SMART CHAIN

DISTRIBUTED STORAGE AND COMPUTING

WHITEPAPER

Table of contents

Summary

Based on blockchain technology, Smart connects idle network computing resources (transmission capacity, computing power, storage capacity) scattered around the world, combines edge computing and deployment to share these resources and provide them to institutions and individuals in need for a fee. use.

Based on the Smart decentralized network computing business ecosystem, members who provide idle network resource computing capabilities will receive reasonable benefits, and users who use these network resources will pay lower costs than purchasing centralized network computing resources. At the same time, in the Smart network world, user data will be subject to tighter privacy protection and higher-level security maintenance.

As more and more scenes in the economy, society and people's lives are mapped into the online world, human beings have increasing demands for the transmission, computing and storage of big data. Smart uses blockchain technology to build a shared network ecosystem that can meet the value sharing and value exchange of network resources in the Internet era. This is the inevitable choice given by the times to blockchain technology to provide support for the online world on the road to industrialization.

Smart adheres to the concepts of "technology serves society" and "continuously creates value" and realizes the value chain of "resources - Smart - users". By valuing user data and digitizing computing power assets, Smart continuously contributes to the sustainable development of digital human society. energy.

> Note: The Smart Network is a work that is constantly being optimized and all participating members are making active contributions.

Introduction

1.1 Terms and definitions

Read this article to learn about relevant terms and definitions of our views on certain matters. In order for you to fully understand their meaning and the real situation behind them, this chapter first provides a basic description.

Network computing power

Including transmission capabilities, computing capabilities, and storage capabilities, they are the core content of our network node capability certification.

Transmission capability

Refers to the ability to participate in data transmission on the network. We focus on P2P point-to-point transmission technology (peer-to-peer), also known as peer-to-peer Internet technology, which relies on the computing power and bandwidth of participants in the network, rather than concentrating dependence on a few servers. P2P networks are often used to connect nodes through Ad Hoc connections. This type of network can be used for a variety of purposes, and various file sharing software are already widely used. P2P technology is also used in data communications for real-time media services such as VoIP.

Calculate ability

It refers to the ability to perform operations required to participate in data processing on the network. Computing systems can be divided into homogeneous computing and heterogeneous computing in terms of architecture. Isomorphic computing is a computing method that uses computing units of the same type of instruction set and architecture to form a system. Heterogeneous computing refers to a computing method that uses computing units of different types of instruction sets and architectures to form a system. Common computing unit categories include CPU, GPU processor, DSP, ASIC, FPGA, etc. Heterogeneous computing is a kind of parallel and distributed computing, which either uses a single independent computer that can support both simd mode and mimd mode, or uses a group of independent computers interconnected by a high-speed network to complete computing tasks.

Specifically, heterogeneous computing uses both processors and accelerators such as GPUs or many-core chips in calculations.

1.2 Problems with centralized computing networks

1.2.1 Network computing resource capacity is being wasted excessively

Microsoft once conducted a research project called "GO ON: Give Someone Their First Time Online". Data provided by the research project show that about 1/3 of the British people said that They have at least one idle home computer product at home, while 15% of British people said they have two idle computers at home, and more than 9% of British people admitted that they have more than two idle computers at home. 16% of the British people surveyed said that due to the rapid update of computer products, after buying a new computer, they will choose to use a new computer, and the previous computer will gradually be forgotten, while 7% of the respondents said They will say that they will throw away the old computer directly.

According to statistics, there are more than 6.2 billion computers in use around the world, and the idle rate of scattered computing resources is as high as 65%.

At the same time, driven by commercial interests, major Internet companies and cloud service providers are continuing to expand their centralized IDC data centers. Their centralized network resources cannot achieve shared value and must be repeatedly constructed at a higher cost.

1.2.2 Society's demand for network computing resources is growing rapidly

In an increasingly smart economy and society, data resources have become means of production, data processing capabilities have become productivity, the Internet has become production relations, and computing resources have become important infrastructure. "Cloud, connection, data, calculation and use" and "housing, industry, travel, entertainment and shopping" have become the standard for the development of digital life in all scenarios. With the popularization of large-scale applications such as 5G communication technology, AI artificial intelligence, driverless driving, and IoT Internet of

Everything, global big data processing volume will accelerate, and cloud computing capabilities will become the most powerful new productivity. Decentralized computing and decentralization Storage is born, and the era of computing power civilization is coming.

The combination of distributed computing and blockchain is already a future development trend, and the existing centralized cloud can no longer meet market needs.

Related to increased consumer demand for throughput and content, the global proliferation of smartphones, and the rapid growth of web and mobile applications, developers face high operating costs on local server management. The current cloud computing market has the following disadvantages.

1.2.3 Centralized computing networks face unprecedented pressure

Cost is too high

Computing infrastructure and high-performance computing are too complex and expensive to operate. Innovative small businesses often don't have the basic industry expertise to acquire and operate high-performance computing platforms, and cloud providers like Amazon EC2 remain prohibitively expensive for demanding applications such as GPU rendering. In addition, data processing centers often consume large amounts of energy to run servers and cooling systems, which can be very costly and have a negative impact on the environment.

Centralized computing monopoly

The existing centralized computing market is extremely centralized, and several technology giants such as Google, Amazon (AWS), Microsot Azure, and Alibaba have monopolized the entire cloud computing market by relying on their highly concentrated server resources and enjoying high profits with the help of market power. , which in turn leads to high prices for computing power services.

Insufficient computing resources

Although we see the prosperity of DApps in the future, the current computing power of general blockchains to run DApps is very limited, and the existing cloud computing infrastructure cannot meet the needs of DApps, which require completely decentralized infrastructure to run; storage capacity Insufficiencies and high read latencies of the protocol require additional computing resources to meet more demanding applications.

safety pressure

Centralized deployment has major environmental risks and data security risks; due to the popularity of cloud storage and the strengthening of the monopoly position of large Internet companies, a large number of user data are gathered in centralized data centers. In this scenario, user data can be analyzed by artificial intelligence algorithms to gain benefits from user data. Moreover, due to the centralization of data, users' private data is at risk of being censored and leaked. In addition, data availability is also a problem. Previously, many large cloud disk enterprise providers stopped providing services, resulting in the loss of a large amount of user data. In addition, cloud storage servers have long been the target of hackers, because not only are there endless user data on the server, but the hijacking of such large user group services is an important source of black income. In other words, the security of the server directly affects Security of data uploaded by users.

Failure pressure

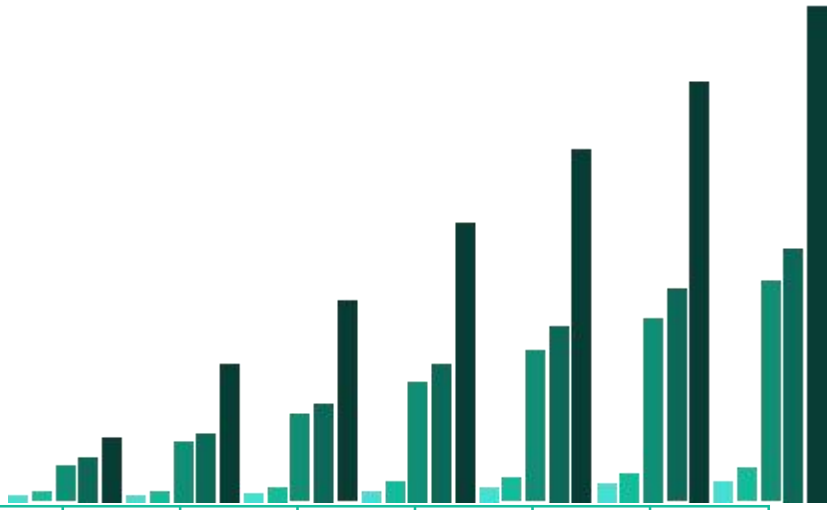
There is a risk of software/hardware related failure in centralized operations.

1.3 Development opportunities of decentralized computing networks

Blockchain technology will construct a new future for the Internet and even the entire world. In this future world, data will no longer be monopolized by centralized nodes, privacy protection will be guaranteed by the lowest level logic, and the use of network computing resources will occur under fairer conditions, fundamentally preventing centralized nodes from abusing data. , and at the same time return the ownership of user resources to the user. Shared

computing also effectively solves the cost problem caused by the failure of Moore's Law, significantly reduces the computing cost of the whole society, promotes qualitative changes in business models, and accelerates the arrival of a new era. Blockchain technology has become the underlying support for decentralized cloud computing.

The combination of blockchain and cloud computing has brought new opportunities to the Internet industry. Blockchain can effectively solve the pain points of data fraud and high reliance on a single organization in the centralized model, thereby building a decentralized autonomous ecosystem. All this benefits from the core advantages of blockchain such as system autonomy, data traceability and confirmation, and information cannot be tampered with. The combination of the two is an inevitable choice for blockchain industrialization and industrial blockchainization. It will also allow people to move from the information Internet to the value Internet era, bringing a new social organization structure and business model that eliminates intermediaries, thereby changing our existing lifestyle.



	2014	2015	2016	2017	2018	2019	2020
Middle East and Africa	50	69	105	145	191	242	304
Latin Amarica	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

1.4 Industrial application of blockchain

We need a computing resource network that can flexibly process massive data anytime, anywhere, and a trusted resource network that promotes deep sharing and collaboration. This is also the reason why human society has such great expectations for the combination of cloud computing and blockchain.

From the moment it was born, blockchain technology has had a very strong technical belief, rather than being a tool used for speculation, manipulation and bubble creation. We admire the elites all over the world very much, and their wisdom and courage are worth cherishing. In recent years, as outstanding talents from around the world continue to join, blockchain technology has become more and more mature.

With awe and pragmatic work input, we no longer just care about the technology itself, but strive to realize valuable application scenarios. I hope that there will be less and less "subversive propaganda terms" surrounding it, and that it will be closer to "moving away from fiction to reality" and truly get out of the bubble.

This article will present a decentralized business format that uses blockchain technology as the underlying foundation to realize distributed computing network resources to make up for the shortcomings of centralized networks.

- We have a very cool name for this great cause: Smart.

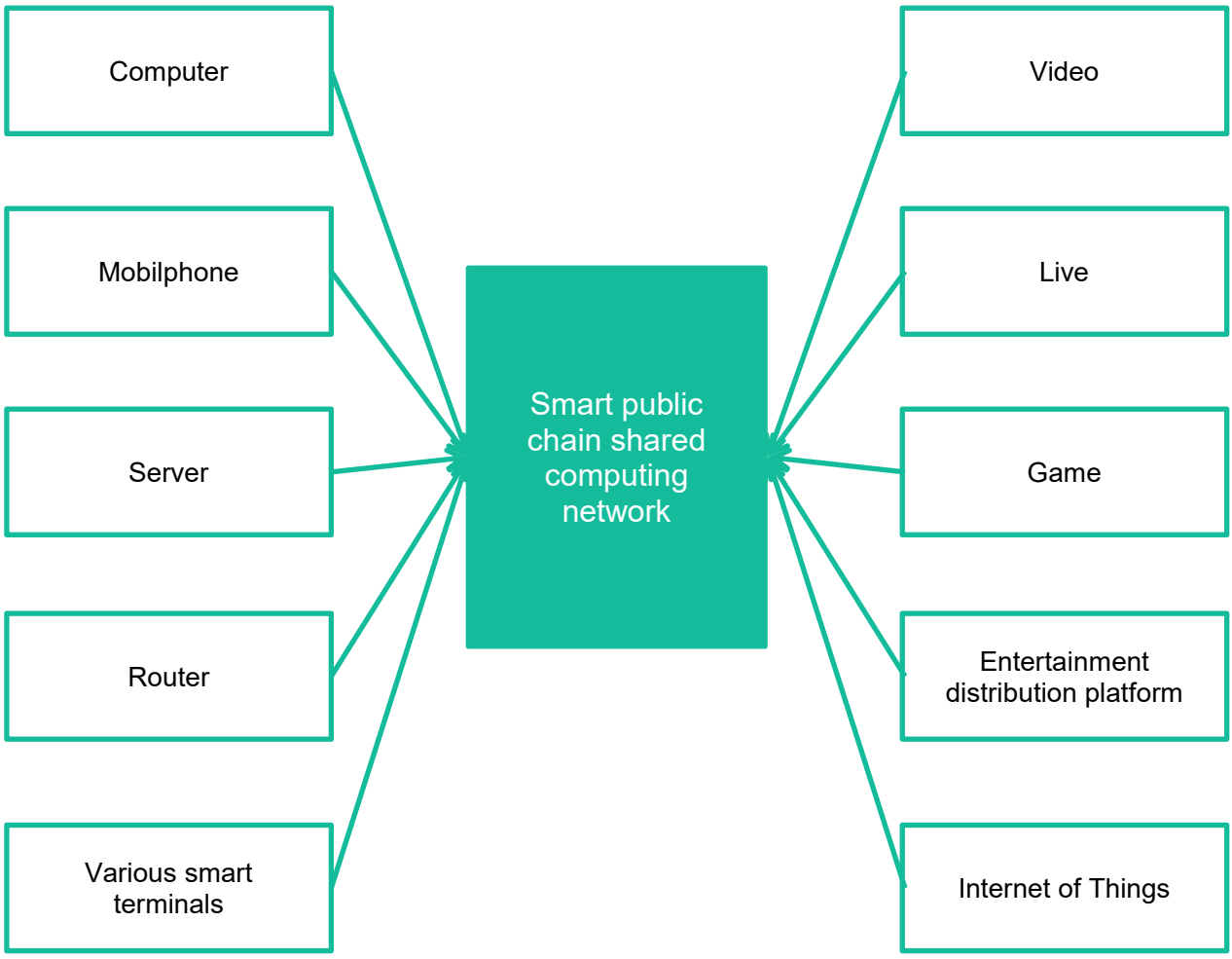
02

Smart Overview

2.1 Overview

Smart is a distributed computing network based on trusted certification, which uniformly schedules and distributes the scattered transmission capabilities, computing capabilities and storage capabilities in the network to users. Smart can make the already idle and redundant resources fully utilize their concurrent value, allowing users to use these resources more conveniently and at low cost.

Smart - the world's first truly commercial public chain.



Smart remains true to its original intention from beginning to end:

Mission: Smart' s mission is to lead mankind to realize an Internet of shared value.

Vision: To create an autonomous ecology that can be co-constructed, shared, shared and consensused, and a truly sustainable and commercial public chain that is endless.

Values: Strictly follow the spirit of the blockchain, create a truly pure public chain, realize a fair, just, open and transparent open ecosystem, advocate and practice the concept of maximizing the benefits of contributors, that is, miners first.

2.2 Organization

Development community: Technical team members are responsible for tasks such as design planning, mechanism discussion, code writing, and system maintenance;

Super node: Responsible for building the super node server. If you encounter problems during the use of the node, please choose to submit a bug report to the community. The code developers in the community will fix the bugs in an orderly manner according to the scope and importance of the bugs, and provide node user rewards in the form of HPC;

Funding institutions: SmartChain Foundation, DavosDao Foundation, and social investors;

Ecological community: members of the commercial ecosystem (resource contributors, resource consumers and commercial promotion contributors).

2.3 Milestones

- In 2017, a Smart ideological consensus was formed;
- Smart project was launched in September 2018;
- In June 2019, the Smart technical architecture design was completed;
- In October 2019, the design of Smart consensus mechanism POCA was completed;
- Implementation of Smart basic algorithm in May 2020;
- In June 2021, the Smart technology development code was completed;
- Smart code testing will be completed in September 2021;
- Smart passed internal testing in November 2021;
- In December 2021, the Smart mainnet will be launched, the wallet will be released, and some codes will be open source;
- 2022-2024, gradually open source all codes

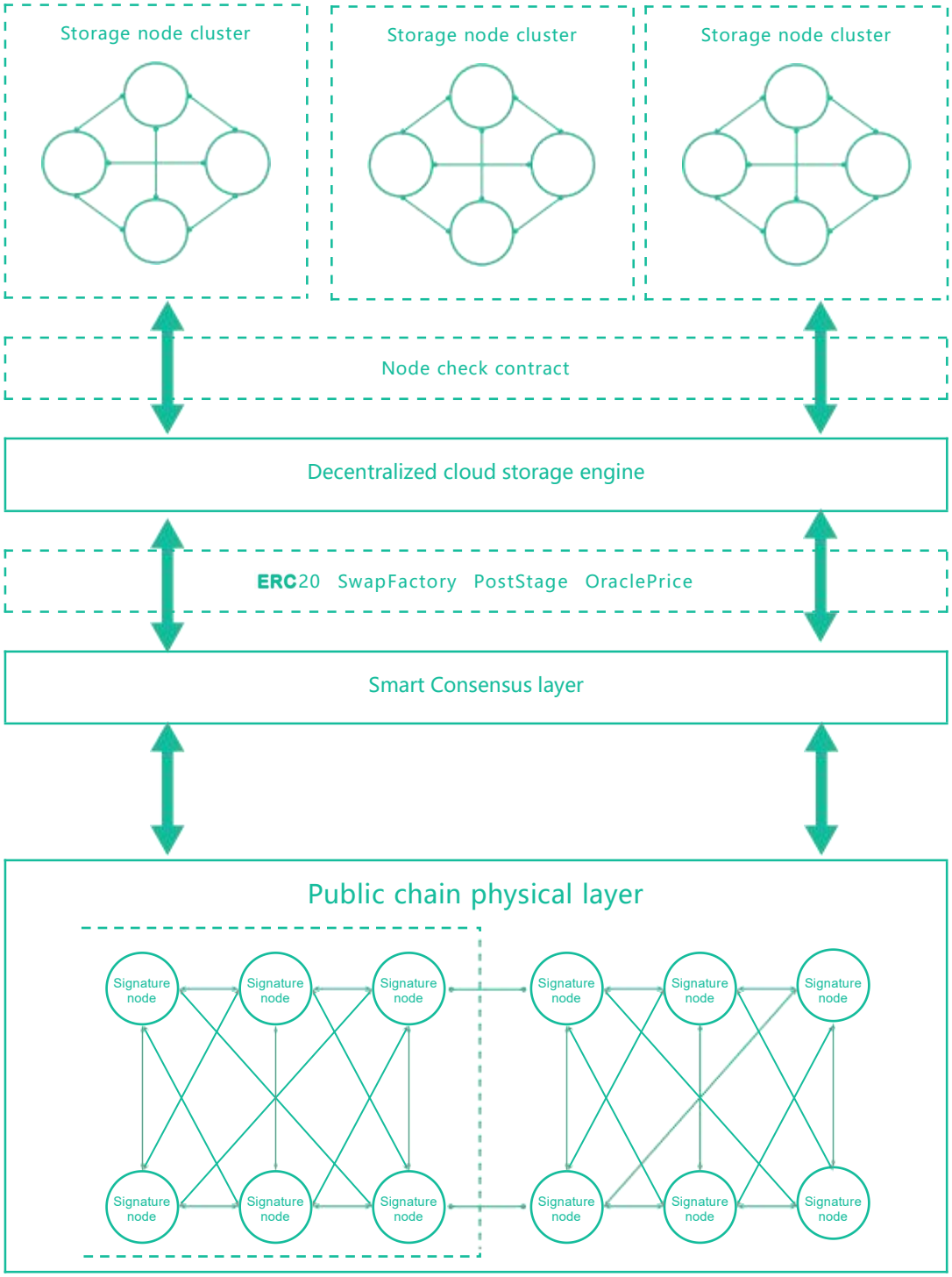
In the next two years, HPC will become a mainstream representative in the field of digital asset applications.

03

Key Technology

3.1 Smart architecture

The Smart public chain mainly includes three major modules: basic module, core module and interactive module. From bottom to top, it includes physical layer, network layer, consensus layer, contract layer and application layer.



Physical layer

It mainly describes the physical form of the public chain, which is a chain structure starting from the genesis block on the blockchain. The public chain is based on the Smart bottom layer. The entire network has multiple signature nodes based on the needs of the network scale. The signature nodes are responsible for the governance of the entire network. And block production management, other nodes need to be authorized and approved by the original signing node to join. The signature nodes have an elimination mechanism. For unqualified signature nodes, any signature node can initiate a vote to eliminate them.

Network layer

It includes P2P networking mechanism, data dissemination mechanism and data verification mechanism to realize basic networking and communication. Each node maintains a neighbor list to realize dynamic self-organizing network.

Consensus layer

POCA, which mainly encapsulates Smart network nodes, is based on zero-knowledge proof. Upper-layer nodes obtain signature node qualifications and are responsible for governing the network by providing proof of resource computing power. At the same time, based on state replication and voting algorithms, they take turns to produce blocks and obtain rewards. Lower-layer network nodes Ensure the effectiveness of equipment capabilities and actual contribution value to the entire network to obtain incentives. POCA is an algorithm that does not produce forks and has strong consistency. User transactions can be confirmed in seconds, ensuring the consistency of the underlying data while resisting the influence of malicious nodes.

Contract layer

It has programmable features, mainly including various scripts, codes, algorithm mechanisms and smart contracts. It is the programmable foundation of the Smart blockchain. Anyone can upload and execute any application, and the program can be run without going through a third party. Automatic execution is the basis for Smart to achieve trustlessness.

Application layer

Including a decentralized cloud storage engine, which can create decentralized storage and communication services by providing sharded and pluggable data storage engines. The cloud storage engine includes functions such as data storage, load balancing, retrying requests, and managing node connections. Based on a unique distributed cluster queue, it allows for increased vertical and horizontal expansion based on data needs, with features such as high probability, peer-to-peer replication, and consistency. When user data is uploaded to the network, it is broken into small chunks. Nodes know where a certain block is and can provide it to another user. The incentive model ensures that nodes are rewarded for the development, storage and dissemination of blocks or data.

3.2 Smart technology innovation

Blockchain is a collaborative technology that manages data based on a distributed ledger. The data or information has the characteristics of being unforgeable, leaving traces throughout the process, traceable, open and transparent, collectively maintained, and shared by multiple parties, thereby establishing a trust agreement. And this kind of trust is also needed for the value transfer of the Internet to realize the value Internet.In this way, blockchain technology assumes a very important and ever-changing public trust foundation in the Smart network system, thereby realizing that network resource capabilities can be shared and commercially used.

During the implementation of Smart Network, we have innovated and transformed many technologies and applications to combine the best combination of blockchain technology and network technology.

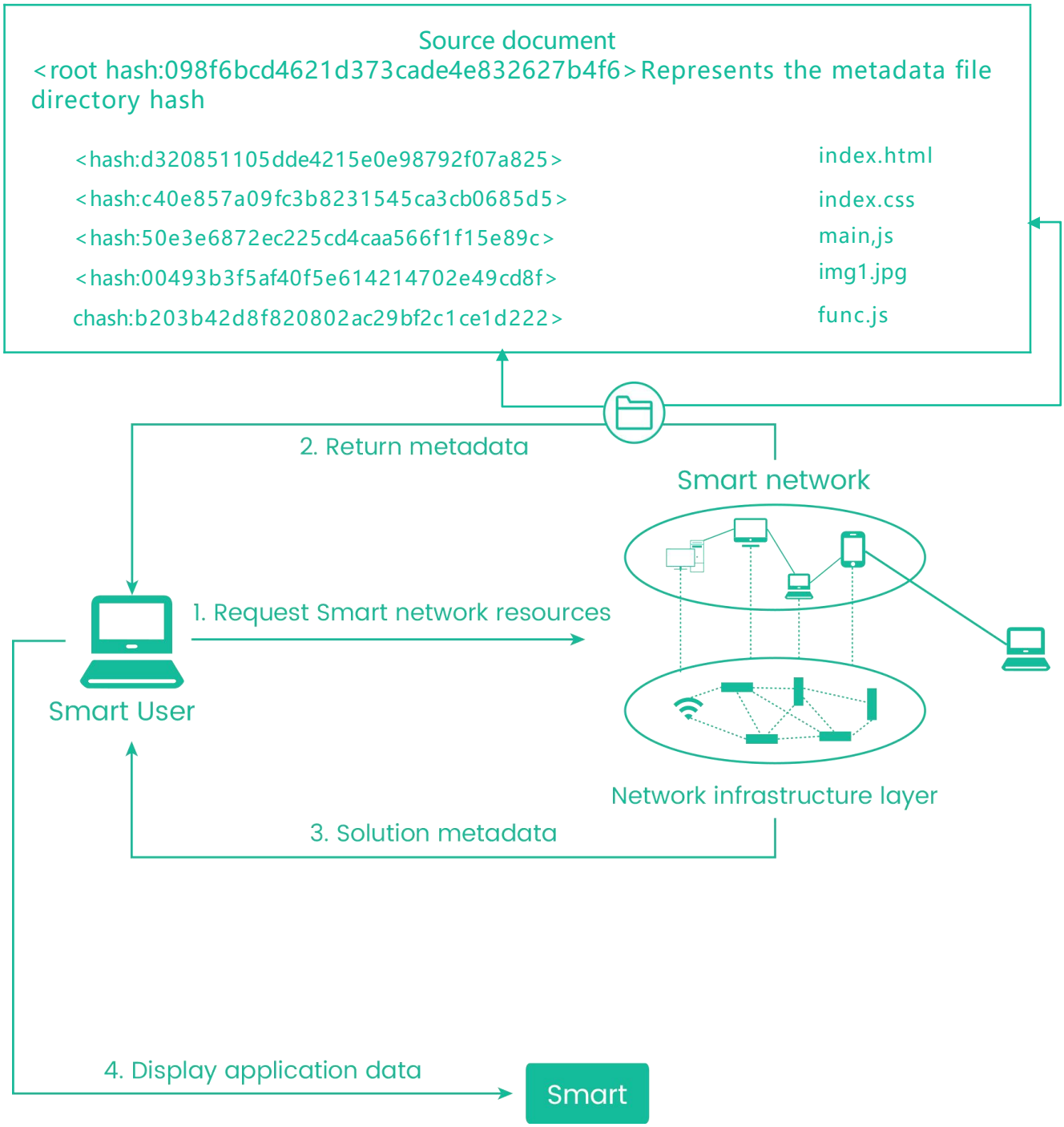
3.2.1 Distributed computing power allocation algorithm based on task slicing

In order to solve the problems of unreasonable task allocation and system load imbalance that are easily caused in distributed real-time tasks, based on the task slicing algorithm, the data routing, global index and sequence technologies of distributed tasks, as well as the weighted rotation task allocation mechanism,

can be Reasonably allocate and schedule tasks so that tasks can be processed and executed as quickly as possible, and also solve the problem of load pressure caused by different processing capabilities of network nodes.

3.2.2 Data signature mechanism based on distributed zero-knowledge proof

Smart Network's data signature mechanism based on distributed zero-knowledge proof is a distributed zero-knowledge proof solution that resists forged signatures by signers without increasing computational complexity. It generates blinding factors for transaction parties through the ECDH algorithm. A verifiable anonymous record is formed on the blockchain. The receiver can restore the blinding factor through algebraic calculations between the receiver's private key and the sender's public key. However, a third party cannot restore the blinding factor without the private keys of both parties. , that is, the transaction can be restored, but the third party cannot. Only the node itself or the relevant parties who have been granted rights can see the data and transaction information, and other nodes cannot operate the data. This achieves the purpose of hiding from third parties and achieving complete non-interactive data privacy protection.



3.2.3 P2P decentralized transmission network based on DHT

Due to the high freedom and dynamics of the Smart node self-organizing network, its topology is constantly changing. The P2P decentralized transmission network based on DHT disperses resource index hashes throughout the Smart network nodes, and information uniquely marked by key values is dispersedly stored in multiple nodes in accordance with special protocols. At the same time, routes are constantly reconstructed, and through the entire The stability factor

and minimum stable entropy value on the link are used to determine the link stability, and the desired active node is located and the data is obtained and accessed as quickly as possible. This can effectively avoid link stability problems and server failures. A single failure brings down the entire network.

3.2.4 Original POCA consensus suitable for high data volume

The Smart public chain achieves consensus through a multi-layer network architecture. The upper layer is based on zero-knowledge proof. It obtains signature node qualifications and is responsible for governing the network by providing proof of resource computing power. At the same time, it takes turns to produce blocks and obtain rewards based on state replication and voting algorithms. , lower network nodes receive incentives by actually participating in sharing computing power, bandwidth and storage resources.

This consensus will not produce chain forks and has strong consistency, making the consensus highly efficient and fault-tolerant. It can meet the needs of high-frequency transaction volume, supports high performance and high concurrency, and achieves second-level consensus verification and confirmation.

3.2.5 Mainstream blockchain smart contract programmable design

Smart Network is based on the Turing-complete programming script language of the blockchain, which can write smart contracts into the chain in digital form, and ensure that the entire process of storage, reading, and execution is transparent, traceable, and cannot be tampered with.

At the same time, a state machine system is built by the POCA consensus algorithm that comes with the Smart network, supporting various blockchain data structures and consensus protocols, so that smart contracts can run efficiently. It can avoid malicious behavior from interfering with the normal execution of the contract.

3.2.6 Content distribution and incentive mechanism based on effective data forwarding and construction nodes

Smart network is based on actual effective data forwarding and content distribution mechanism built by nodes. It fragments data files into small blocks and assigns them to participating nodes for storage. The nodes that provide effective storage and retrieval services for blocks never need storage and retrieval services. Nodes receive HPC (Hash Power Card) as a reward.

Smart has created a unique incentive system to promote resource exchange value and payment transfer for data storage and distribution, including computing incentives (to complete fast and reliable resource positioning), warehousing incentives (to ensure long-term storage of data), and bandwidth incentives (to complete fast and stable resource location). Data supply), discovery incentives (increasing the number of connections and order-taking capabilities of the node network), aiming to realize the value of user data, capitalize computing power, and establish a permissionless storage and communication foundation for the future self-sovereign digital society. facilities and serve a future self-sovereign data society.

3.3 Security mechanism

3.3.1 Fault Tolerance

Smart Network attempts to create a non-downtime, zero-failure and censorship -proof peer-to-peer storage and fast response computing service solution.

Creating an economic incentive system within the entire network will facilitate the payment and transfer of resource exchange value, provide distributed resource allocation and provide Internet development with the characteristics of resistance to DDoS attacks, zero downtime fault tolerance, strong censorship resistance and self-sustainment point-to-point. Storage and computing service solutions.

3.3.2 Recovery mechanism

Smart adopts a real-time disaster recovery backup mechanism, and each signature node saves the block data of the public chain. When a signature node is paralyzed due to a network attack, the fault tolerance mechanism will automatically temporarily isolate the paralyzed node from the network. At this time, the Smart network will proxy the signature node identity of the node to the backup node. After the node recovers from the attack, the data of the public chain will be synchronized to the node, and the signature right will be transferred from the backup node to the node.

3.3.3 Attack prevention

Due to the decentralized architecture of the Smart public chain, attacks on a small number of resource contributing nodes and ordinary nodes will have no impact on the entire network.

As for the signature nodes, if the signature point is blocked and attacked, the possibility of the Smart network being paralyzed by the blocking attack is very low; if the signature node is hijacked and attacked, the POCA consensus algorithm supports the 51% effective node principle, that is, if 51% of the signature nodes are normal, Smart The security of the network can be guaranteed. Smart Network will punish hijacked signature nodes and promptly isolate them from the governance network, so Smart Network can prevent large-scale network attacks.

3.3.4 Data security

Smart Network introduces the CA mechanism at the interface layer and uses heavy encryption algorithms to achieve authorized access to data on the chain. Support the interconnection and privacy protection of data within the chain based on encryption algorithms, and achieve data security protection at all levels through technical means such as electronic signatures, digital signatures, and transaction authentication with legal basis.

Various mainstream encryption algorithms are used to solve network security during data transmission, authentication security during access, physical storage security through distributed ledgers, and non-tamperable security of data on the chain.

At the same time, based on zero-knowledge proof and homomorphic hidden cryptography technology, through non-interactive privacy protection, the account address, transaction amount, transaction address and transaction data disclosed on the chain can be hidden and protected.

Consensus Mechanism

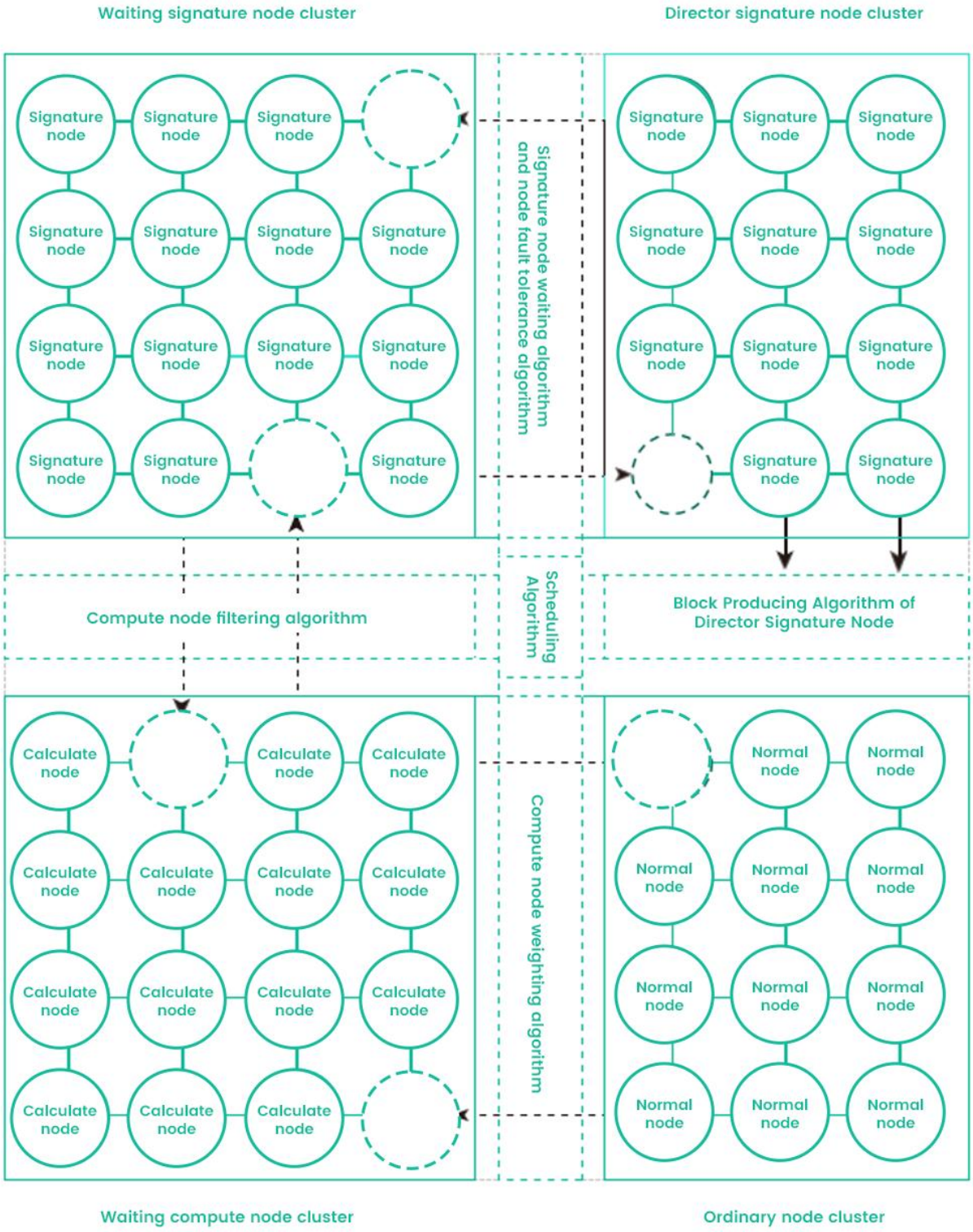
4.1 Consensus Algorithm (POCA)

The POCA consensus mechanism, whose full name is Proof of Competence Authority, is a new consensus algorithm based on zero-knowledge proof and proof of computing power validity.

Smart network POCA consensus mechanism achieves consensus through a two -layer network

1. The upper layer is based on zero-knowledge proof, obtains signature node qualifications by providing proof of resource computing power, and is responsible for governing the network. At the same time, based on the state replication and voting algorithm, blocks are produced and rewards are obtained in turns.

2. Lower network nodes receive incentives by actually participating in sharing computing power, bandwidth and storage resources.



As shown in the figure above: POCA consensus divides all nodes into four node clusters, namely director signature cluster, waiting signature node cluster, waiting computing node cluster and ordinary node cluster.

- The director signature node cluster is responsible for Smart public chain transaction verification and block generation.

- The waiting signature node cluster is used for data security backup and signature node waiting.
- The waiting computing node cluster is used for data security backup and waiting signature node backup.
- Ordinary node clusters are used for waiting for backup of computing nodes.

Smart uses a scheduling algorithm to control the identity empowerment of nodes, and ensures that nodes with strong computing power and stable online time become director signature nodes, participate in the governance of the Smart network, and ensure the overall performance of the network.

4.2 Consensus characteristics

In the Smart public chain ecosystem, we will use idle resource computing power to prove POCA as the consensus algorithm. Through this algorithm, those who provide computing resources in the Smart public chain can obtain the block rewards and benefits of the Smart public chain, and reward them for their contributions to the system.

This consensus will not produce chain forks and has strong consistency, making the consensus highly efficient and fault-tolerant. It can meet the needs of high-frequency transaction volume, supports high performance and high concurrency, and achieves second-level consensus verification and confirmation.

In public blockchain projects based on Proof of Work (PoW), the algorithm mainly rewards those participants who solve cryptographic puzzles while validating transactions and creating new blocks. The benefit of POCA is fairness, because it greatly increases the difficulty of node cheating. The main advantages include security, reduction of centralization risks and energy efficiency.

Proof of Consensus Mechanism (POCA) opens the door to the wider use of techniques designed with game theory mechanisms to better prevent centralized cartels from forming and, if they do form, acting in ways that are

harmful to the network. The risk of concentration is reduced as economies of scale are far less problematic.

4.3 Incentive mechanism

Computing power driver card: HPC（Hash Power Card）
Output quantity: 210 million pieces
Block:
Halving cycle: once every 4 years

SmartChain provides users with computing power certification cards, referred to as HPC, as a value medium within the business ecosystem. It is used to measure resource sharers' resource capability certification and resource utilization value. It is a program-defined symbol built into the Smart blockchain network. In addition to having a maximum supply limit, HPC will eliminate the miner role to ensure that HPC cannot be issued at will by centralized people. At the same time, HPC has a halving output mechanism. When the contract goes online for a certain period, the overall reward of the entire network will be halved.

The block height when the contract is released is the starting block. The current block height minus the starting block is the total running time Tt. The system's fixed automatic issuance time is Tm. The initial mining amount of the system is S0. Calculate the current The mining volume is S0*T -m/2Tt, and the current total supply of HPC is St=S0+S1+.....+St. The Smart network aims to provide liquidity or solve the problem of insufficient storage network consumption when the network goes online. Problem, traffic blocks will be periodically provided to the network by special nodes. The HPC for this particular node can be derived directly from AutoMine.

Smart network does not set a fixed output ratio and output time of HPC, but is based on the dynamic service network status and increases with network demand. For example, when the network usage is less than 30%, a node can obtain 10 files by storing 10 files. 2 HPC income, but when the network usage reaches more than 50%, a node receives 50 files and gets 3 HPC income; when the network usage reaches 100%, the income will also be reduced by serving the

same number of files, but the cumulative service The larger the quantity, the greater the benefits will be.

Its features: Fast block generation (<10s), large amount of data in a single block (>20Mb), high TPS (>20000/s). It has strong scalability, high data security, and the consensus algorithm is safe and reliable.

4.4 HPC usage rules

HPC is designed to allow our community members to use it to purchase network resource capabilities for shared access.

Importantly, HPC will become a productive asset that derives real value from the growth of our protocol and the markets created through our protocol.

Governance

Holders of HPC can vote on protocol parameters such as transaction fees and the price of computing resources. We believe this is the key to the future development of Smart networks. By holding HPC, HPC holders will maintain and promote the development of the Smart Network.

Excitation

HPC is also awarded to node members who contribute to the Smart ecosystem. Providing Smart with more computing power resource liquidity is one way to gain more HPC ownership.

4.5 Discuss use cases

4.5.1 Who will receive HPC?

Any node that provides network computing capabilities can have HPC;
Members who contribute to Smart ecological construction and commercial output can own HPC;

4.5.2 What can you get by paying HPC?

Paying HPC in the Smart ecosystem can be used to gain access to network resource computing power

4.5.3 How to circulate HPC?

In the Smart ecosystem, those who demand network resource computing power will need to pay HPC to meet their needs, and members with network resource computing power will receive appropriate HPC rewards.

The inherent characteristic of HPC is to generate value realization through its circulation.

Business Ecology

5.1 Role

In the Smart network system, participating business roles are mainly divided into the following three categories:

Resource Requester (User)

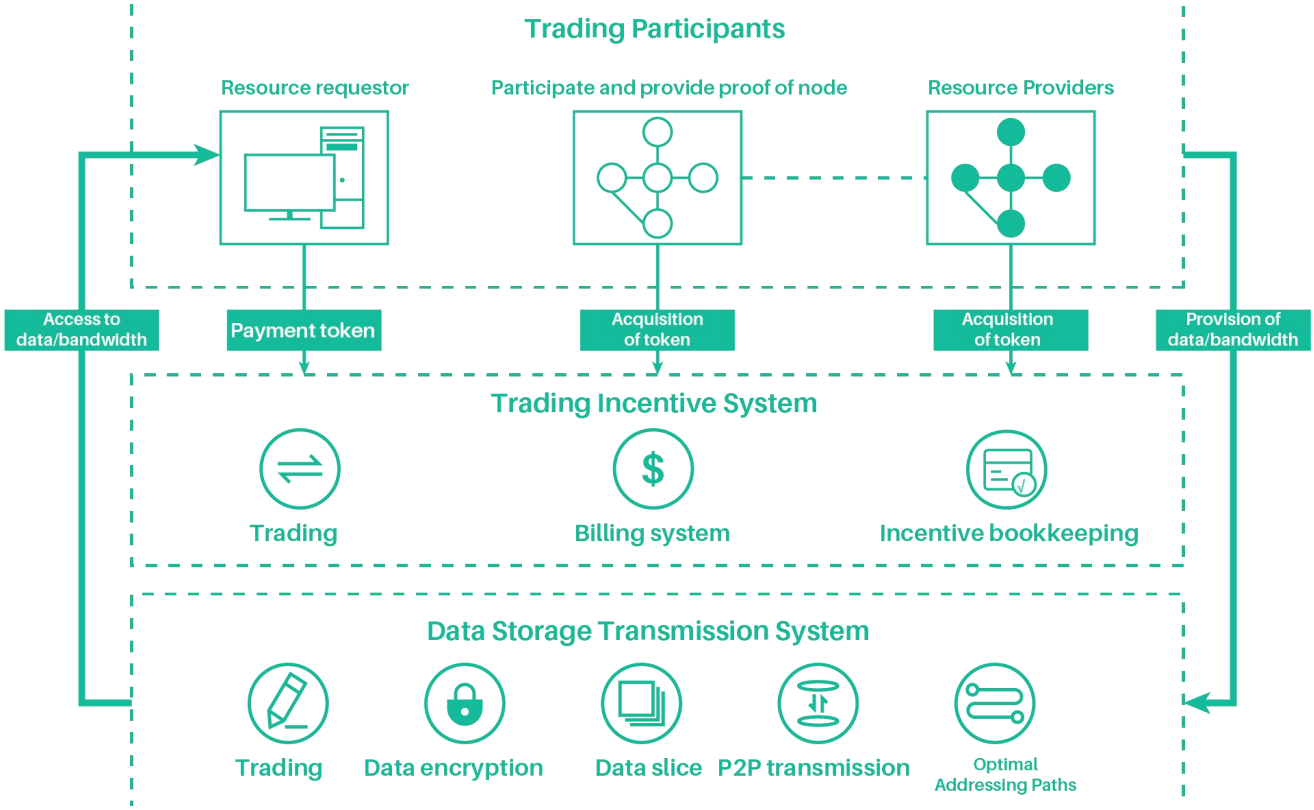
Refers to the users of network resource computing capabilities, that is, users. Users make resource usage requests in the Smart network system and pay a certain fee using HPC to obtain the allocation of network resource capabilities.

Resource Provider

Refers to providers of network resource capabilities who share their own network transmission capabilities, computing capabilities, and storage capabilities. When these resource capabilities are proven and called in the network system, you can obtain HPC rewards.

Signature node (Authenticator)

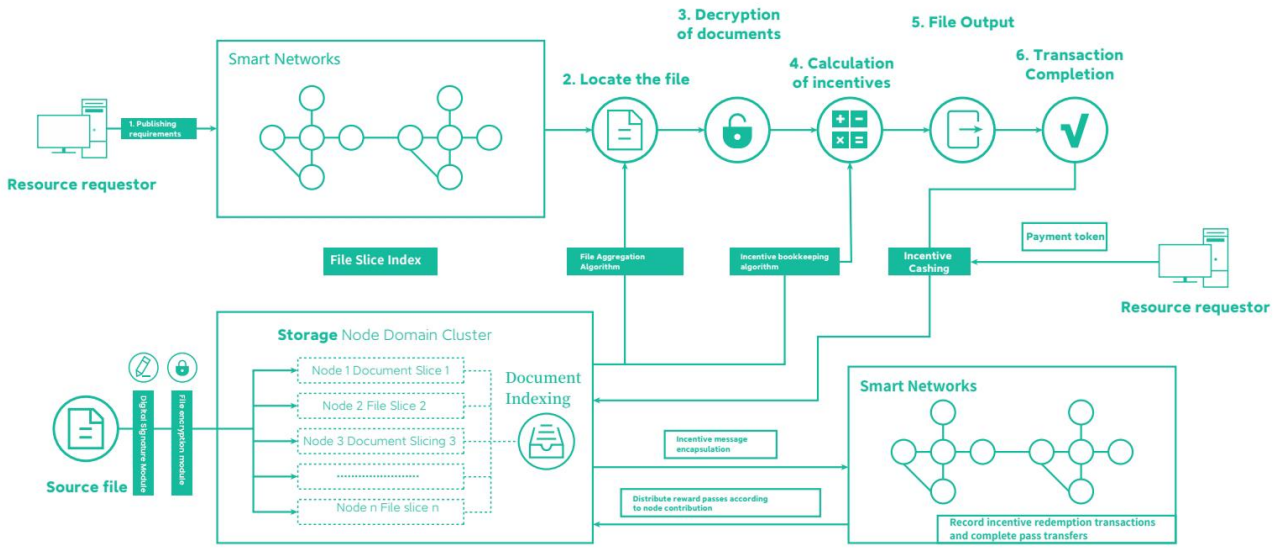
Responsible for network-wide governance and block production management, and taking turns to produce blocks and receive rewards based on state replication and voting algorithms. The signature nodes have an elimination mechanism. For unqualified signature nodes, any signature node can initiate a vote to eliminate them.



5.2 Transaction process

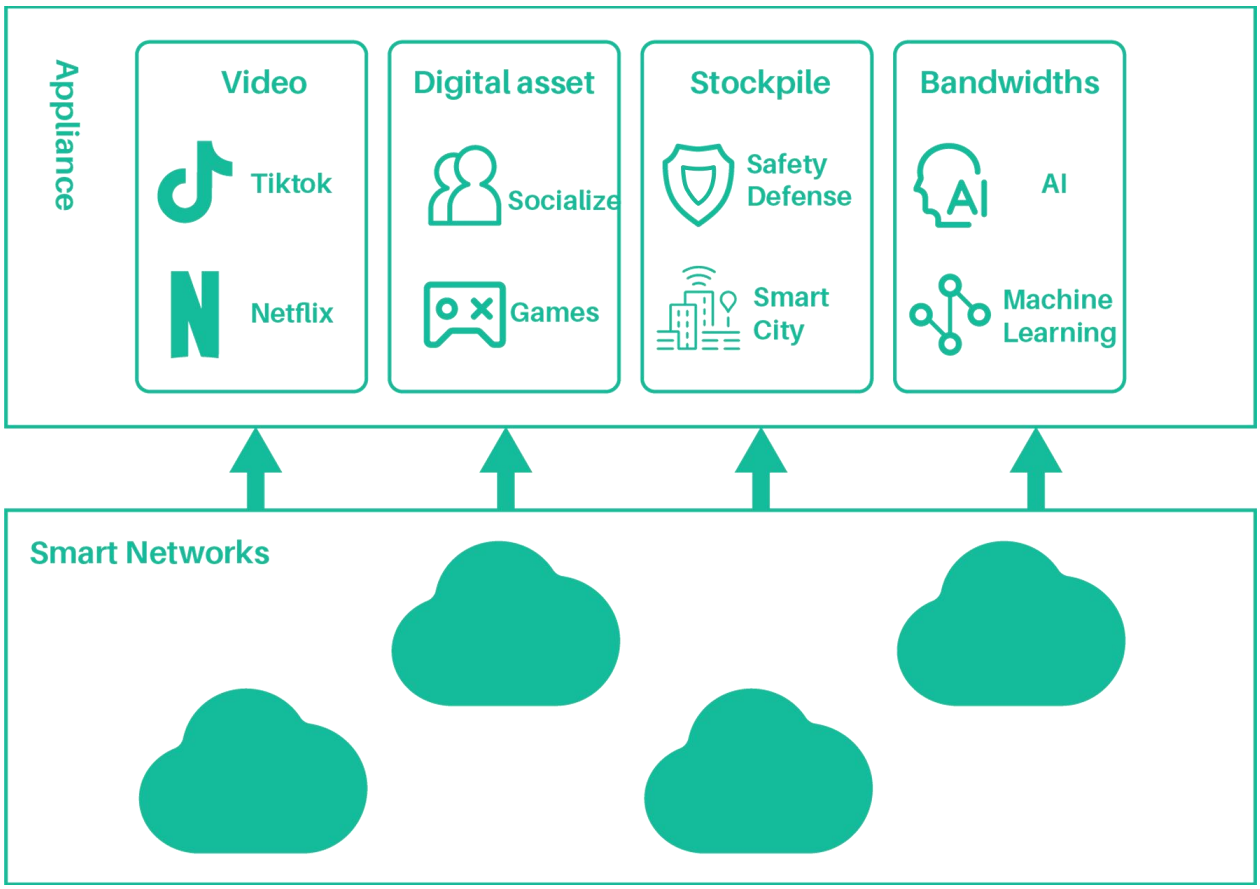
Smart completes the sharing of network computing resources and the transaction process in which resources are called and allocated.

The transaction process is to form a huge distributed network with idle computing power contributed by users distributed in different areas. Through certain rules, the assigned tasks are dispersed and packaged into tiny tasks. At the same time, tens of thousands of computing resources are available to complete the tasks. During the task assignment process, the reward value is calculated through the incentive ledger algorithm, and the rewards are distributed according to the node contribution, and the transaction is completed by HPC transfer.



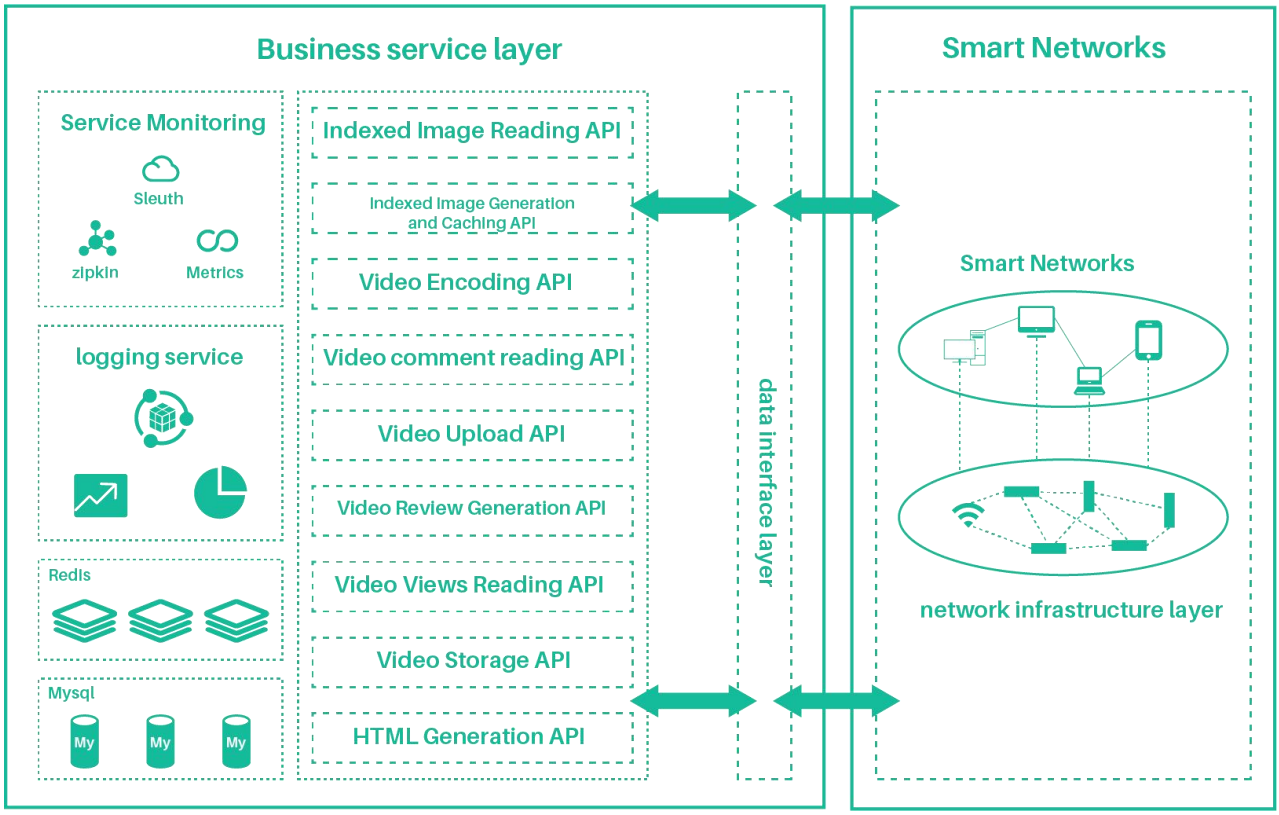
5.3 Application scenarios

Smart's aggregated network resource computing capabilities can provide institutions and individuals with a variety of application services such as video playback, social media and online games, big data storage and traffic distribution.



5.4 Application access

Smart provides a standard application access interface API, which can meet a very rich set of big data processing services.



06

Information & Prompts

6.1 Information disclosure and feedback

Smart Chain information disclosure channels:
Technical support and feedback:
Blockchain browser:

6.2 Information prompts

At present, the regulatory policies of various local governments on the application of blockchain technology are not clear, and there is a certain possibility of losses to participants due to policy reasons;

On the other hand, malicious speculation in the virtual digital currency market continues, which may affect price fluctuations in the secondary circulation market, so there is a certain investment risk.

At the same time, due to the anonymity and difficulty of traceability of digital assets, there is the possibility of being exploited by criminals, such as illegal asset transfers, hacker attacks and other criminal activities.

In addition to the above risks, since digital asset investment is a new field, there may still be other risks that have not been mentioned or anticipated.

Based on the above risk analysis, investors are requested to fully understand its actual application value and investment return guarantee before participating.

6.3 Disclaimer

This document is a conceptual document expounded by Smart Public Chain and is not intended to sell or solicit shares, securities or other regulated products of companies related to the tender.

This document does not constitute a prospectus or any other form of standardized contractual document and does not constitute a solicitation or

solicitation of investment advice in securities or any other regulated products in any jurisdiction.

Any information or analysis presented in this document does not constitute a recommendation to participate in any investment decision, and no specific recommendation will be made.

The Smart team is not responsible for any direct or indirect asset losses caused by participating in this project. This document may be modified or replaced at any time, but we have no obligation to update this version of the white paper or provide readers with additional information.

Regarding SCC

The details of the additional issuance are as follows:

- Total additional issuance: 1,000,000,000,000,000,000
- Additional issuance time: March 7, 2025
- Purpose of additional issuance:
- Support technology development and application implementation
- Strengthen community construction and market promotion
- Enhance ecological liquidity and support partner programs
- Allocation method:
- 50% for technology development
- 15% for ecological incentives
- 20% for liquidity support
- 15% for strategic cooperation

This additional issuance will strictly follow the principles of transparency, fairness and sustainability, and all tokens will be released in succession as planned to ensure the long-term and healthy development of the community and ecology. We will also regularly announce the use of funds and invite the community to monitor.

SmartChain Coin Team

March 7, 2025

SMART CHAIN

DISTRIBUTED STORAGE AND COMPUTING