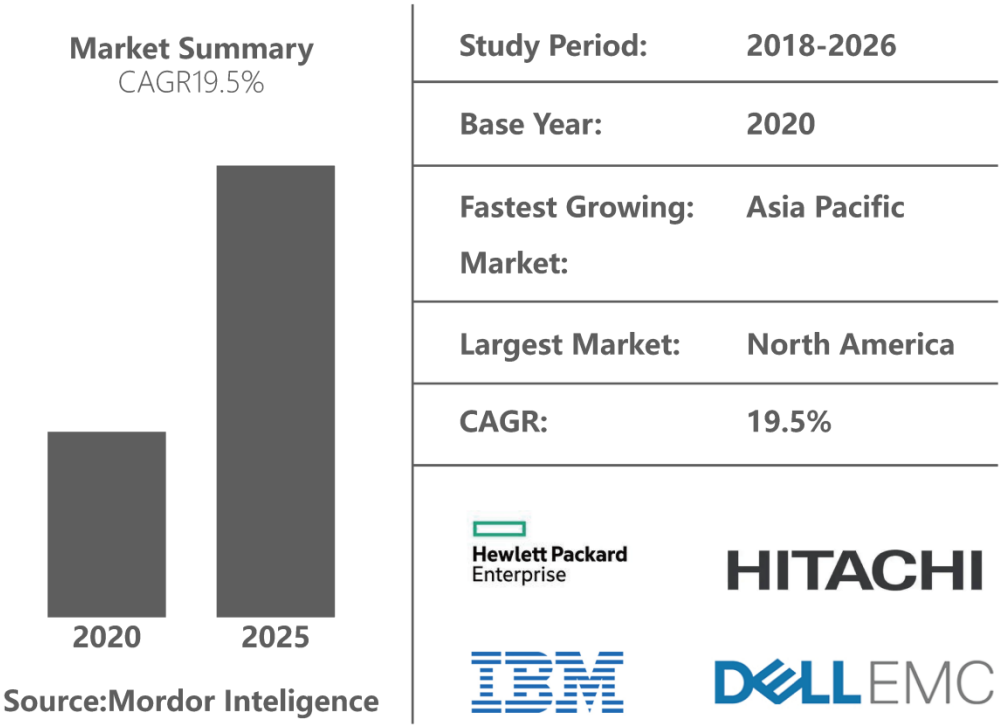
1.1.1. Internet data explosion

With the advent of the era of digital economy, information has shown explosive growth. At the same time, information data has become one of the important resources, and the security of information storage has become more and more important.

The wave of digital information is surging: anyone can capture media with a smartphone or camera, but there are limited tools available to prevent individuals from changing captured data or mistakenly attributing it to them before choosing to share.

Data is easy to manipulate: a large number of artificial intelligence tools, "deep forgery" technology and other applications make it easy for parties to change written, photographic and video data, as well as fuzzy dispute records.

Verifying data is difficult: current Internet solutions do not provide a simple and comprehensive way for individuals to verify data integrity in a sustainable and trustworthy way on a global scale.



1.1.2. With the growth of data storage market demand, cloud storage is facing security risks

In the traditional storage market, personal information leakage often occurs. The cost of data storage is expensive and the security is insufficient, so users begin to focus on the decentralized distributed storage track which is developing steadily. With the popularity of 5g technology, the rapid development of short video application and automatic driving technology will double the demand of data storage market.

Traditional hard disk and disk array storage methods are gradually replaced by the latest cloud storage technology.

In short, cloud storage is a new scheme to put storage resources on the cloud for human access. Users can easily access data on the cloud at any time, anywhere, through any connected device.

Cloud storage is generated for the massive data generated by the Internet. Its storage management can integrate storage resources, improve storage efficiency, improve the utilization of storage space, and have load balancing and fault redundancy functions; Cloud storage can achieve scale effect and elastic expansion, reduce operation cost and avoid resource waste;

However, cloud storage also brings many hidden dangers, mainly in the following aspects:

(1)Copyright risk

The copyright problem has appeared in a wide range of domestic network disk services. Some individuals or groups will upload the video music files to the network disk through the cloud storage client, and then provide downloads to the circle through sharing. A large number of copyrighted video music is spread by this special way of piracy.

This mode of communication is temporarily a regulatory blank. Under the pressure of copyright units, some cloud storage providers began to limit the scope of link sharing and strengthen the filtering of files. But these methods can not fundamentally solve the problem of the spread of pirated files uploaded by users in cloud storage.

To establish a complete set of digital fingerprint signature inspection system for film and television documents, in addition to the huge R & D operation and maintenance costs, it is difficult to achieve the technical standard unification among various interest groups in a short time. However, before the problem is solved, this sharing is still in progress, and the infringement problem is not only faced by users but also cloud storage providers.

(2) Personal privacy disclosure

There are many mobile platform users like to quickly upload their photos and videos to the network disk through cloud storage at any time, but every photo or other file you upload may be saved in plaintext on the cloud storage server. Administrators can directly view and delete the files uploaded by users from the server platform. These files may contain user's confidential files or user's privacy, which is a centralized cloud storage organization in principle and it is able to view the user's information, so the privacy is not absolutely guaranteed.

(3)Data security

Due to the prevalence of cloud storage and the reinforcement of the monopoly position of large Internet companies, a large number of users' data are gathered in the centralized data center. In this scenario, the user's data can be analyzed by artificial intelligence algorithm, so as to use the user's data to obtain benefits. Moreover, due to the centralization of data, the user's privacy data has the risk of being reviewed and leaked. In addition, the availability of data is also a problem. Previously, many large cloud disk enterprise providers stopped providing services one after another, resulting in the loss of a large number of user data.

In addition, the cloud storage server has long been the target of hackers, because there is not only infinite user data on the server, but also the hijacking of such large user group services is an important source of black revenue, that is to say, the security of the server directly affects the security of users' uploaded data.

(4) Operation stop risk

In the current Internet environment, to provide public cloud storage services, service providers invest hundreds of millions of funds every year, and the profit model of cloud storage is not clear.

In this case, how many service providers can provide this kind of service permanently? Is there a charge for this service? Will it be forced to stop operation due to loss and profit? In this case, where will the data of existing users migrate? Who is responsible for data security?

These are the difficulties that cloud storage service providers are facing.

1.1.3.The demand of cloud computing industry is large, and the centralized cloud has been unable to meet the needs of the market

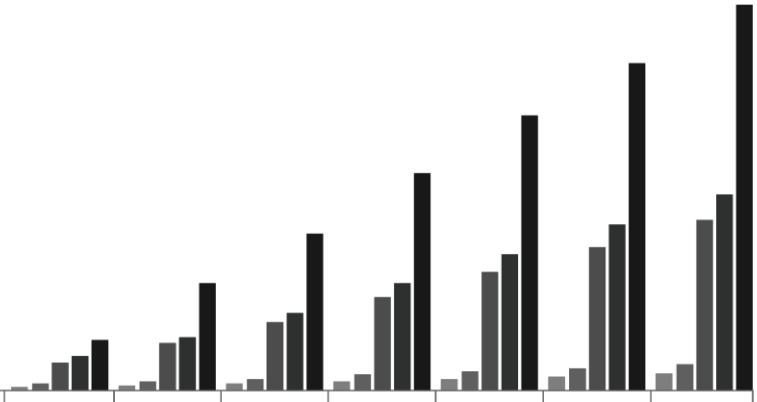
By 2022, the cloud computing industry is expected to generate revenue of more than $370 billion. This acceleration is related to the increasing demand for throughput and content of consumers, the global surge of smart phones, the rapid development of web and mobile applications, and the high operating cost of developers in local server management. The current cloud computing market has the following disadvantages:

Cloud computing monopoly: the existing cloud computing market is extremely centralized, with market share of Google and Amazon(AWS), microsoft azure, Alibaba and other technology giants monopolize the whole cloud computing market by relying on their highly centralized server resources, and enjoy high profits with the help of market forces, which leads to the high price of computing services.

Lack of computing resources: Although we see the prosperity of dapps in the future, the computing capacity of general blockchain running dapps is very limited, and the existing cloud computing infrastructure can not meet the needs of dapps, which needs a completely decentralized infrastructure to run; Insufficient storage capacity and high read latency of protocol require additional computing resources to meet higher requirements of applications.

High cost: the operation of cloud computing infrastructure and high performance computing is too complex and expensive. Innovative small businesses usually do not have the basic and professional knowledge in the industry to acquire and operate high-performance computing platforms, while cloud providers such as Amazon EC2 are still very expensive for high demand applications (such as GPU rendering). In addition, data processing centers often consume a lot of energy to run servers and cooling systems, which will cost a lot and have a negative impact on the environment.

The combination of cloud computing and blockchain is the future development trend, and the existing centralized cloud has been unable to meet the needs of the market.



	2014	2015	2016	2017	2018	2019*	2020*
Middle East and Africa	50	69	105	145	191	242	304
Latin America	103	140	190	242	304	371	448
Europe	480	842	1203	1616	2089	2536	3013
Asia Pacifc	588	908	1367	1871	2387	2923	3469
North America	888	1891	2771	3838	4860	5779	6844

1.2.Design intention

The development of storage technology even today is still facing great challenges. These problems are closely related to human factors and centralized operation and management. If we want to solve these problems thoroughly, we must start from the perspective of decentralization. So the industry has focused on blockchain technology. The decentralized storage scheme based on blockchain technology arises at the historic moment.

At present, IPFS is known to solve the current data storage problem. It allows anyone to rent spare storage on a computer, and anyone can buy storage on an IPFS network. This makes IPFS network a huge data warehouse, which is why everyone regards it as the biggest innovation of encryption technology so far.

We know that the storage mechanism of IPFS is similar to the application of sharing mode, and the mining of IPFS is also based on this mechanism, which allows people with idle hard disk space to contribute, and people who need to store data to pay FIL token. In this way, the idle resources are combined to make the whole system run efficiently and decentralized.

In fact, cloud storage has reflected the storage mechanism of IPFS for a long time, but the centralization and storage security problems exposed in the development of cloud storage later make people have to find a new storage mechanism to replace cloud storage. So the emergence of IPFS is a good solution to the shortcomings of cloud storage.

But similarly, although IPFS interstellar transmission system has effectively solved the problems of large network redundancy, slow transmission speed, and unsafe data storage, it is still in the first stage of distributed storage. At present, each company does not have an effective data filtering method, and there is no risk of data supervision. Secondly, in the field of IPFS, most companies focus on how to get more FIL awards. Storage technology is not valued and immature, and there are technical risks; Finally, the supporting facilities of IPFS and HTTP hypertext protocol are far from each other, and there is a risk of ecological application.

Inspired by the storage mechanism of IPFS, SZNP team hopes to build a new type of data infrastructure, provide a solution without trust for decentralized storage, let blockchain developers get rid of the monopolized centralized cloud service, and make it easier for everyone to carry out decentralized data management.

Based on the design concept of storing different types of data separately on different chains and blocks, SZNP provides a series of basic capacity services including unlimited scalable storage, high-throughput computing, and fast network transmission. The ultimate goal is to promote the sharing and sharing of public data in human society through the data encryption storage infrastructure that can be notarized and trusted, In the end, we will benefit from each other.

2.SZNP Network Technology

2.1.Design logic

In order to ensure the availability, performance and scalability of services, SZNP uses the technology of database cluster to provide services to decentralized applications. Cluster is a basic concept of SZNP database. When providing services, data is always replicated within a database cluster, rather than spanning the cluster. In addition, cluster technology can keep the load on all devices relatively balanced.

In order to maximize the overall performance of the storage system, SZNP will distribute data fairly according to the capacity and bandwidth of the device. Moreover, the whole system will add new nodes and delete unqualified devices, or some nodes' devices will fail. In order to maximize the performance of the storage system, data needs to be redistributed fairly. Some applications of SZNP database system may run 24 hours. Migration of large amount of data will inevitably consume a lot of bandwidth, reduce the

service quality of SZNP database system on application, and even affect the availability of the whole system. In order to not affect the storage service of the system, the data layout algorithm of SZNP database system can dynamically adapt to the change of storage scale, and migrate as little data as possible when the system scale changes. At the same time, SZNP can calculate the storage location of a certain data with little time and space information.

SZNP can distribute data fairly according to the weight of devices in heterogeneous devices set, adapt to the change of storage scale, migrate the least amount of data when the storage scale changes, and can calculate the data location in a short time. Only a small number of virtual devices are needed to reduce the storage space.

SZNP design logic is as follows:

1. using integrated cluster management mode, application services are centrally deployed.

2. for decentralized service design projects, independent nodes will not affect each other before.

3. declare the reasonable number of containers the server is running, adjust the number of containers to achieve the desired reasonable optimization state by adding and deleting containers, and have the function of expanding and shrinking capacity.

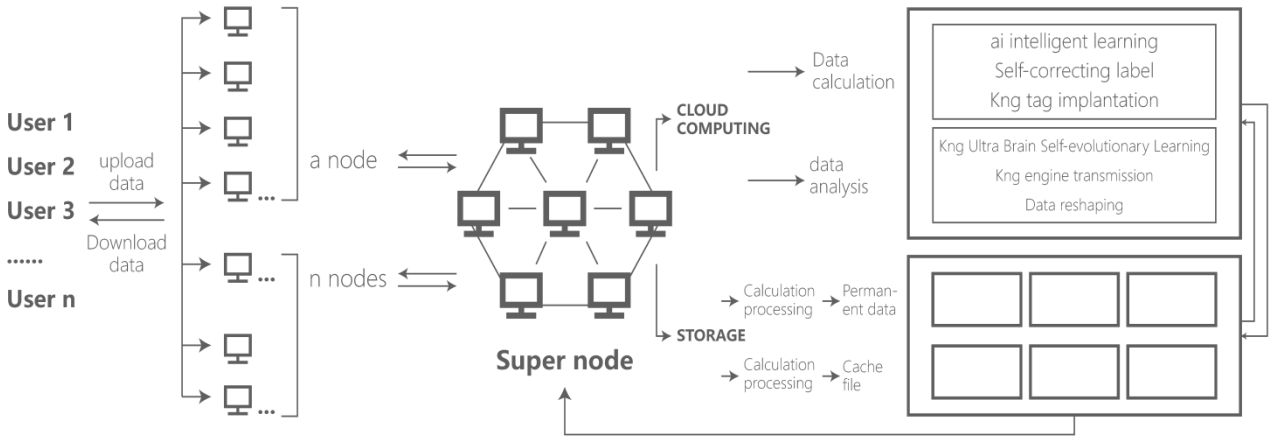
4. SZNP node continuously monitors cluster state through data proof, makes optimization instruction processing, coordinates the difference between current and expected state, and makes state coordination.

5. multi host network ensures the node updates in real time, and when the technology optimization and application change, it can automatically assign IP address to the node server container to ensure the login is normal.

6. through decentralized node service, SZNP network management node can accurately grasp DNS and load status of each cluster in the node, and optimize the process synchronously and in real time.

7. Each node in SZNP realizes independent and encryption technology certificate between them through TLS, and communication between nodes is more secure and stable.

8. SZNP service technology applies rolling update mode, which can be updated and rolled back in time.



2.2.Storage technology

SZNP adopts an extensible system structure, uses multiple storage servers to share the storage load, and uses location server to locate the storage information, which not only improves the reliability, availability and access efficiency of the system, but also is easy to expand.

SZNP is inspired by IPFS. The storage system of SZNP consists of three roles:

Storage node

●The main revenue of storage nodes comes from the fees paid by users.

●The storage node needs to pledge part of the funds in advance and get the share and benefit of DPOS.

●The storage node needs to send heartbeat information to the verifier regularly, and the lucky one can get some awards.

Users

●The main purpose of this design is to stimulate the storage node online.

The retrieval node

●The retrieval node can verify the accounting information and storage information of the storage node, and obtain revenue.

In the storage market, customers pay Kng to storage miners to store data. In the retrieval market, customers pay Kng to the retrieval miners and retrieve the data. The storage miner provides data storage for the network. The storage miner participates in the operation of Kng by providing disk space and responding to customer requests. Retrieval miners provide data retrieval services for the network. Retrieval miners participate in Kng operation by providing users with the data needed for retrieval requests.

(1) The storage miner can act as the retrieval miner at the same time;

(2) Storage miners need to mortgage storage disk space, while retrieval miners don't.

2.3. Cloud computing technology

Cloud computing is distributed on a large number of distributed computers instead of local computers or remote servers. The operation of enterprise data center will be more similar to that of Internet. This enables enterprises to switch resources to the applications they need, and access computers and storage systems according to their needs.

Cloud computing is the development of parallel computing, distributed computing and network computing, or the commercial implementation of these computer science concepts. Cloud computing is the result of the hybrid evolution of virtualization, utility computing, LAAS (infrastructure and services), PAAS (platform and services), SaaS (software and services) and other concepts.

The basic principle of cloud computing is to distribute the computing tasks on a large number of distributed computers in the cloud, and store the data in the cloud, so that enterprises can switch the limited resources to the required applications, and reduce the cost of enterprise operation. The result is that small and medium-sized enterprises do not need to purchase a special computer system to meet the needs of a certain application, they only need to pay the service fee to the cloud computing center to get the corresponding services, and the cloud computing center has a large-scale cloud to provide services to users.

In general, cloud computing has the following characteristics: ultra large scale cloud computing cluster, virtualization, high reliability, versatility, on-demand service, extremely cheap.

SZNP solves the storage problem through cloud computing technology, which not only improves the storage efficiency, but also makes use of idle resources. The storage network of SZNP is similar to IPFS.

Challenge and security: the environment and conditions have high requirements for cloud computing. In the process of cloud computing, we need to give users a good experience and simple operation process, which is our ultimate goal. In the process of cloud computing, resources are easy to be misused, and the appearance of hacker attacks, viruses and other files, a single problem will cause irreparable losses, our SZNP network system will solve this series of problems.

2.4.Automatic reconfiguration system

Second transfer: SZNP introduces the second transfer mechanism to improve the speed of data upload. When a node uploads data to the system network, the hash value verification can determine whether the data exists in the network. If it exists in the network, the file can be copied to the local storage of the uploader through the system network, so as to achieve the effect of fast second transmission.

Data exchange: Through the exchange of data blocks between nodes to achieve the effect of data distribution, and when nodes download data, they will continue to upload the downloaded data blocks to the system network. At the same time, this exchange mechanism also has a warehouse to store the existing data blocks of all nodes, so as long as the hash value of the data is the same as the hash value in the desired data block, the data block can be downloaded directly, not limited to one corresponding node.

Data storage structure: SZNP uses a special data storage structure in addition to equal size slice storage. SZNP adopts tree structure, which is mainly composed of nodes and links. Nodes store the relationship between data and subordinate links, while links store the hash value of data. The linked data structure mainly consists of three parts: name, size and CID. In such a data structure, the hash value of the upper node is determined by the hash value of the lower node, and the upper node contains the information of the lower node. Therefore, after the biological data block is modified, only the modified biological data block needs to be copied and then modified, rather than the whole biological data, Therefore, the consumption of storage space will be greatly reduced.

3.SZNP founding network node

3.1.SZNP initiative network node campaign

The purpose of SZNP node campaign is to improve the stability of SZNP system, promote the sustainable and stable development of SZNP ecology, let more institutions and users around the world participate in the ecological development of SZNP, and complete the construction of decentralized governance mode of SZNP ecological chain.

Once a candidate becomes a candidate of SZNP node, all candidates of the node must pass the KYC audit. Illegal fund-raising activities on the ground of SZNP node election are strictly prohibited. If participants have illegal and cheating behaviors, SZNP official has the right to cancel their election qualifications.

To recognize the business model and application of SZNP, and actively contribute to the ecological prosperity of SZNP, are the primary conditions for the node.

In addition, in order to prevent double flower attack and 51% attack, as well as better protect the security and stability of the network, SZNP officials will actively keep the number of votes obtained by each of the top 10 nodes not less than 100000(when the number of votes of other nodes is close to that of the official node, the other nodes will be ranked first).

In addition to meeting the above two basic conditions, individuals or organizations participating in the node election also need to have certain equipment support. If the hardware equipment is limited, it can be supplemented by adding virtual memory.

The user needs to access to the node, submit the application information, obtain the authorization code, and then synchronize the file to start mining after successfully connecting to the node.

There are 10 founding nodes in the whole network, and each stage has a certain amount of authorization for users to join the node for mining.

The total authorization amount of the 10 founding nodes is as follows:

Stage	Single node authorization limit	Total authorization limit
The first stage	30P	300P
The second stage	50P	500P
The third stage	70P	700P
The fourth stage	90P	900P
The fifth stage	120P	1200P
The sixth stage	unlimited	unlimited

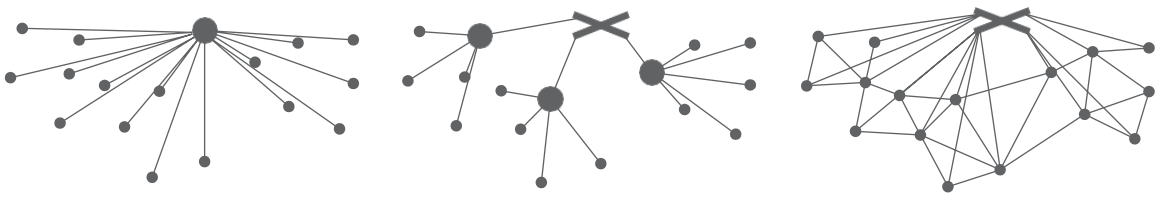
3.2.Responsibilities of SZNP founding network node

Fix and submit bugs: when a node encounters problems in use, it should choose to submit bugs to the community. The community's code developers will fix bugs in turn according to the scope and importance of the code bugs. Nodes will also receive Kng rewards.

Guard against security vulnerabilities: nodes should actively collect all kinds of security data, and summarize the security data. If it is a new or rare safety problem, it should be reported to the company's ecological security experts. If it is confirmed that it is a security problem, the node will get a Kng reward.

Voting: the founding network node has the right to vote at the initial stage, and has certain rights to add and delete nodes.

Maintenance of SZNP network consensus: the establishment of network nodes should actively maintain the SZNP network consensus, make suggestions for the prosperity of the community, and help the community select qualified nodes.



4.Kng General Certificate System

4.1.General Certificate value

SZNP network is a decentralized blockchain platform. The network protocol inspired by IPFS protocol can provide technical, business and transaction support for competent organizations, individuals or institutions, and help them solve the problems of storage and high load computing. Issuing Kng based on value system can realize global circulation and provide interactive value intermediary for self owned ecosystem and third-party applications.

4.2. General certificate allocation

Service tag: Kng

Circulation: 10.49 million

General Certificate allocation

SZNP

proportion	community	mechanism	Operation	foundation	Technical team	Mining release
■	0.29%	0.57%	2.67%	0.67%	0.47%	95.33%

4.3.Access

The key application of SZNP is storage service, so storage market management is essential. SZNP has three roles: user, storage miner and retrieval miner. The storage miner provides the space and time to store data. The retrieval miner challenges the storage miner regularly. If the challenge fails, the data repair function needs to be triggered, and the user downloads the data from the storage miner when they need it. According to this application scenario, users need to pay storage fees and download data fees to storage miners, and pay coordination management fees to retrieval miners. The fee standard for users to download data is determined according to the file size, of which 80% is paid to the storage miner and 20% to the retrieval miner.

Users need to pledge a certain amount of Kng to participate in data storage or download services on SZNP network. The initial proposed pledge method is: the pledge amount per T is 0.4kng, and the pledge amount per P is 409.6kng.

Pledge period: 270 days

Note: when the price of Kng is higher than 50U, it is pledged according to the value of 12800u per P. for example, when the value of Kng is 100usdt, 1p computing power needs to pledge 128 Kng.

● Consensus mechanism: the consensus mechanism of SZNP network adopts IPFS consensus mechanism: replication proof (porep) + spatiotemporal proof (post), SZNP network uses replication proof to effectively prevent witch attack, outsourcing attack and proxy attack. The storage miner needs to prove to the retrieval miner that he stores the corresponding data on a specific device, rather than storing multiple copies of data on a single device. The spatiotemporal proof (post) is based on the replication proof, and time stamp technology is added to get a proof of data stored in a period of time. Even if users are not online, they can also use spatiotemporal proof to verify the data stored during this period of time at some time in the future. Post is generated when SZNP network verifies that miners store user data. Post takes the size of the data stored on the hard disk as the computing power instead of a huge amount of hash calculation, and encourages people to invest more hard disks instead of more CPU. The search miner can get Kng reward by completing hash calculation. In addition, the storage node can store the data files of the specified size in the specified time, and get Kng reward according to the contract;

●EVM and smart contract: we will support smart contract on the chain and provide complete formal verification capability of contract.

●Pledge: users, storage miners and retrieval miners need to pledge Kng when using SZNP network.

●Destroy: consume gas fee, node penalty, etc. and burn them permanently.

●Lease: users who rent cloud SZNP database need to purchase Kng for payment.

●Transaction: users of transaction data in SZNP database need to purchase Kng for payment.

4.4.The function of general certificate

Kng is a functional token circulating in SZNP network. In the network, it mainly has the following functions:

1. Maintain SZNP network consensus
2. Used to guarantee the selected node
3. As a guarantee and Commission for providing resources and services
4. As the transaction fee for using the network
5. It can be used to purchase resource services
6. It can be used to campaign and vote on the governance mechanism on the chain, and vote on the proposal

5.SZNP public chain ecological application scenarios

5.1.Data center

Data center is equivalent to a large data trading market, which is a data application platform developed based on SZNP network protocol. SZNP itself will have huge data resources, and users can freely access relevant data, but users need to pay for Kng download resources. Similarly, users can upload data for other users to use Kng for download.

In SZNP data center network, users need to pay the network the cost calculated according to the pricing formula of the system when they want to store files, and broadcast the storage orders to the whole network. The order submits the basic information of the file to the blockchain, which includes the hash value, file size, etc. After the merchant receives the broadcast order information, the merchant can search the corresponding file in SZNP network and download it and save it in the node server of the merchant. When a merchant submits the storage certificate of saved documents to the blockchain, the storage order of this user will take effect. In order to ensure that a merchant can search for the files that users need to store, users need to provide upload of the files locally.

SZNP, as an ecological and decentralized block chain storage system, can make the common effective storage participate in the construction of data center, so as to share the storage resources.

SZNP, as a distributed storage infrastructure project, has a large amount of data resources, which makes SZNP have the prerequisite for establishing data center. SZNP provides account, authentication, payment, distributed file system, point-to-point communication and adjustment management of billions of devices. SZNP data center integrates computing power all over the world into a global supercomputer, Effectively link global smart devices, which will generate greater value.

5.2.Artificial Intelligence

AI technology has now affected all aspects of our economy, including advertising, finance, health care, retail, autonomous driving, energy, transportation and logistics. By 2025, the scale of AI related software

and services will reach 60 billion US dollars, covering more than 150 scenarios in 29 industries. The progress of artificial intelligence needs the support of data. Without the support of data, the modeling of artificial intelligence will lose its accuracy, which means that the artificial intelligence model will lose its function. At present, the leading companies in the field of artificial intelligence, including Google and Facebook, are companies with a lot of data resources.

In the field of artificial intelligence, the current consensus is that the role of data is many times larger than the model. However, the acquisition of artificial intelligence data is a very difficult and expensive thing. The lack of data limits the development of the artificial intelligence industry. At present, due to the lack of trust, data abuse and other reasons, free individuals are not willing to provide data to the owners of artificial intelligence technology, and business organizations need data to obtain data through gray means.

The SZNP project will eventually form an integrated network of all time series data in the world. Data owners can sell their own data through smart contracts on the SZNP platform. Moreover, they do not need to sell the original data, they only need to sell the analysis results of the data.

5.3.Intelligent education

Intelligent education is a kind of virtual education environment based on digital information and network technology, which collects, processes, integrates, stores, transmits and applies campus information such as teaching, scientific research, management, technical service and life service, so as to make full use of digital resources. Through the realization of digitalization from environment (including equipment, classroom, etc.), resources (such as books, handouts, courseware, etc.) to application (including teaching, management, service, office, etc.), a digital space is constructed on the basis of traditional campus, so as to expand the time and space dimensions of real education, improve the management and operation efficiency of traditional education, and expand the business functions of traditional campus, In order to improve the management level and the employment rate, we should realize the comprehensive informatization of the education process.

In order to meet the needs of future education digitization, SZNP has established a new set of integrated resource platform with high quality, high standard and pertinence, aiming at improving teaching efficiency, integrating teaching resources and helping educational resource equality. SZNP is mainly aimed at the four ports of schools, teachers, students and parents, and uses the platform resource sharing mechanism, big data analysis and other functions to accurately and effectively meet the needs of users. Change students' learning habits, from instilling to active; Improve the teaching quality of teachers, from passive to active; Improve the efficiency of school management, from distributed to integrated.

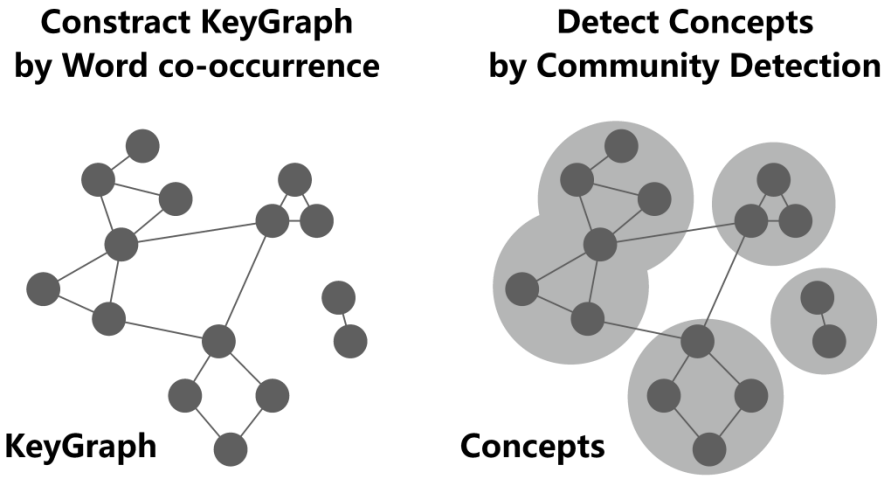
For example, in the SZNP resource platform, teachers can become the creators of the platform through teaching plans, teaching videos and other means. Through free delivery, SZNP integrates the roles of students, parents and schools in many dimensions, and uses Kng as a link to encourage the creators of the platform to create high-quality content, so that high-quality resources can be shared in weak areas and a balanced intelligent teaching ecological community can be established, And form a diversified industrial chain.

5.4.Natural language processing (NLP)

Using natural language to communicate with computer is what people have been pursuing for a long time. Because it has obvious practical significance, but also has important theoretical significance: people can use their most used language to use the computer, without spending a lot of time and energy to learn a variety of computer languages that are not very natural and used to; People can also learn more about human language ability and intelligent mechanism through it.

It is very difficult to realize natural language communication between human and computer, or to understand and generate natural language. The root cause of the difficulty lies in the wide range of ambiguities or ambiguities at all levels of natural language texts and dialogues.

SZNP network provides rich and huge data resources for natural language processing system through big data acquisition and processing. It not only establishes multilingual database, but also provides natural language interface. It uses big data modeling analysis and image recognition technology to build as accurate a natural language processing (NLP) system as possible.



5.5.Cross domain network

Blockchain technology plays an important role in promoting technological innovation and industrial change. With the progress of technology and the continuous enrichment of application scenarios, blockchain technology plays an increasingly important role in storage, digital finance, Internet of things, artificial intelligence, digital asset trading and other fields.

SZNP realizes data cross domain connection and trusted value connection through multi network integration of storage network, data resource network and financial resource network.

SZNP will integrate the data of all major industries, fields and subjects, and jointly create a digital economic flow highland. By building a sharing network of machine trust, SZNP will solve the problems of data access, encrypted transmission, sharing, trusted transaction and storage, realize the global industrial data and asset security chain, and promote more industrial individuals to join the Alliance for data integration, Maximize the value of data, and jointly build a digital economic alliance with data boundary-less circulation, value opening and sharing, and industry collaborative innovation.

5.6.Cloud disk

Cloud disk is the carrier of storage and a professional network storage tool, which can safely store data and important information anytime and anywhere.

Compared with the traditional physical disk, cloud disk is more convenient, users do not need to store important information on the physical disk. However, you can easily read your stored information from the cloud through the Internet. SZNP cloud disk provides a new generation of storage services with flexibility and on-demand functions, thus preventing cost loss

Control, and can meet the changing business focus and regulatory requirements formed by the

diverse needs.

SZNP cloud disk provides global users with a fast, convenient, efficient, centralized management, cross platform, cross device sharing storage mode anytime and anywhere. SZNP cloud disk has the functions of mobile storage, file encryption, video playback, short video interaction, wallet module, public space and so on. SZNP transforms the idle capacity space provided by global miners into storage services. With the increasing number of miners' users, SZNP realizes unlimited and scalable distributed storage.

SZNP provides better storage and distribution for high-frequency data, and does not let low-frequency data occupy the storage resources of the system. All users release their original files through DAPP, and these files are gradually retrieved by users, spread to SZNP network and distributed to the hard disk.

5.7. Cloud Security

Virus library

Because the computer always faithfully executes the program that people make, if someone deliberately makes the program and makes the computer make mistakes, it will certainly "get sick". This kind of program that deliberately makes the computer make mistakes is called "computer virus". Once the computer is sick, it will paralyze the computer in a large network.

In 1975, John brewer, an American popular science writer, wrote a novel named concussion wave knight, in which the computer was first described as a tool for the struggle between controversy and evil in the information society, which aroused widespread interest and became one of the best-selling books of that year. Two years later, another popular science writer in the United States, Thomas Raine, published a hit Book Pi's youth. In the book, the author conceives a mysterious computer program that can self replicate and spread through information channels, and calls it computer virus. These computer viruses wander in the computer, wandering between silicon chips, controlling the operating system of more than 7000 computers, causing confusion and uneasiness.

However, these illusions became reality in less than ten years, and caused a large-scale flooding. The application of computer is more and more popular, the computer virus nuisance is also more and more common. Computer "virus" is different from the general virus, it is not an organism, will not spread diseases to humans, can only spread between computers. It's a small piece of ingenious and diffusible program deliberately compiled by malicious people. The computer itself will not work. It can only work when people "Install" the program that has been programmed in advance into the computer.

It is impossible to estimate exactly how many viruses there are now because of the wide range and variety of viruses involved and the phenomenon of synonymous viruses. Most virus programs have a certain "incubation period", and some virus programmers deliberately regard it as a "time bomb". For example, there is a kind of "Trojan horse program" in foreign countries, which is connected with the clock in the computer and will attack at a certain time on a certain day. Some programmers deliberately set up a "time bomb" in the program because they don't believe the employer will pay in time. Once his labor remuneration can not be cashed in time, the "time bomb" will explode and infect each other very quickly.

At present, there are thousands of known computer viruses in the world, and they are still increasing. SZNP will set up a virus database to mine the existing known "virus" data to reduce the threat of "virus" to the computer. At the same time, it will implement the corresponding virus monitoring technology, which can effectively track the computer query through the corresponding messages or instructions, so that it can efficiently detect whether there is a computer virus invasion. So that people can still get the normal data they want when the computer virus invades the database.

In addition, SZNP virus database will develop anti-virus instructions or programs for the existing

known "viruses". The computer that receives the "virus" attack can find a solution from SZNP virus database, and enter the anti-virus instructions or programs at the bottom of the computer operating system, making it the underlying module of the internal database of the computer system, To weaken or even eliminate the invasion and threat of computer virus to computer database.

Slice data storage

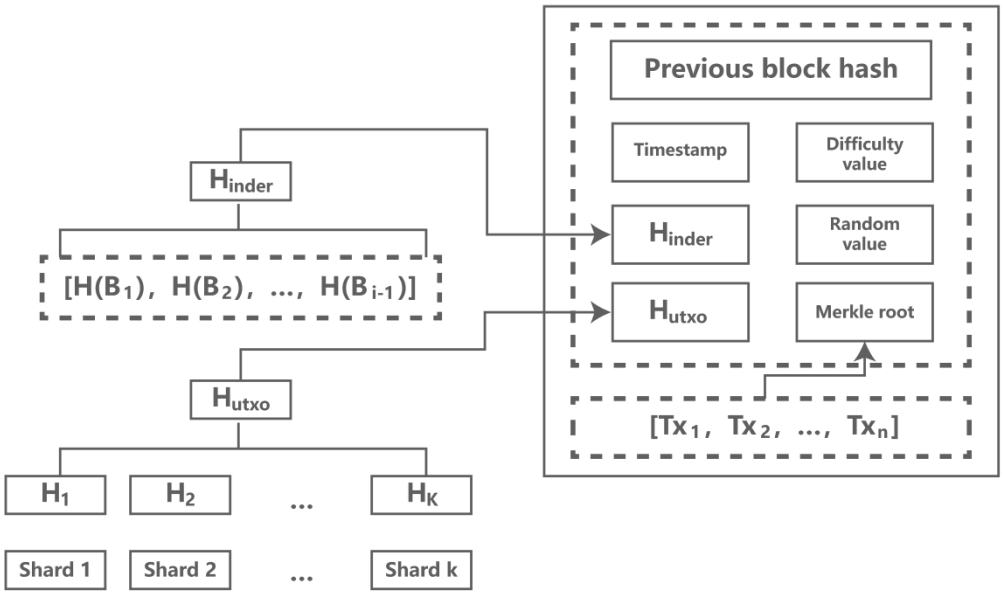
The core concept of SZNP network has the principle of incremental scalability, which requires a dynamic fragmentation mechanism in a group of nodes. This mechanism is also called DHT (distributed hash table). Through DHT, SZNP network can reasonably allocate the load to different storage nodes. The fragmentation strategy of SZNP network depends on consistent hashing, and it is further adjusted for the heterogeneity of the stem nodes. The algorithm we use is called CCHDP algorithm, and its main steps are as follows:

(1) Firstly, clustering algorithm is used to classify the device set, so that the weight difference of devices in each class is within the preset range;

(2) After clustering, the layout mechanism divides the [0, 1] interval into several sub intervals according to the weight of the class, assigns a sub interval to each class, and assigns the data falling into a sub interval to the corresponding class;

(3) The internal layout mechanism of each class uses consistent hash method to reallocate the data, and the data is distributed to specific devices.

This fragmentation mechanism divides a whole database into several parts, which run, compute and process in parallel, so as to solve the performance bottleneck of a single database, improve the processing speed of node transactions and improve the efficiency of TPS.



6.Vision and planning

At present, most blockchain projects are developed based on Ethereum, which is helpless in the face of big data concurrency and big storage applications, such as when it is necessary to develop decentralized video, game, live broadcast platforms, and broader Internet of things applications. Based on the technical characteristics of SZNP, it can provide effective solutions.

We develop this public chain in the hope that developers can easily develop their own super applications and fulfill their dream of changing the world. The public chain will continue to optimize the development language and provide the necessary storage space and network for DAPP operation.

In the world of Web3.0, SZNP distributed storage system will play a basic function of network. It will

be everywhere and build the whole network storage in cloud computing system. SZNP has become the first strongest computer network with autonomous system in the world.

7.Declaration

This document is for information transfer purposes only. The content of the document is for reference only and does not constitute any suggestion, instigation or invitation for the trading of stocks and securities of the companies related to the SZNP project. This document does not constitute, nor is it understood to provide, any act of sale or purchase, nor is it a contract or commitment of any kind.

SZNP abides by any regulatory regulations and industry self-discipline statements that are conducive to the healthy development of the industry. The participation of the participant means that the representative will fully accept and comply with such inspection. At the same time, all information disclosed by participants to complete such inspection must be complete and accurate. The platform has clearly communicated the possible risks to the participants. Once the participants participate in the public offering of Kng, they have confirmed that they understand and accept the terms and conditions in the detailed rules, and accept the potential risks of the platform at their own risk.