AGLC White Paper

Agriculture linkchain Serving agricultural infrastructure and related groups from the source

CATALOGUE

1. The Development history of blockchain

Blockchain is a sequence of data blocks generated by correlating cryptography, each containing information about all transactions on the Bitcoin network in the last ten minutes, to verify the authenticity of its information and generate the next block. Overall, it is a technical solution for collectively maintaining a reliable database in a decentralized and de-trusted way. The technical solution allows any number of nodes participating in the system to maintain and share data on all information exchanged over a period of time, compute, and record it into a block by means of a cryptographic algorithm, and generate a unique ID for the block that can be used to link and verify the previous block, with all participating nodes of the system jointly determining whether the record is authentic or not.

1.1 Bitcoin

Blockchain and Bitcoin were born in 2008. There is no doubt that Bitcoin is the most successful application case of blockchain technology so far. The reliability of blockchain technology is also supported by the 8+ years of existence to date. The birth of Bitcoin is accompanied by the birth of blockchain. Bitcoin is an effective combination of Applied Mathematics and financial fields. It is a distributed database (P2P characteristics). It adopts the pow consensus mechanism, and the digital signature adopts the elliptic curve asymmetric cryptosystem.

1.2 Ethereum

In 2013, VitalikButerin, a Canadian genius, released the Ethereum white paper. After more than a year of development, Ethereum released it in 2015. Ethereum tried to build a Turing complete world computer, which could not only circulate currency, but also execute programs and construct smart contracts. In short,

Ethereum is an innovation that applies some technologies and concepts in Bitcoin to the field of computing. Bitcoin is considered a system that maintains a shared account book that securely records all Bitcoin bills. Ethereum uses many mechanisms similar to Bitcoin (such as blockchain technology and P2P network) to maintain a shared computing platform, which can flexibly and safely run any program users want. Essentially, the goal of ethereum is to bring the three characteristics of blockchain technology, namely decentralization, openness, and security of blockchain technology to almost any area that can be counted.

1.3 ChainLink

LINK is an ERC20 standardized token based on the ethereum blockchain and is used to pay Chainlink node operators to retrieve data from off-chain data, format the data into a blockchain-readable format, off-chain calculations, and guarantee uptime. Chainlink tokens are used as part of an operational node to prevent undesirable participants. The first decentralized Oracle network, allowing anyone to securely provide smart contracts, access to critical external data, offline payments, and any other API functionality. Any user with a data feed, offline service (such as local payment), or any other API can directly offer it to a smart contract in exchange for a link token. Chainlink network is a distributed network of chainlink nodes, which directly transmits the use of specific data, API, and various offline payment functions to smart contracts.

The chainlink network consists of two independent parts, on chain and out chain, which must interact to provide services. The network is built in such a way that it can be upgraded, so it can replace its different components as better technologies and technologies emerge. The on-chain components of the network filter Oracle through service level agreement (SLA) based on the measurement of one party's request of smart contract. Using these metrics, chainlink collects responses to SLA queries, sorts them using reputation and aggregation models, and provides the final aggregate results of chainlink queries that may be implemented into smart contracts.

The out of chain components of the network consist of Oracle nodes connected to the Ethereum network, which independently collect responses to offline requests. These off-chain nodes can be located in any industry. For example, the off-chain nodes operated by the New York stock exchange can provide real-time and accurate transaction information for the chainlink network, or the off-chain nodes of the visa network can solve the transaction and interact with consumers and suppliers through the chainlink network. Chainlink technology is designed to integrate nodes from all of these industries into a common network

that itself acts as a (low-cost) middleman to interpret and distribute data correctly as needed. The chainlink system will ensure that the results from the Oracle are accurate and allow the oracle to remain independent of the data they provide.

Any data, payment, electronic signature or other API providers and individual developers can easily join the chainlink network by connecting their familiar API to the network. Once the API is connected to the chainlink, the user becomes the chainlink node operator, and is responsible for connecting the API to the chainlink network. To motivate operators to provide API information, they are compensated in the link token to successfully complete the online link request. The project currently provides a fully distributed Oracle network compatible with Bitcoin, Ethereum, and Hyperledger. Other blockchains are expected to be supported in the future, which will allow cross chain connections between smart contracts and any other public or private chains, allowing anyone in the world to use the chainlink network, regardless of its platform. All service providers will be able to safely provide smart contracts to access critical external data and possibly even non-chain payments.

2. The Exploration of Blockchain Application

Blockchain's attempts to establish decentralized credit are no longer limited to the financial sector, but are now being watched by all sectors of society, especially in China, where some centralized credit, such as the Red Cross, is currently in a "collapsed" state. Blockchain can provide a new idea and technical options for social management. At present, blockchain has made new progress in the Internet of things, intellectual property, cloud computing, decentralized organization, and other fields.

2.1 Digital Currency

Generally speaking, there are two types of digital currency, one is non-cryptocurrency (i.e. digital gold currency, such as e-gold, and company issued currency, such as XRP), and the other is cryptocurrency, which is the

cryptocurrency similar to Bitcoin that we are discussing now.

The use of cryptocurrency has the following advantages: free to pay; anytime and anywhere can instantly pay and receive any amount of funds. There are no bank holidays, no borders, no restrictions imposed. Bitcoin allows its users complete control of their money. At present, there is no handling charge or only a very small handling charge when compared with the special currency payment. Users can include the handling fee in the transaction to obtain the processing priority and receive the transaction confirmation from the network more quickly. Reduce the risk for merchants. Bitcoin transactions are secure, irreversible, and do not contain sensitive or personal information of customers.

2.2 Digital Assets

Digital assets refer to the non-monetary assets owned or controlled by enterprises, existing in the form of electronic data, held for sale in daily activities or in the production process. In our life, Spending your money directly in Paypal is a common way of using digital assets, an electronic payment system.. In addition, we often use the Internet for office work, online stock trading, reading books online or playing video and audio, all of which are using digital assets.. The use of blockchain digital assets has the following advantages: 1) De-trusting. Through the distributed system of blockchain, trust between people is transferred to trust in machines. 2) De-centralized nature. Today, it is a waste of time and money to go through a lot of procedures and go through different departments in order to transfer your shares. Blockchain technology, with the addition of electronic contracts, eliminates this problem. 3) High transparency. What we are most afraid of is opaque information and incomplete disclosure of some assets, which blockchain technology can solve. 4) Anonymization. We often accidentally go "naked" on the Internet, where our information is sold at a price to unscrupulous companies, or... I remember a journalist exposing a person's records for hundreds of dollars.

2.3. Digital Identity

In the course of our current economic activity, the state has created a universal identity by legal means, by mapping our living persons into codes, which become digital identities. It has also agreed on the relationship between property and the rights and interests of natural persons through, for example,

property rights laws. In the blockchain, digital identity services must first be built, for example, using unique characteristics such as fingerprints, on which smart contracts and the Internet of Things can be developed.

2.4. Smart Contract

Smart contracts have a separate code that specifies the basis for execution of the contract, and theoretically, contracts need an arbitration platform. For example, Ethereum, with Turing's well-established virtual machine EVM, allows users to build smart contracts without any third-party trusted code at all, whereas Rootstock requires an arbitration federation called 50% trust. Again, this arbitration is not a living person arbitrating the code. Furthermore, it is undeniable that smart contracts must be classified as law-related behavior. We live in a world governed and controlled by law, and all possible economic transactions are governed and controlled by law. Contract law is only one possible tool for organizing economic transactions.

3. The Concept and Application of Defi

From decentralized finance, defi is the abbreviation of this phrase. The goal of defi is to build a transparent financial system that is open to all without permission and without relying on third parties. Such as lending, trading, payment, and derivatives. It is open finance, which is also brought about by the infrastructure of the blockchain, and is inspired by Bitcoin. Its most important features are verifiability and transparency. With blockchain, people can verify

every transaction that happens on it, which also brings transparency.

3.1 Defi concept

DeFi is an acronym for Decentralized Finance, also known as Open Finance, which actually refers to the decentralized protocols used to build open financial systems designed to allow anyone in the world to conduct financial activities anytime, anywhere.

DeFi aims to build a transparent, accessible and inclusive peer-to-peer financial system through a distributed open source protocol that minimizes the risk of trust and makes it easier and more convenient for participants to access finance.

3.2 Advantages of defi

In a sense, Bitcoin or other cryptocurrencies can be seen as the first phase of defi. Defi's security, transparency, and the ability of financial institutions to prevent market manipulation will make great contributions to ensure more users, thus leading the birth of distributed reciprocal finance, and the application of encrypted assets will quickly land.

The principle of defi is to provide a new financial services ecosystem for everyone in the world without permission from any central authority.

Defi features are as follows:

1. Users act as their own custodians.

2. Full control of personal assets.

3. Full ownership and permission to access all non-intermediary market platforms.

3.3 Oracle Machine

Oracle is the infrastructure at the bottom of the blockchain world. Blockchain cannot initiate network calls actively. Most blockchain projects need Oracle to realize data interaction with the external world to obtain real information and data in the real world.

Operation principle of Oracle: when a smart contract on the blockchain has data

interaction requirements, the Oracle will help the smart contract collect external data outside the chain after receiving the demand, and then feedback the obtained data back to the smart contract on the chain after verification. "

Why does blockchain need oracle?

Smart contracts and decentralized applications (DAPP) on the blockchain have interactive requirements for external data.

Blockchain is a closed environment, and the real-world data outside the chain cannot be obtained on the chain. This is mainly because the blockchain cannot initiate network calls actively, while the smart contract on the chain passively receives data. Secondly, the smart contract is not "intelligent", it only reaches the trigger state when the corresponding conditions are met. At the same time, the final execution of the smart contract requires the private key of the contract participants to sign, and the smart contract itself cannot be automatically executed.

When the trigger condition of the smart contract depends on the information outside the blockchain, the information needs to be written into the records in the blockchain first. At this time, the Oracle is needed to provide the information outside the blockchain.

The blockchain is a consensus-based network, and the smart contracts it runs require a deterministic process, where every node must reach the same state after every transaction and block has been processed. But the data itself is complex and diverse, which is why, in order to fit into the consensus mechanism of the blockchain, in addition to collecting data, there is a data validation step before the final "deterministic" information is fed back to the smart contract.Oracle solves the problem of smart contract by getting input from outside the blockchain (through external data feed and API), and triggers the output on external system by signing the statement about the state of the world under the chain, to effectively make the smart contract aware and connected externally. Smart contracts cannot take the initiative to obtain data outside the chain, so they can only passively accept data, therefore blockchain needs oracle.

4. Blockchain + Agriculture

Traditional agriculture is a type of small-scale production in which land is the basic means of production and the farming household is the basic unit of production. In modern agriculture, farm households participate extensively in specialized production and the social division of labour, joining various specialized cooperative organizations, and carrying out industrialized agricultural business activities.

4.1 Development Bottleneck of Traditional Agriculture

In the period of rapid industrialization and urbanization, agriculture is facing the risk of being ignored or weakened. We must pay more attention to the synchronous and coordinated development of agricultural modernization, industrialization and urbanization. After summary and analysis, there are still many problems in agricultural development, mainly in the following aspects: land, especially cultivated land resources are decreasing; cultivated land quality is deteriorating; agricultural surplus labor force is too much; the production cost of agricultural products is rising, the income is declining, and the comparative advantage of agriculture is weak; the lack of water resources and pollution and other serious problems

4.2 Development prospect of blockchain + agriculture

At present, many companies have seen the wide application prospect of blockchain in the agricultural field, and have begun to explore the application of "blockchain + agriculture". With the Internet and Internet identity technology, every product information produced by the manufacturer is recorded in the blockchain, and the real life track of each commodity can be formed in the blockchain. Through their own intelligent terminal, consumers can track the dynamic of each product in real time, so as to ensure the transparency of the consumption process. The essence of blockchain + agriculture is to build an autonomous traceability closed system through blockchain technology, implement the strategic combination of "blockchain + agriculture", open the new door of "big data agriculture", and provide agricultural services such as

production, circulation, operation, financial services and personnel training In order to promote the transformation and upgrading of agriculture to informatization and science and technology, optimize the agricultural supply side, and improve the efficiency and quality of agricultural operation.

4. 3 Defi Technology Solution

In recent years, food safety crises (food poisoning, mad cow disease, foot-and-mouth disease, avian influenza and other animal diseases, severe emphasis on residual drugs of agricultural products, proliferation of imported food materials, etc.) have seriously affected people's health and caused widespread concern around the world. How to effectively track and trace food has become an extremely urgent global issue. COVID-19 globally outbroken ! The import and export of aquatic meat has become an important source of the second outbreak of the epidemic. Food safety is related to the safety of more than 6 billion people in the world!

Defi Oracle is a kind of one-way digital agent, which can find and verify the real-world data, and submit the information to the smart contract in an encrypted way. The Oracle is like a third-party data agent in the blockchain world.

For example, suppose that the "data source" in the real world and the "data interface" in the blockchain are two countries that use different languages, and the Oracle is the translator in the middle. The Oracle smart contract can communicate with the data outside the chain without obstacles.

In the actual use of smart contract, Oracle is needed to verify the data. Because blockchain is also a consensus-based system, the running smart contract also requires a deterministic program. This step of data verification by Oracle is to fit in with consensus mechanism, so that the final data fed back to smart contract is also "deterministic". It can perfectly solve the problem of traceability of agricultural and sideline products

In the production, supply and marketing of agricultural and sideline products (including planting and breeding, production, circulation, sales and catering services, etc.), food quality and safety and its related information can be traced (production source consumption terminal) or backward (consumption terminal production source), so that the whole production and operation of food is always under effective monitoring. The system can clarify the responsibilities, especially the respective responsibilities of the management subject and the subject under management, and effectively dispose the food that does not meet the safety standards, so as to ensure the food quality and safety.

5. Agriculture Linkchain

The history of agricultural development is also the history of human progress. As a new stage of agricultural development in the future, functional agriculture supports the goal of high ecological value of agriculture and opens a new era of "eating", that is, from "full" and "safe" to "healthy". AGLC agricultural traceability chain combines blockchain defi technology with traditional agriculture, bases itself on Southeast Asia and radiates the world. It is committed to providing healthy diet for every resident of the earth and promoting better agricultural and sideline products into every family in the world!

5.1 Project background

With social progress and economic development, health has become the theme of people's life. People's demand for agricultural products and food has not only stayed in the stage of solving food and clothing and ensuring safety, but also has higher requirements, hoping that it can be functional, nutritious, and healthy. Agricultural and sideline products are the basis and premise of food production, which is related to people's livelihood and the stability of the world. However, in recent years, the quality and safety problems of agricultural and sideline products occur frequently, which leads to the disorder of market order, and consumers increasingly dare not believe the market, we need a trust mechanism to ensure the quality and safety of agricultural and sideline products and the rights and interests of producers and consumers.

5.2 Project Mechanism

With the maturity of blockchain infrastructure such as Ethereum, the demand for real-world data of blockchain projects is gradually increasing. Blockchain developers are starting to step out of the small number of prediction markets and focus on a broader market, the upstream of the prediction market, the Oracle field. Typical Oracle projects include chainlink and DOS network.
AGLC is equivalent to a decentralized application layer software on Ethereum. Users create forecast events, and all participants in the market can bet on such events or transfer their bet shares. After the prediction results are obtained, the winner can get token reward. In addition, AGLC has the function of Oracle, whether it is the creator of prediction project or oracle
Results providers need to hold AGLC token to participate.

5.3 Development Planning

October 2019Proposal and establishment of AGLC agricultural traceability chain

March 2020
Global outbreak AGLC cooperates with agricultural breeders in ASEAN countries to establish traceability framework

May 2020

AGLC contract deployment, Eth and Tron cross chain deployment

October 2020

Open AGLC mining mechanism

March 2121
Establishing AGLC global agricultural chain tracing ecology

August 2121
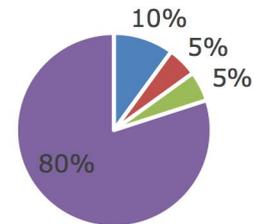Establishment of decentralized financial system in AGLC

5.4 Pass distribution

Total AGLC: 90,000,000

Team: 9,000,000 (10%)
Early investors: 4,500,000 (5%)
Private placement: 4,500,000 (5%)
Liquidity Mining: 72,000,000 (80%)

6. Risk tips

Agricultural traceability chain token is abbreviated as AGLC. Although the digital assets based on blockchain are already very secure and the private key can control everything by powerful cryptography, there is still a risk of loss. Private key data files are often lost. When the AGLC held is collective, a multi signature solution should be considered. Multi signature requires multiple signatures to pay, thus ensuring the security of funds. The key of multi signature should be stored in different places and controlled by different people.

7. Disclaimer

7.1 Disclaimer of liability

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