HD

Hardcore

HD White Paper

HD WHITE BOOK

Table of Contents

Summary

From the beginning of human beings crossing the obscurity and entering the clan society, human society is highly centralized, which brings effective guarantees for the inconvenience of transportation and the relatively simple period of social structure. However, since the 20th century, the birth of the Internet has prompted human beings to formally step into globalization. The development of centralized society has gradually entered a bottleneck, and the trust gap between people has expanded. We can't help but begin to reflect on how to change the existing centralized society. Disadvantages.

The birth of blockchain technology in 2008 has fundamentally changed the centralized credit creation method, and transformed the trust model from personal trust and institutional trust to machine trust, let us see the hope of social progress. If the emergence of the Internet has established the era of information interconnection, and the emergence of the blockchain has opened the era of the information interconnection era to the value interconnection era, this is an unstoppable trend of a new era.

HARDCORE discovered the huge commercial value of "blockchain+" with a unique business vision, and attached the blockchain to the auction industry. Based on the decentralization and non-tamperability of blockchain technology, a new traceable auction was created. The system aims to create a global value measurement platform for physical assets and virtual assets.

一、Foreword

1.1 Business background

The blockchain has developed since the beginning of the 21st century and is one of the most promising and imaginative technological innovations in the world. In the history of human development, I have experienced three industrial revolutions. For the first time, the invention of the steam engine is used as a symbol to replace the manual labor. The second time, with the breakthrough of electric energy, the application and the invention of the internal combustion engine, directly promote human access to electrification. The third time, marked by the invention and application of electronic computers, nuclear energy, space technology, and bioengineering, not only promoted the tremendous changes in human society, but also profoundly affected the way of life and thinking of human beings. Every industrial revolution has brought enormous productivity enhancement to human society, and the production relationship, which is one of the factors of production, has not changed so much. It is still a centralized organization from the top down and the pyramid level. The centralized organization inevitably faces the problem of difficulty in efficiency improvement caused by complex business and various levels. Since the beginning of the 21st century, the blockchain has been decentralized and de-trusted. It can realize peer-to-peer exchange of values   and is called the value Internet. It is the most potential and imaginative one in the world. Technological innovation.

In the field of digital currency, Bitcoin has become the world's highest-value

digital asset. As the underlying technology, the blockchain, with its own expandability, has expanded its territory in the past few years, from digital currency to back-end assets, credit, and The financial sector, such as stocks and private placements, is moving forward. Looking into the future, with the further application of the blockchain in the fields of civil and political affairs such as notarization, arbitration, logistics, supervision, etc., it may even fundamentally change the way of life and collaboration in modern society, let human society enter the era of real Internet of things, and finally Form an intelligent programmable society. Technological advances give rise to opportunities and business opportunities, and technology is perfect and needs to be iteratively transformed in the application. At present, while technology has significantly improved people's living standards and happiness index, it has also spawned many problems that hinder social development and progress, such as corruption, cyber fraud, P2P running, information disclosure, and counterfeit products. Through the blockchain technology, the above problems can be solved. People release the information to the blockchain, so that the flow of funds, the true and false transactions, etc. are verified by the whole people. Once verified, the transaction information cannot be tampered with and the information is completely public. The truth cannot be concealed. In this way, the entire society will be more transparent and fair.

The Internet will make the interaction between the world more and more frequent, accompanied by a huge trust gap. The existing mainstream data technology architectures are private and centralized, and in this architecture, the

problem of value transfer and mutual trust can never be solved. Therefore, blockchain technology is likely to become the next-generation database architecture. Through decentralization technology, the algorithm and global mutual trust that can be completed on the basis of big data will be greatly improved. Not only the advancement and transformation of new technology index, digitization and combination, but also the value of leading the digitalization of assets will appear in front of us. Blockchain technology will not only be applied to the financial payment field, but will be expanded. In all areas, such as decentralized social, gaming, educational, etc., because the blockchain will enable humans to collaborate on a large scale in a geographically untrusted, trustworthy way. The future has come and the changes are imminent.

1.2 Market environment

The new wave of technological revolution and industrial transformation is sweeping the globe, and the digital economy is profoundly changing people's production and lifestyle. As the frontier of Internet technology, blockchain technology and application have attracted wide attention from governments, finance, education and other countries around the world. Trusted digital technology represented by blockchain is creating new and more application scenarios because Blockchain technology innovations, many traditional industries have more possibilities.

According to statistics, as of the beginning of 2016, 917 blockchain companies have been born in the world, and the global investment in blockchain has exceeded

10 billion yuan, represented by Citibank and Nasdaq. The various industry giants have even rushed into the laboratory stage to conduct exploratory application practice research in blockchains in multiple scenarios. Other research forces, such as professional consulting services and academic research institutions around the world, are also paying close attention to blockchain technology and its development trend. The blockchain has accelerated from the "grassroots power" into the public's field of vision. The development of the blockchain industry to the present is at the stage of industrial landing. Returning to the rational blockchain market, along with the demise of most projects, a small part of the project will continue to promote the blockchain.

The decentralization concept of the blockchain gradually subverts the traditional business concept, and it has exerted great influence in the world in a short time. Who can take the lead in finding application scenarios and launching in the heat wave of "blockchain application"? Landing projects have become the most important part of the blockchain competition. As the scientific research process continues to accelerate and policy support continues to increase, the tangible or intangible value asset traceability system is accelerating, and traceability anti-counterfeiting is also considered to be one of the most promising blockchain areas, and is a giant. They are vying for the first field of blockchain technology.

At present, traceability applications are highly centralized. The information of commodities has problems such as information tampering and the possibility of loss. In the traditional auction system, no matter who is the central party, it exists as

a stakeholder. Unfavorable information, tampering or destruction will emerge in an endless stream.

With a unique business vision, HARDCORE attaches the blockchain to the auction industry. Based on the decentralization and non-tamperability of blockchain technology, we use the unique and non-tamperable distributed ledger record feature of the blockchain to create a brand new The traceability auction system aims to create a global value measurement platform for physical assets and virtual assets.

1.3 Business progress

Last year, the Department of Circulation Industry Development of the Ministry of Commerce and the China Auction Industry Association released the "China Auction Industry Development Report (2017)" in Beijing. The report shows that in 2017, the auction industry was basically stable, with a total of 734.635 billion yuan in auction sales nationwide, an increase of 41.49% over the same period of last year. This is the annual auction transaction volume that has exceeded 700 billion yuan since 2013.

Based on the decentralization and non-tamperability of blockchain technology, we use the unique non-tamperable distributed ledger recording feature of blockchain to create a new traceability auction system. On this basis, the information traceability of the auction parties in the consumption process, anti-counterfeiting verification, become more real and accurate; technology developers quickly and efficiently use the blockchain to develop cloud service collection, to solve the "trustworthy" auctioneers and buyers problem. The

characteristics of the blockchain technology have a natural match with the traceability characteristics. The introduction of the blockchain can solve the problem of information islands. Multiple stakeholders can set rules in advance to realize data intercommunication and information sharing.

The current HARDCORE combined blockchain + platform auction application has become one of the world's largest landing application scenarios. In the field of platform auctions, with the increase of digital currency heat and the increase of currency application, HARDCORE platform auction came into being under this environment. Combining the world's hottest blockchain technology with its strong background in strength, we are determined to change the current global platform auction environment. The digitalization of assets has become a trend in the future. HARDCORE is committed to actively expanding its global business with new business models and value returns through the blockchain technology innovation field for the global platform of portal services.

二、 HARDCORE project introduction

2.1 Project positioning

Through the blockchain underlying technology + smart contracts, Hardcore aims to create a global value asset and virtual asset value measurement platform, HD is the only certificate issued on the platform for the entire ecological construction, pledge, voting, Dividends, auctions, etc. The total amount of HD is issued at 10 billion, and 10% of the transfer amount is automatically destroyed by the smart contract every time the chain is transferred until it is destroyed to 100 million pieces. Through the clever design of the deflation model, the community consensus and ecological construction are always higher than the speed of token issuance, and the comprehensive transcendence from the underlying technology to the certificate model to the ecological layout is realized.

2.2 Dutch auction scheme

Dutch auctions are also known as "price reduction auctions". The auction bids are deducted from high to low until the first bidder's bid (at or above the reserve price). A reduced-price auction usually starts at a very high price, and sometimes there is no one bidding. At this time, the price is decremented from high to low by a predetermined price reduction ladder until a bidder is willing to accept it. If two or more bidders are simultaneously priced, they will be transferred to the auction form. In most of the reduced-price auctions, there are actually many bids. Because discounted auctions are often used in auctions where there are multiple qualities, such as differences in quality, the first bidder with the highest bid can buy all the

items, but often only buy the best of them at the highest price. Then the auction continues, the price drops, and when another bidder is willing to accept the bid, he also has the same choice, and also buys the best of the rest, and then the auction continues. In this case, although the bidders are silent for most of the time, there is indeed continuous competition among the bidders. The biggest advantage of the price reduction auction is that the transaction process is particularly rapid, especially the use of the dial-type silent auction method, which makes the auction process mechanized and electronic, and the transaction speed is greatly accelerated. However, the process of declining bidding often leads bidders to wait and see, and hopes that prices will continue to decrease, so the competitive atmosphere on the spot is not warm enough.

The HARDCORE blockchain network has its own official certificate called HD. The Foundation will initially use the auction mechanism to distribute HD to all global registered participants who meet regulatory requirements. The auction will be conducted on the HARDCORE blockchain through a listing partner.

1、　Why use an auction to issue a pass?

We believe that the value of the HARDCORE public blockchain should be determined through the market, including the "HD" agent.

We have found that auctions, especially Dutch auctions, have two main reasons for achieving this kind of fairness. First, in every auction, every person who buys HD buys at the same price; second, the price is determined by the market.

The HD auction house also has the advantage of high efficiency and high

transparency. Efficiency: Our auctions are conducted online and can be accessed in real time by users around the world. Users who temporarily lose their connection to the network can re-enter the auction and continue to participate. In terms of transparency: HD auctions are transparent; each auction is placed on the blockchain so that anyone can verify that the auction is proceeding properly.

A. Efficiency

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B. Transparency

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2.、Master plan

Use ETH as the auction access deposit. The total amount of each round of auction is calculated according to the market conditions, from high to low bidding, until the quota is all finished, the lowest price of all bids is the transaction price. After the end of each round, it will be issued according to the lowest price of the auction and the amount of each account.

3、the specific program

Each round of auction starts to set the starting price (20% higher than the market price), and cuts the price by 2% every two minutes until the end of the filming, and does not set the lowest price;

Users need to transfer ETH to the platform in advance and wait for the start of the shoot;

At the end of each round of auction, the transaction will be carried out at the lowest price, and the HD will be issued according to the amount of all the buyers;

The first round of auction quota is determined according to the market heat. The starting price is determined by the market price, and the upward fluctuation does not exceed 20%; the starting time is Greenwich 0 time zone, 8:00 to 6:00;

In the later period, we will increase the participation of all community members, and we will give no more than 10% of the auction quota to community members to participate in our auction;

At the same time, more and more valuable virtual assets and physical assets will be auctioned in HD on the platform in HD.

Ordinary investors can get direct invitees to participate in the Dutch auction to get an additional bonus of 5% of the HD score.

Coupons can get rewards by applying for a partner through the official website to meet one of the following conditions.

Ordinary partners: More than 200 people in the community or 30-50 ETHs or more, and get an extra bonus of 15% of the HD score.

Senior Partner: The number of people in the community is more than 300 or the individual invests in 50 ETH or more, and receives an additional bonus of 20% of the HD quota.

2.3 token allocation plan and usage plan

The digital currency HD is the native encrypted digital token issued by HARDCORE. The first phase will be generated on Ethereum based on smart contracts, and the second phase will be self-generated based on its own public chain and will serve as the sole underlying digital currency for the HARDCORE public chain for settlement, trading, and smart contract fulfillment.

The digital currency HD totals 10 billion pieces and was created by the HARDCORE Foundation. The total amount of the HD has been set and cannot be changed. It cannot be issued but will be reduced by 10% each time according to the transfer amount. Digital currency HD is allocated to different holders according to certain rules and proportions, of which market start-up and risk reserve fund is 1 billion; 1 billion project development fund is released on average in 36 months; 1 billion ecological fund; It is not limited to a variety of auction methods for Dutch auctions.

Market start-up and risk reserve 10%

Project Development Fund 10%

Ecological fund 10%

Auction 70%
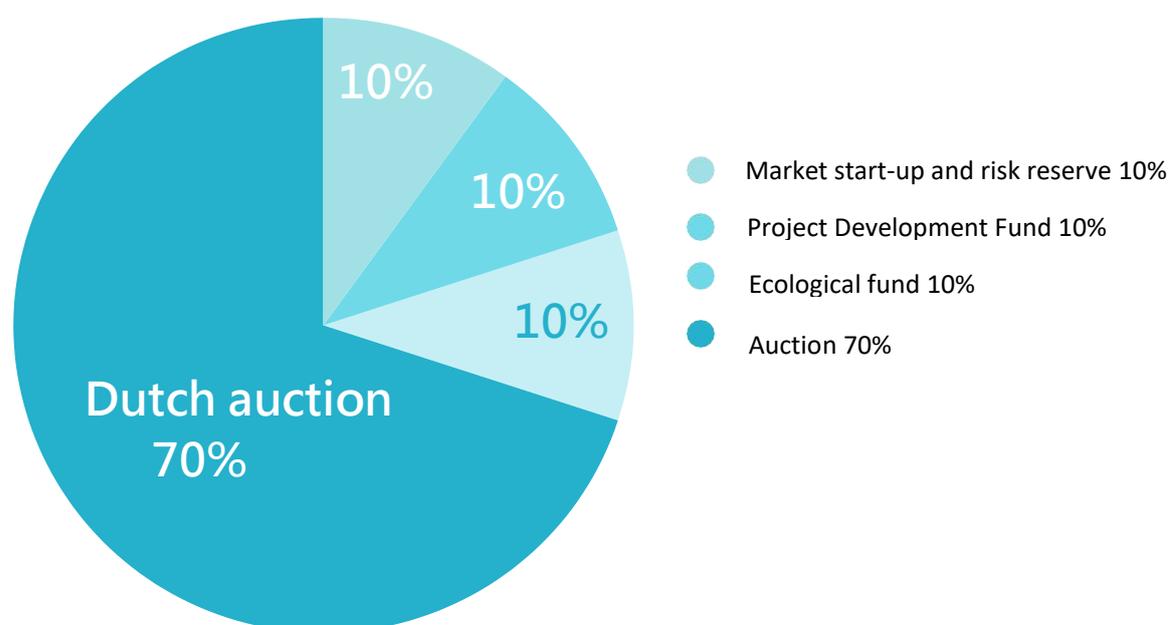
(1) Project Development Fund 1 billion

HD's design mechanism effectively avoids inflation, and the deflation model design of smart contracts enables each participant to discover its value as quickly as possible. We will adopt gradual release measures. The total amount of CS is limited. As time goes by, more and more people participate, and the difficulty of obtaining is getting bigger and bigger. HD will become more and more difficult to hold; users can participate in relevant nodes. Plan and activate the HD Reward Program to perform HD missions.

(2) Market start-up and risk reserve of 1 billion

In order to open up the market and involve more users, we plan the market start-up and risk reserve; the use of this part of the funds is expected to be a 500 million risk reserve. Another 500 million reserved part of the token as the starting capital of the project; rewards for community creation, management and maintenance, and related project service personnel remuneration:

The market announced 100 million: airdrop candy

Partner 400 million: Creation of the group reward

Media announcement

Celebrity big v endorsement

Exchange White List Credit Reward

Other required initial funding such as data platforms

(3) Ecological construction fund planning 1 billion

All the tokens of the initial ecological construction fund will be used for

Mingwang website construction agreement bonus, exchange cooperation coin bonus, mine pool cooperation bonus, blockchain industry star construction super master bonus and market data platform display bonus; all The reserved funds will disclose the account information to the community.

(4) 7 billion is put on the market in the form of an auction

The HARDCORE project ecology is designed to resist inflation, protect human private property, and build a benchmark of value. In order to make HD an encrypted digital asset that is freely circulated around the world, we will construct a decentralized auction platform that uses HD as a circulation certificate. In order to facilitate the efficient implementation of the project, we will invest the remaining 70% of the funds in the HARDCORE auction site; including but not limited to: HARDCORE Global Launch Foundation partner recruitment, HD commercial auction platform and the destruction of tokens And other related construction. The specific plan is as follows:

Public chain construction: 561 million

HARDCORE Global Launch Foundation Partner Recruitment: 1 billion

HD commercial auction platform: 2 billion

Debt payment of tokens: 3.439 billion

(5) Smart contract guarantee commitment

Smart Contract Guarantee: The project party promises to guarantee the security of the corresponding investment principal for each investor. The degree of recognition of the investment in the project determines the proportion of the

amount of investment that can be redeemed. According to each investor, there are three time points from the date of investment to apply for redemption of the principal.
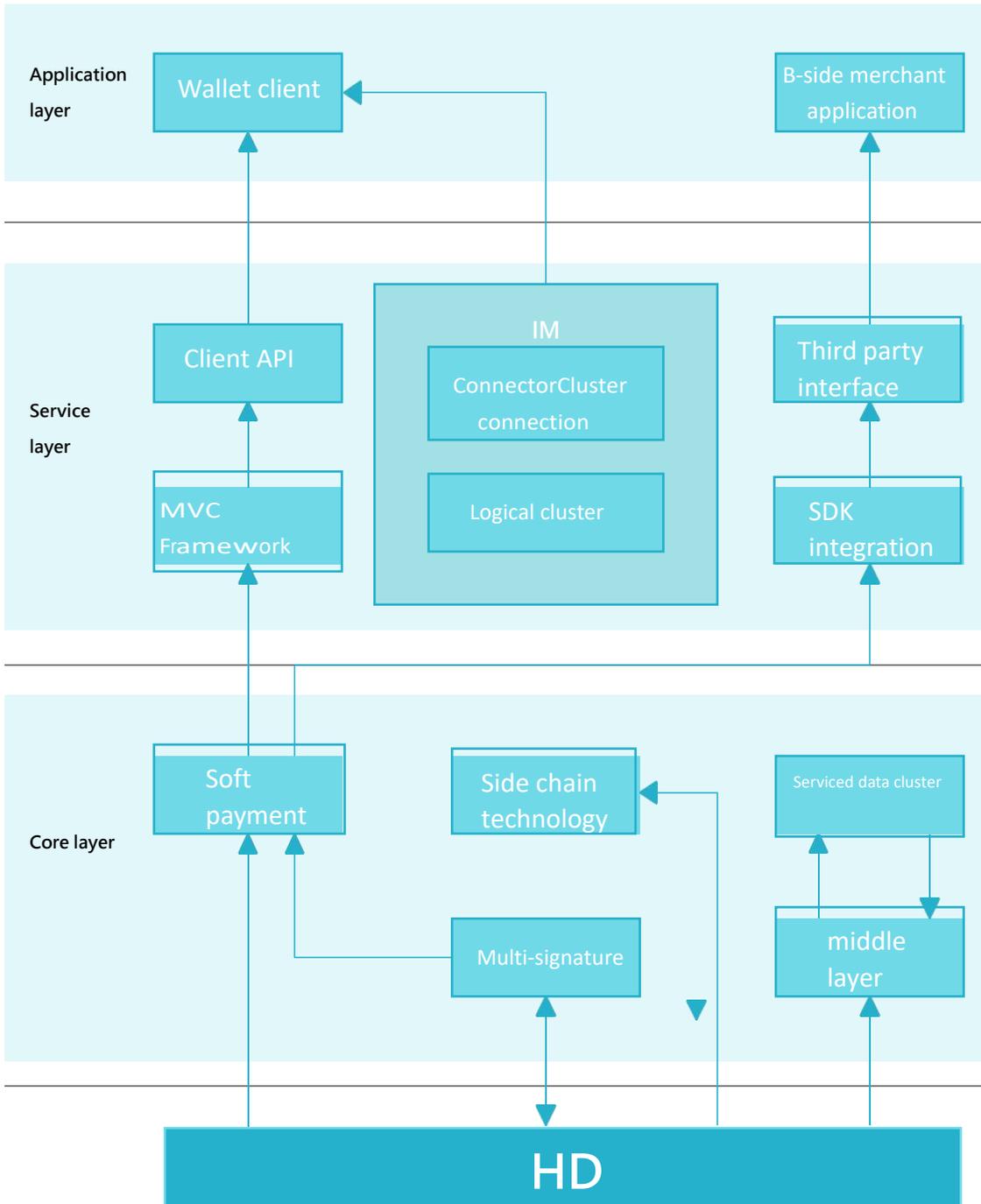
1) Within one week from the date of investment to three months, you can apply for a refund of 60% of the investment principal.

2) Within one week from the date of investment to 6 months, you can apply for a refund of 70% of the investment principal.

3) From the date of investment to the month after 12 months, you can apply for a refund of 80% of the investment principal. To redeem the principal, two conditions must be met. One is that the investor will return all the tokens obtained from the project side, and the other is to participate in the ecological project development fund.

If the investor is unable to return all the tokens, the principal will not be refunded. Investors are required to apply for the return of the principal within the specified time. If the system exceeds the prescribed limit, the system will default to the development of the approved project, and will not be refunded thereafter. All contract systems are automatically executed and open for inspection.

三、HARDCORE overall architecture

3.1 HDToken Basic Framework

It is divided into three layers: core layer, service layer and application layer. The architecture diagram is as follows:

Application layer

Wallet client

B-side merchant application

Service layer

Client API

IM

ConnectorCluster connection

Logical cluster

Third party interface

MVC Framework

SDK integration

Core layer

Soft payment

Side chain technology

Serviced data cluster

Multi-signature

middle layer

HD

Broadcast, core layer: The blockchain part consisting of the blockchain node and

the message network realizes the wide channel of transaction data and realizes fast transaction. Provide data storage for IM services.

Service layer: This layer uses the MVC architecture for the business scenario to separate the client and the B-side merchant service: the corresponding API interface is provided for the wallet client; and the integrated SDK is provided for the B-side merchant application to facilitate the third-party docking call. For the IM part, this layer provides corresponding processing logic to carry the interaction between the read and write of the application layer IM and the core layer data cluster.

Application layer: This layer provides distributed account-based application services to end users, such as wallet for currency digital assets, transactions, third-party application docking SDK write transactions, and so on.

3.2 derivative technology

From a financial point of view, cryptocurrency is essentially an independent economy. In today's decentralized and centralized financial game, the establishment of a cash flow channel that allows cryptocurrencies to be continuously exchanged for global legal tender has become the key to decentralized financial success. HD takes the blockchain as the core, and based on the blockchain, it forms a decentralized network trading platform token through intelligent contracts, realizing the instant exchange between monetary assets and real assets to digital assets. They support cross-trading of new trading pairs, get the best price and increase liquidity.

For all HD transactions, the payment channel is only one channel that exists on both sides. The channel links the assets of both parties. For example, when one party pays the ownership of another HD, the door of the channel will choose to open or close. Once the gate is opened, it A fully valid signed transaction that is not broadcast will be used and these transactions will be sent back and forth between the parties. These are on each side of the channel and represent the balance of each party in all token transactions. These transactions will use multiple signature addresses as their input (funds address) and they will point to two different address outputs, each controlled by a party to the payment channel.

The actual exchange of the two assets is through atomic exchange, a decentralized, no-third-party new technology that enables peer-to-peer transactions between different types of digital assets without trust, either in a point-to-point transaction that is completed in an instant. Compliance with the agreement, and if one party withdraws, funds will be returned to the parties' accounts at the specified time. Atomic interchanges can be used with slightly modified HTLCs, which can be found here, and the ETC20 token token interchange description is also supported here by the Thunderbolt network.

In short, using the BTC / ETH example, when real-time bitcoin flows from exchange A to the B-share payment channel B and the exchange B's public chain, the real-time exchange blockchain payment channel A. Atomic exchange with special HTLC ensures The atomicity of the exchange: either the exchange is completely completed, or nothing happens.

Payment Channel Atomic Exchange Technology is a fairly novel technology that has recently been successfully tested between Bitcoin and Ethereum, Bitcoin and Zcash, and Bitcoin and Litecoin. In the future, the technology will be further developed to achieve full compatibility between different HTLCs in different chains.

For example, HD is a blockchain-based smart contract technology, and the blockchain contains all ERC20 tokens, so it is foreseeable that HD supports most of today's token markets. HD is expected to develop lightning/lightning payment channel technology in the coming months. You can explore how to support certain options in the short term, such as through the ERC20 packaging technology.

四、 General model design

4.1 Deflation model design

(1) Market background

Since the financial crisis in 2008, most countries in the world have adopted loose monetary policies to alleviate their debts and stimulate demand. The most direct manifestation of this policy is inflation, which can be used to visually identify all legal tenders held. The decline in purchasing power. In the short run, inflation can increase the rate of money flow and drive demand growth. But in the long run, it dilutes the value of the currency held by the public and will ultimately harm the interests of ordinary people. And group speculation may accelerate this process and create hyperinflation.

In the blockchain market, most of the current project parties will adopt the lock-up test token issuing mode, which will lock in a certain period of time. The locked tokens are not allowed to be traded in the market, and the trading can be unlocked after expiration. This model has a very obvious flaw. When the market has an estimated value for the number of existing digital currencies, the digital currency released by the locked warehouse dilutes the existing value, which is why the value of most digital currencies is lower.

(2) Model design

In order to solve the market pain point and ensure the interests of all users who hold HD, we have established a new deflation model destruction-reward model. This model has two characteristics; one is that each time through the blockchain

transfer will destroy 10%, which makes HD in a state of natural contraction; in addition, in the process of token destruction, the actual destruction in each time period The quantity is only 8%; these 2% of the undestroyed tokens, 1.5% will be used to reward the top ten users, and 0.5% will be used to reward all participants who contribute to the ecology.

4.2 Incentive mechanism

The subtlety of the entire project-based model design is:

First, we use the Dutch auction sales method, so that the first-time people get the most initiative, get the maximum amount, and enjoy the same preferential price as other bidders.

Second, the security of the guarantee principal executed by the smart contract guarantees the investor's rights and interests. If the project development is not recognized, the application can redeem the principal. At present, the market is in chaos and the national policy is unclear. The project also bears huge risks while creating value. We will continue to comb the business model, optimize the top-level design, and maximize the benefits of investors through blockchain smart contracts.

Third, the natural deflationary state, when the possession of the pass is destroyed by transfer, the longer the holding time is, the higher the token value is. At the same time, the user who compensates for the loss caused by the destruction is 15% of the total destruction. Incentives; Finally, in order to motivate the participation of the eco-platform, rewards will be awarded in accordance with relevant rules.

The specific rules are as follows:

(1) We start with a period of about 10 days, starting at 1 every month and ending on the day before the next day (except for the 31st). For example, starting on the 1st of this month, the day before the 11th is the 10th, 24th, a statistical cycle, the user who transfers the top ten will be rewarded. The specific reward ratio is:

First place Second place Third place fourth place the fifth place

25%	20%	15%	10%	8%

Sixth place Seventh place eight place Ninth place Tenth place

7%	6%	4%	3%	2%

(2) 0.5 is the average reward for the next round of participation in the Netherlands to shoot the ninth, the nineteenth, twenty-ninth and so on. The specific rules are as follows: Based on the round of Dutch auctions that ended in statistics, this part of the award is distributed equally to the next round of users who participated in the Dutch auction.

If there are less than 9 participants in this round of bidding, the reward will be postponed to the next round. If the number of people participating in the auction is less than 19, one person will win this award. If there are a large number of

participants, all the nine users will be divided equally.

(3) The first issue of 10 billion will be transferred to the team of 1 billion, the ecological 1 billion, the airdrop 1 billion, the Netherlands to shoot 7 billion in a total of 4 wallets, according to the deflation and destruction mechanism, the first transfer of 10 billion, destroy 1 billion, and there will be 2 The reward of 100 million is entered into a separate reward wallet address, which will be divided into multiple awards for each round to participate in the Dutch first name.

4.3 destruction mechanism

(1) Destruction-reward mode

The user transfer will activate the required related token destruction protocol to uniformly recycle and destroy the HD. The destruction has multiple channels. Currently, the node is activated by the block verification protocol to permanently destroy the HD. In this way, the transfer information can be recorded in the block. On the chain, each user can view and supervise it.

HD issued a total of 10 billion tokens, and each transfer transaction will destroy 10% until it is destroyed to 100 million. This effectively guarantees that if HD is held for a long time, the value of HD has already increased by a hundredfold when the quantity is destroyed to 100 million. It is worth noting that HD will automatically destroy 10% of the transaction volume for each transfer, but the minimum transfer and destruction unit is 1, no decimal point. In other words, 10 of the HD coins are destroyed, 1 is received by the other party, 5 of the HD coins are destroyed, 1 is received by the other party, and 1 of the HD coins is destroyed.

(2) Other destruction modes

Other destruction channels will gradually add other destruction mechanisms during the operation of the platform, such as: voting destruction, members to achieve a certain stage of quantitative destruction and other means of destruction.

Voting destruction: We will use a special form of voting pass to vote with the blockchain, which will involve sending a ballot pass (voucher) to a specific address. Voters will know which address is consistent with which vote. Sending a pass to this address represents the ballot. Voting will be registered on the blockchain, and the blockchain is not tamperable, verifiable and transparent. We can easily sing tickets and announce the winners of the election. In addition, we can design a friendly user interface that hides the process of sending a pass to a specific address in the background and automates it. Instead, voters will see a simple online interface that lets them choose the bill and click Submit.

Quantitative Destruction: The DH project is open to all blockchain investors around the world and members are expected to reach 10 million. In this wave of investment, in order to return users of early investment projects. We will destroy the following rules:

The number of users reached 100,000, and the total amount of destruction was 10%, which is 1 billion HD.

The number of users reached 500,000, and the total amount of destruction was 10%, both 900 million HD

The number of users reached 1 million, and the total amount of destruction was

10%, which was 810 million HD.

The number of users reached 2 million, and the total amount of destruction was

10%, which was 729 million HD.

五、 Platform bearer function

5.1 Auction System

Mainstream auction

A. British auction

British auctions are the most common method of auction and the auction method used by most websites. In the British auction, the bidder competes for the price, and the price gradually rises until the price of the last bidder is not exceeded, then the final bidder becomes the winner, pays his bid and gets the item.

British auctions have four characteristics:

1)   The auction price is gradually increasing;

2)   At all times, all bidders are aware of the current highest bid;

3)   A bidder can submit bids multiple times;

4)   The winner's payment is his own bid value.

To date, British auctions have been the most popular online auction method, making it relatively easy for bidders to participate. Once the buyer finds an item of interest, he can view the current maximum price and decide whether he or she will pay a higher price. After he provides the bid price, he can see an automatic update of the auction status, showing that he is the current highest bidder. The bidder can temporarily leave the website and return to the website to view the auction status at any time before the auction ends. Most websites will automatically send an email notification to the bidder's buyer, telling him that "your bid price has been exceeded by others" so that the buyer can respond quickly.

B. Dutch auction

Contrary to the British auction, the price in the Dutch auction is gradually reduced. When the seller announces the initial price, the price is gradually lowered at regular intervals until someone accepts the current price. The first buyer accepting the bid becomes the winner and needs to pay the current price and get the item.

Dutch auctions have three characteristics:

1) The price in the auction is gradually decreasing;

2) The price information is public and all bidders know the current price;

3) In the auction, only one person bids, and the bidder is the winner, and the price paid is the current price.

Dutch auctions are suitable for auctions of perishable items such as flowers, fresh food, etc. There are very few websites using Dutch auctions, uBid.com is one of

them. As soon as you enter a website with a Dutch auction, it is easy to find information such as the description of the auction item, the number of items, the remaining time of the auction, and the current bid price (usually every 510 seconds). A potential drawback of Dutch auctions is that the auctions are slower and have a shorter duration, which makes the bidder lose the convenience of asynchronous bidding.

C. Seal auction

The seal auction is divided into First Price Sealed Bid Auction and Second Price Sealed Bid Auction (also known as V vickrey auction). In the auction of the seal, the bidder secretly bids via email. If the highest bidder obtains the item at its bid price, it is called the first price seal auction; if the highest bidder gets the item, but the payment is the second highest bid value next to its bid, it is called the sub-price seal auction. .

The characteristics of the seal auction are: (1) the bidder cannot see the bids of other bidders before bidding; (2) each bidder has only one bid opportunity; (3) the highest bidder wins, but the first price seal auction The highest price is paid, and the sub-price seal auction pays the next highest price.

There are not many websites using the auction method, and the main reason may be that the average trader is more difficult to understand the rules and methods of the auction.

D. Double auction

The two-way auction also includes a continuous double auction and a Sealed

Double auction. The former is in the form of publicity, and both buyers and sellers arrive at the market continuously, observe the price, and conduct real-time transactions. The continuous auction stage of the Chinese stock market is a continuous two-way auction, and a few auction sites (such as Fast Parts.com) also use this form. The latter form is that the buyer and the seller simultaneously secretly provide the buying and selling price, and then the website announces the bid price and the market clearing price.

E.HD platform auction

The HD platform auction uses the blockchain technology combined with the platform auction system to create a blockchain + technical HD Netherlands auction system platform, and according to the actual situation, determine which auction form to use, the average price transaction, to the hard top transaction or the lowest At the price, we will choose the most suitable auction method according to the market environment. We will rely on the HD (hard core) network to create a global auction system of physical assets and virtual assets, including British auctions, Dutch auctions, sealed auctions, double auctions, etc., initially based on Dutch auctions. Participants feel the charm of the process of discovering value.

5.2 Smart Contract

A smart contract is a computer program that runs on a copyable, shared book that processes information, accepts, stores, and sends value. Smart contracts solve the trust problem in traditional contracts and significantly reduce the cost of trust. The contract is written into the blockchain in a digitized form. Due to the characteristics of the blockchain, the data cannot be deleted, modified, and only added. The whole process is transparent and traceable, ensuring traceability of history; Permanent record can greatly avoid the interference of malicious behavior on the normal execution of the contract; the decentralization of the blockchain avoids the influence of the centralization factor and improves the cost efficiency of the smart contract; when the contract content is met, The code that automatically launches the smart contract avoids the manual process and ensures that the issuer cannot default.

The contract implements the existing logic in the terms and conditions of any physical contract so that they can continue until the contract expires. Smart contracts are self-executing and can react to specific events and messages. On this basis it performs operations and transfers assets between parties, leaving all records and allowing for complete transparency of auditing purposes and compliance.

Smart Contract Guarantee: Smart contracts are digital, stored in blockchains, and enforced protocols using encrypted code. HD uses smart contract technology, sets the agreement guarantee commitment clause, and promises to guarantee the security of the corresponding investment principal for each investor. The smart contract technology will automatically verify the fulfillment clause and perform the fulfillment action in accordance with the implementation agreement.

5.3 Node System
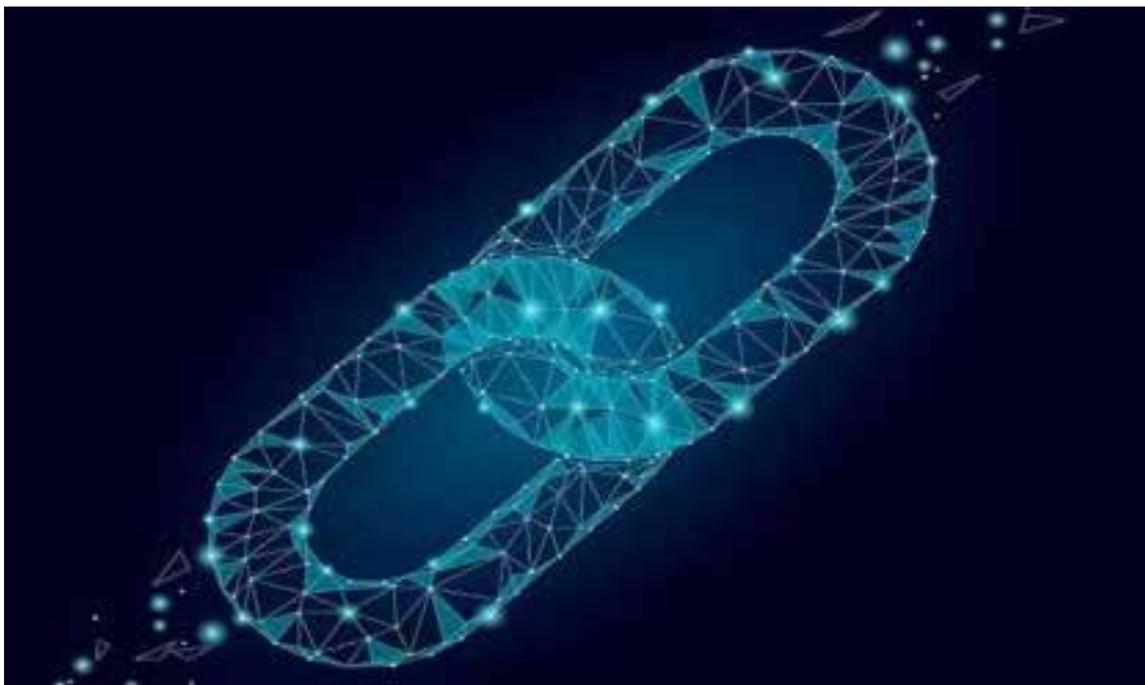
The node of the blockchain acts as a storage space, has a connection network and a visual operation terminal, and it has a non-negligible role in the blockchain operation program.

At present, although there are industries in the world that apply blockchain technology, they are not really blockchains. They can only be said to be purely using the underlying technologies and principles of blockchains. In the true sense, the blockchain should be a blockchain involving a large number of individuals or household users, each of which is a node of the blockchain.

HD node system, designing light node, common node, super node three-level node, and introducing small games to increase the fun and benefit of the node, compared with the mainstream node mode, has the characteristics of fun, operability and low cost.

Light node: Focus on participation, introduce easy game, easy to operate, everyone can participate, more work and more.

Ordinary nodes: Focus on community contributions and provide hardware support for the healthy development of the community to gain revenue.

Super Node: Focus on Responsibility, Encourage Participation in Community Governance, and Maintain Community Health.

5.4 Council

The mission of the HD platform is to resist inflation, protect human private property, and build a benchmark for value. To achieve this mission, the HD public and HD platforms require a regulatory entity composed of diverse independent members. This regulatory entity is the Hardcore Council. The Hardcore Board of Directors aims to promote the operation of the HD platform blockchain; coordinate the various stakeholders to reach an agreement in the process of promoting, developing and expanding the network; and manage reserve assets.

The Hardcore Board of Directors is responsible for the management and decision-making of major issues, including appointing or dismissing executive heads, heads of centers, and making important decisions. The members of the council jointly make decisions on the governance of the network and reserves. Members of the Chamber are appointed for a term of three years and are eligible for re-election. The chairman of the council is appointed by the members of the council. In the initial phase, the members of the council were composed of the HD founding team and the investors. All decisions will be made through the Chambers, and two-thirds of the members of the BFT Consensus Agreement will be required to vote for the major policy or technical decision, which is the absolute majority of the network members required in the BFT Consensus Agreement.

The Hardcore Assembly Hall is also an entity responsible for managing HD reserves, thus controlling the stability and growth of the HD economy. Only the Hardcore Board of Directors can manufacture (mint) and burn (HD) HD. These activities of the Hard-core Council are regulated and governed by the auction

policy, which can only be changed with the consent of a majority of the members of the association.

Digital currency HD holders can participate in voting to generate billers, and can also participate in related major issues such as the decision base and the HD public chain platform.

5.5 Ecological layout

1) HARDCORE Ecology Center:

Responsible for exploring the possibility of combining HD with various industries to achieve commercial landing. At present, the HD Ecology Center is exploring the HD platform advertising service: using the non-tamperable features of the blockchain and the NLP protocol to achieve the authenticity and accuracy of tracking advertisement distribution, and the peer-to-peer communication function for the seller and the buyer to ensure the buyer and the seller. Benefits; and the ad

delivery process is more transparent, clarifying the participants involved in the transaction, weakening the power of the middlemen, and seamlessly coordinating data and financial information, thereby improving the efficiency and accuracy of advertising and reducing marketing costs.

2) HARDCORE new production and melting mode:

As an auction trading platform, HD platform is a trading platform for the auction resource industry. It provides auction consulting services for the buyer's market and investment and wealth management groups, on-line legal consultation, policy consultation, sales consulting, investment advice and other services; Keeping up with national policies, putting an end to illegal auctions, and setting an example for a good industry format, we will build a closed-loop eco-industrial chain between the buyer's market, investment and wealth management groups, auction resources industry, state policy support, and auction industry asset securitization.

Hardcore's mission is to create a global blockchain platform auction ecosystem and build a complete ecological closed loop of blockchain technology + traditional auctions.

5.6 Global Foundation Partner Recruitment Program

Foundation partners will participate in HARDCORE governance and management and be responsible for the management and decision making of major matters in the HARDCOR network. HARDCORE is globally oriented and provides a convenient channel for enterprises and users who are optimistic about the blockchain auction platform. With low threshold and zero technology, they can easily and efficiently

obtain the return of blockchain projects.

5.7 HD commercial auction platform

In the face of merchants, HARDCORE provides HD commercial auction platform, HD commercial auction platform provides traditional payment level SDK, and provides sandbox environment for testing. SDK supports traditional web, app and offline store access. The HD commercial auction platform provides full payment scenario support for mobile and PC, including IOS, Android, and HTML5. It meets the needs of multiple business scenarios of merchants and provides support for diversified business scenarios. Merchants can use the HD commercial auction platform to accept at zero cost. Digital currency payments for users worldwide. Merchants use one-click shortcut to access HD payment, and facilitate access to HD's SDK to their own websites and apps, and can accept cross-border payments from users all over the world. The all-platform SDK minimizes the time and labor required for merchants to access payments. Merchants manage all orders for these payment channels through the merchant management provided by the HD commercial auction platform, and users can quickly purchase exotic auctions by paying only encrypted digital currency. Product. At the same time, HD provides real-time and low-cost services, realizing the realization of virtual economy and reality, and making investors who buy HD profit.

六、 Ecological technology framework

The Hardcore ecosystem symbolizes the earth's ecology. HD-Chain is the decentralized core layer, which is the source of power such as sunlight and rain. The data base layer and application layer are the unpopular life groups in the earth's ecology; plus the service layer of HD-Chain The photosynthesis with management forms a prosperous and complete ecosystem.

The Hardcore ecosystem continuously develops and optimizes the HD platform, completes the code open source work, and rewards outstanding code contributors in the community. Jointly develops blockchain technology with ETH Ethereum, and develops related payment terminal equipment to realize the enterprises in the chain. A uniform, fully compatible device that enables a smooth transition to HD public chain systems.

The Hardcore ecosystem is based on a graphene framework, using a graphene structure and multiple distributed nodes around the world to create a more thorough decentralized blockchain system. With a single-threaded high-concurrency processing capability of 3,300 TPS, it can scale to 100,000 TPS in the future. With the possibility of large-scale commercial use, the performance has greatly surpassed other mainstream public chains including Ethereum.

6.1 Decentralized core layer

HD-Chain consists of corresponding technical contracts, and the interaction of these contracts allows users to trade. All tokens in the contract are decentralized digital tokens. When the user enters the transaction information and sends the

funds to the main contract, once the main contract receives the transaction

between the two parties, it will execute the contract and send the funds to the

transaction. All parties. The exchange contract exists in the blockchain network and

is represented in an auditable code format. The trader does not need to trust the

private server to keep the order book and each of its inputs and outputs. The

certainty of this new order book and the Ethereum contract means a high degree of

transparency in the trading platform.

HD-Chain is supported by basic technologies such as pos consensus algorithm,

asymmetric encryption algorithm, IPFS distributed storage technology and

intelligent contract engine, which is more secure and efficient. IPFS distributed

storage technology, realizes decentralized distributed storage, supports structured

data of various dimensions, and combines the algorithm mechanism of intelligent

contracts to protect the underlying data consistency while resisting malicious

attacks and solving centralized data storage organizations. The security issue, so

that the data and transactions generated by the buyers and sellers of the platform

can be traced and cannot be tampered with.

6.2 Data Foundation Layer

The current popular storage methods on the market are centralized online file

storage companies, which seek to allow users to upload their hard disk backups,

provide backup storage services and allow users to access and press The user is

charged a monthly fee. It is clear that this file storage market is sometimes relatively

inefficient; the corresponding storage cost is quite expensive on a monthly basis.

The Hardcore ecosystem ensures the reliability of data sources through technologies such as the Internet of Things (IoT). At the same time, it uses the technologies such as cloud computing and container cloud to acquire large amounts of data information from the Internet of Things sensing layer for horizontal expansion processing, giving these data intelligence and finally converting it into useful for end users. Information. Trusted data is forwarded through the data access layer to the data gateway, which is responsible for batching data into blockchains and decentralized storage systems. At the same time, using the characteristics of blockchain distributed accounting, the agreement with the participating users, the user will participate as a storage node, and give each participant corresponding rewards, thereby reducing the cost of data storage.

The basic building blocks of such facilities are what we call "decentralized contracts." This contract works as follows. First, someone divides the data that needs to be uploaded into fast, encrypts each piece of data to protect privacy, and builds a Merkel tree. Then create a contract with the following rules. For every N blocks, the contract will extract a random index from the Merkel tree (using the hash of the previous block that can be accessed by the contract code to provide randomness), then give the first Entity X is Ethernet to support a proof of ownership of a block at a particular index in the tree with a similar simplified verification payment (SPV). When a user wants to re-download his file, he can use the micro-payment channel protocol (for example, 1 Sab per 32k bytes) to recover the file; the most efficient way to pay is that the payer does not release the transaction

at the end, but instead Use a slightly more cost-effective transaction with the same random number to replace the original transaction after every 32k bytes.

An important feature of this protocol is that although it seems like a person trusts many random nodes that are not prepared to lose files, he can divide the file into many small pieces by secret sharing, and then monitor the contract to know that each small block is still It is kept by a node. If a contract is still paying, then evidence is provided that someone is still saving the file.

6.3 service layer

The service layer of HD Chain abstracts the capabilities of the underlying infrastructure to provide core blockchain and decentralized storage for HD Chain applications, ensuring high availability and high convenience of services. At the same time, service layer support is available. The distributed identity service DID of the letter serves as the authentication identifier of the object or person, reliable data access, accurate data calculation, and secure metadata management. These services are the guarantee for the provision of anti-forgery traceability applications.

6.4 application layer

HD Chain provides a common application protocol on the ground floor in the early stage to develop different landing projects and make the blockchain fast application. The application layer may be the source end of the anti-forgery traceability data or the receiving end of the anti-forgery traceability service. Data from offline to online is always a risk, and IoT devices are needed as a credible means of informational data. At the same time, there are front-end applications

related to enterprises and individuals.

HD Chain currently uses the most popular blockchain underlying public chain, and because it is completely open, everyone can participate in system maintenance, can be highly developable, support smart contracts, decentralized applications, etc. The traditional auction platform pain points, decentralized verification anti-counterfeiting will subvert the anti-counterfeiting method. Tracing source mall will adopt decentralized traceability system, which is an application system that is easy to operate, easy to use and can be quickly popularized. In innovative technology, each data that the user queries in the traceability system displays a hash value to the user, and the hash value is equivalent to a unique number for each block, and the data cannot be tampered with and traceable. The application interface includes anti-counterfeiting test, product catalog, background certification, anti-counterfeiting trend, sending and mailing management, query, system background and other main functional areas. It can be seen that the entire system covers a wide range, including commodities, buyer information, logistics warehousing companies, consumers are on the chain, front-end query, background management, and generate and verify nodes on the chain.

6.5 management

Management is an essential component of the traceability application process. The authoritative quality inspection center provides an authoritative credit endorsement for traceable application data, which certifies the usability of the physical object and also gives the corresponding data a consistent value. The

traceability system is based on IPFS data storage. The data does not need to be

accessed by a specific domain name and URL, and the data no longer has a storage

limit. The commercial value of IPFS also reflects the fastness of calling data, data

security assurance, data ownership, and data value specific. The data of the

traceability system is stored in the blockchain. The data of each link of the product

is associated and unique. The data is given a unique hash value and time stamped

to form a complete commodity industry chain.

The traceability data center collects the entire traceability information stream as

the data "raw material", and the monitoring center monitors the abnormality of the

data in the flow, providing the reliability of the flow data process. Finally, the

traceability information displayed through the visualization is the whole process,

the real data, and the endorsement of the blockchain as value. There are also a

number of accessibility features, including configuration management, rights

management, policy management, and monitoring centers that ensure the

production availability of traceable applications.

七、 HARDCORE project governance structure

7.1 Introduction to the HARDCORE Foundation

The HARDCORE Foundation (hereinafter referred to as the "Foundation") is committed to the development and construction of HD and the promotion of transparency and advocacy, and promotes the safe and harmonious development of the open source ecological society. The Foundation will help manage the general issues and privileges of open source community projects by developing a good governance structure. The design goals of the Foundation's governance structure primarily consider the sustainability of open source community projects, the effectiveness of management, and the security of fundraising. The foundation consists of an ecological center, a technology development center, a marketing center, and a daily management center.

HD foundation

HD Decision Committee

| Ecological center | Technology development center | Marketing center | Daily management center |
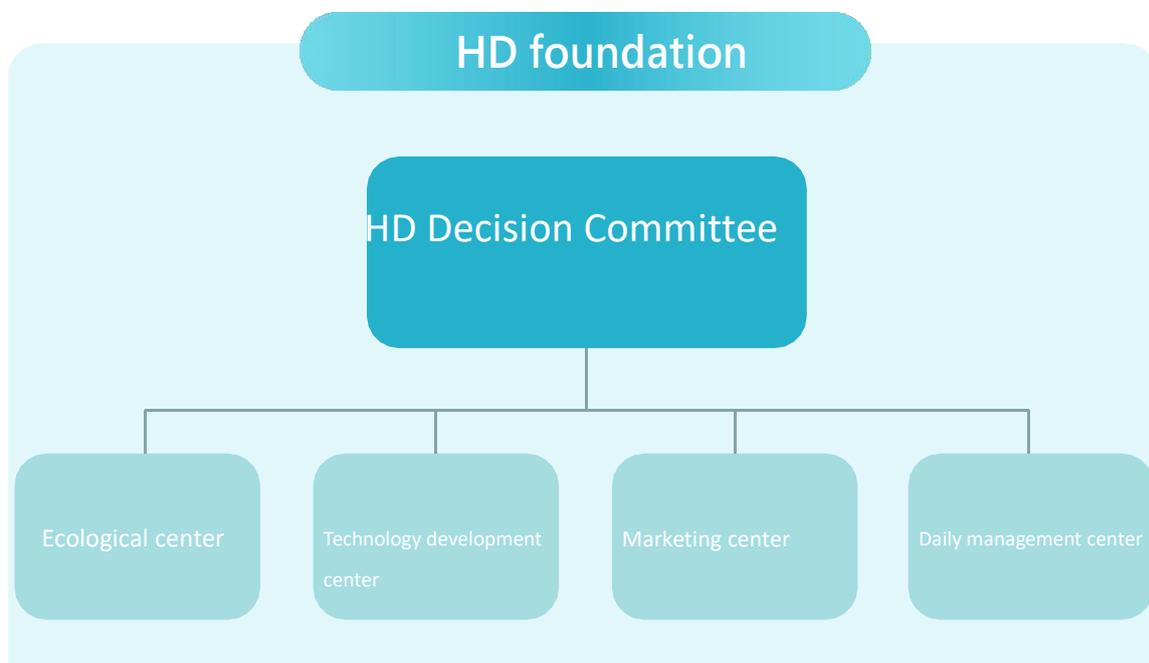
7.2 Foundation Governance Structure

The division of labor between agencies is as follows:

HARDCORE Decision-Making Committee: Responsible for the management and decision-making of major issues, including appointing or dismissing executive leaders and heads of centers, and making important decisions. The members of the decision committee serve for a term of three years and are eligible for reappointment. The committee shall have a chairman who shall vote by the members of the committee. The first decision-making committee members will be elected by the HD founding team and investors.

Ecology Center: Responsible for exploring the possibility of combining HD with industry to achieve commercial landing. The members of the eco-center communicate with the community members about the ecological development and future in the community.

Technology Center: Responsible for the underlying technology development, testing, online, auditing, etc. The members of the technology center communicate the progress of the project with the stakeholders and community contributors in the community, and hold technical exchange meetings from time to time.

Marketing Center: Responsible for the promotion and promotion of technology, products, communities, and open source projects.

Daily management center: including financial, legal, personnel, administrative and other management. Finance is responsible for the use and review of project funds; the legal department is responsible for the review and formulation of various documents, to prevent possible types of legal risks; administrative and personnel

responsible personnel, salary and other personnel work and daily administrative

work.

八、 HARDCRE development plan

In order to resist inflation, protect human private property, and build a benchmark for value measurement, HARDCORE is committed to making HD an encrypted digital asset that is freely circulated globally, and is an auction platform for HD between consumers and businesses. Through this platform's network, customers can achieve real-time point-to-point payment, transfer, and even various investments without the need for central organization management.

In the early stage, HARDCORE was based on the Dutch auction system, allowing each investor to participate and feel the charm of value mining. At the same time, the ecological layout was carried out to create a blockchain platform auction ecosystem. Later, after the completion of the public chain, HARDCORE launched the recruitment of partners of the Global Foundation, and HARDCORE provided the HD commercial auction platform.

development plan：

Q1: The auction system is online, giving priority to the Dutch auction

Launch node system

The establishment of the council

Q2: Ecological layout

Create a global blockchain platform auction ecosystem

Expand a variety of auction forms (British auctions, sealed auctions, double auctions, etc.)

Q3: Public chain completed construction

Launch full fundraising partner recruitment

九、 **HARDCORE Vision**

HD's design mechanism effectively avoids inflation, and the deflation model design of smart contracts enables each participant to discover its value as quickly as possible. The vision of HD (hard core) is to resist inflation, protect human private property, and build a benchmark for value measurement. While completing the vision, HD is still a hundred times in the maintenance of community consensus. The deepening of technology has realized the underlying technology. From the perspective of community consensus, the core of the global community consensus allows each investor to agree with our design philosophy while making a lot of profit and gain long-term value from various ecosystems.

The initial circulation of HD is 10 billion pieces, and each time the chain transfer automatically destroys 10% of the transfer amount until it is destroyed to 100 million pieces. At the same time of continuous destruction, our commercial layout is constantly improving, giving each HD (hard core)) Constant empowerment. We will rely on the HD (hard core) network to create a global auction system of physical assets and virtual assets, including British auctions, Dutch auctions, sealed auctions, double auctions, etc., initially based on Dutch auctions. Participants feel the charm of the process of discovering value.

With the joint efforts of team development and community user consensus builders, not only the early investors have obtained huge investment chips, but with the increase of participants, HD is the only certificate in the whole ecology, which is used for the construction of the entire platform. The whole ecological circulation of pledge, voting, decision-making, dividends, auctions, etc., will

HD HARD CORE

gradually reflect its price. Each circulation will inevitably bring 10% price increase to the community construction holders until a peak is reached. And this peak will bring endless imagination and rich benefits to all investors with the development of our ecology. While building a globally distributed business layout, we will continue to expand our ecology, reduce the number, increase our consensus, and increase our value.

十、 Risk warning and disclaimer

10.1 Legal framework

The Foundation's foundation is to establish an independent legal entity in Singapore to promote HD platform operations.

The Foundation will conduct HD exchanges in a manner in accordance with all local laws and regulations. Due to legal restrictions, HD sales may not be available in certain countries. As an intangible commodity with practical use, it is neither a security nor a speculative investment tool.

The proceeds from trading are mainly used for technology development, marketing, community building, financial auditing, business cooperation and other related appropriate uses.

The development platform of the HD platform may be subject to inquiry and supervision by the competent authorities of the world. In order to meet and comply with local laws and regulations, the HD platform may not be able to provide normal services in certain areas.

10.2 Risk Warning

The investment blockchain digital asset is a high-risk, high-yield investment. Each buyer of HD Pass needs to consider the relevant risk factors before investing. The development platform of the HD platform may be subject to inquiry and supervision by the competent authorities of the world. In order to meet and comply with local laws and regulations, the HD platform may not be able to provide normal services in certain areas.

1、Blockchain system risk

(1) Systemic risk: refers to the possible change of income due to the common factors of the whole, which affects the returns of all securities in the same way. For example, policy risk ——At present, the regulatory policies for blockchain projects and financing of financing methods are still unclear in some countries. There is a certain possibility of loss of participants due to policy reasons. In market risk, if the overall value of digital asset market If it is overvalued, then the investment risk will increase, and participants may expect the growth of the license sales project to be too high, but these high expectations may not be realized. At the same time, systemic risks also include a series of force majeure factors, including but not limited to natural disasters, large-scale failure of computer networks on a global scale, and political turmoil.

(2) Uncertainty: The digital asset transaction including HD has extremely high uncertainty. Due to the lack of strong supervision in the field of digital asset trading, the electronic pass has the risk of skyrocketing and being manipulated by the dealer. If individual participants lack experience after entering the market, it may be difficult to resist the asset shocks and psychological pressure brought about by market instability. Although academic experts and official media have given cautious participation suggestions from time to time, there are no written regulatory methods and provisions, so it is difficult to effectively avoid such risks.

2.、Supervision and introduction of risks

It is undeniable that in the foreseeable future, there will be regulations to introduce and regulate the blockchain and e-Cert. If the regulatory body regulates

the field, the certificate purchased during the license period may be affected, including but not limited to fluctuations or restrictions on price and ease of sale.

(1) Risks between teams: The current blockchain technology field has many teams and projects, and the competition is fierce. There is strong market competition and project operation pressure. Whether the HD project can break through in many excellent projects is widely recognized, and it is linked to its own team capabilities, vision planning, etc., and is also affected by many competitors and even oligarchs in the market, and there is the possibility of vicious competition.

(2) Risk within the team: HARDCORE brings together a team of talents with both vitality and strength, attracting senior practitioners in the blockchain field, experts in the payment field, and experienced technical developers. As the pioneering role of the Singapore blockchain in the field of payment sales, the stability and cohesion within the team is critical to the overall development of HD. In the future development, it is not excluded that there is a possibility that the core personnel will be negatively affected by the departure of core personnel and conflicts within the team.

(3) Project Coordination and Marketing Risk: The HD founding team will spare no effort to achieve the development goals proposed in the white paper and extend the project's growth potential. As this white paper may be adjusted as the details of the project are updated, if the details of the project update are not obtained in time by the CV sales participants, or if the public is not aware of the latest developments in the project, the participants or the public are asymmetrical because of the

information. Project cognition is insufficient, which affects the subsequent

development of the project.

(4) Project technical risk: First, the project is based on cryptographic algorithms,

and the rapid development of cryptography is bound to bring potential risks to be

cracked.

3、 Blockchain software risk

(1) Blockchain transfer delay risk: At present, most blockchain networks in the

market will have a certain transfer delay. This is because blockchain transfer needs

to confirm this mechanism, and all blockchain investors are The situation should be

fully recognized and understood. Delays in blockchain transfers may result in

investors not being able to trade at the right price, causing certain losses. This

potential risk requires investors to fully understand.

(2) Blockchain congestion risk: Most blockchains are prone to periodic

congestion, which may cause long delays or even loss of transactions during

congestion. These risk factors will have an impact on investors.

(3) Blockchain software vulnerabilities: Blockchain certification contracts, basic

blockchains, and application software platforms may all have technical loopholes.

This is also because blockchain technology is in the early stages of development,

and some new technologies have not yet been fully tested by the market. Some

vulnerabilities may result in the risk of all token losses for investors.

4.、 User use security risks

Risk of loss of private key: The HD pass is stored in the user's private wallet and

requires a key for access. If the user accidentally loses or reveals the wallet key, it

may result in the inability to access the wallet or the wallet pass. This risk is

irreversible and the issuer will not be able to take on this risk.

5、Risks of related third-party platforms

Some platforms or trading platforms that store HD licenses are at risk of being

closed, which may result in loss of the licenses stored by users on the

corresponding platforms. The HD Pass issuer will not be able to bear the

corresponding losses. Secondly, blockchain, distributed ledger, decentralization,

and disagreement with tampering support the development of core business. The

HD team cannot fully guarantee the landing of technology; again, during the

process of project update and adjustment, there may be loopholes. It is

compensated by issuing patches, but it does not guarantee the extent of the impact

of the vulnerability.

6、Hacking and crime risks

In terms of safety, the amount of individual supporters is small, but the total

number is large, which also puts high demands on the safety and security of the

project. E-licensing is characterized by anonymity and difficulty in retrospectiveness.

It is easily exploited by criminals, attacked by hackers, or may involve criminal

activities such as illegal asset transfers.

7、 Other risks not currently known

With the continuous development of blockchain technology and the overall

situation of the industry, HD may face some unforeseen risks. Participants are

required to fully understand the team background, understand the overall framework and ideas of the project, make reasonable adjustments to their vision, and participate in the pass.

10.3 Disclaimer

(1) This document is for informational purposes only. The contents of this document are for informational purposes only and do not constitute any investment advice, instruction or solicitation to sell stocks or securities in HD and its related companies. Such invitations must be made in the form of a confidential memorandum and must comply with relevant securities laws and other laws.

(2) The contents of this document shall not be construed as forcing participation in the license sales. Any conduct related to this white paper shall not be considered a participation in the license sale, including requesting a copy of this white paper or sharing this white paper with others.

(3) Participation in the license sales means that the participants have reached the age standard and have complete civil capacity. The contract with HD is true and effective. All participants are voluntarily signed contracts and HD is carried out before the contract is signed. Clear and necessary understanding.

(4) The HARDCORE team will continue to make reasonable attempts to ensure that the information in this white paper is true and accurate. During the development process, the platform may be updated, including but not limited to the platform mechanism, the certificate and its mechanism, and the distribution of the certificate. Some of the content of the document may be adjusted in the new

white paper as the project progresses. The team will post the update to the public

by posting an announcement or a new white paper on the website. Participants are

required to keep the latest white papers in a timely manner and adjust their

decisions in a timely manner based on the updates. HD expressly disclaims any loss

as a result of the reliance of the content of this document, the inaccuracies of this

document, and any actions resulting from this document.

(5) The team will spare no effort to achieve the goals mentioned in the

document, but based on the existence of force majeure, the team can not fully

complete the commitment.

(6) HD is the official certificate of the HARDCORE chain. It is an important tool

for platform performance and is not an investment product. Having HD does not

mean granting ownership, control, and decision-making power to its owner. HD, as

a cryptographic certificate used in HARDCORE, does not fall into the following

categories:

1) any kind of currency;

2) securities;

3) equity of legal entities;

4) Stocks, bonds, notes, warrants, certificates or other instruments granting any

rights.

(7) The value-added of HD depends on the market rules and the demand after

application, it may not have any value, the team does not promise its value-added,

and is not responsible for the consequences caused by the increase or decrease of

value.

(8) to the fullest extent permitted by applicable law, damages and risks arising from participation in crowdfunding, including but not limited to direct or indirect personal damage, loss of commercial profits, loss of commercial information or any other economic loss, The team is not responsible.

(9)   The HARDCORE platform complies with any regulations that are conducive to the healthy development of the CIS sales industry and industry self-discipline declarations. Participant participation means that the inspection will be fully accepted and adhered to. At the same time, all information disclosed by the Participant to complete such an inspection must be complete and accurate.

(10)   The HARDCORE platform clearly communicates the possible risks to the participants. Once the participants participate in the public sales crowdfunding, they accept the understanding and recognition of the terms and conditions in the detailed rules and accept the potential risks of the platform. .

(11) National citizens who are prohibited from selling tokens are not allowed to participate.