EOSHOS

The world's first encryption chain based on EOS public blockchain in house rental industry

White Paper

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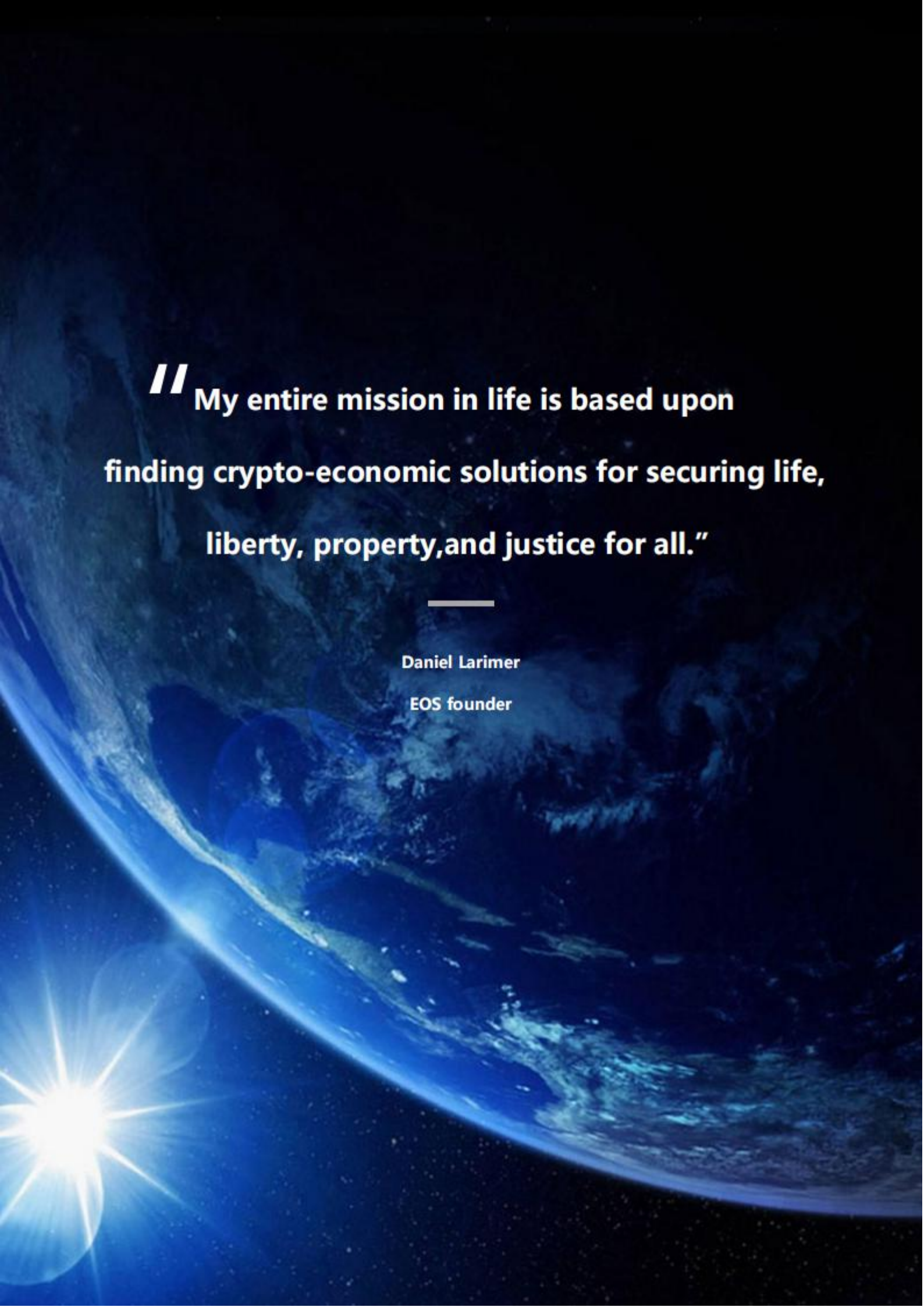
"My entire mission in life is based upon finding crypto-economic solutions for securing life, liberty, property,and justice for all."
Daniel Larimer
EOS founder

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Preface

The information about house source on the Internet is numerous and miscellaneous, which brings much trouble to the leaser and leasee for its low accuracy. The development of the Internet promotes people to attain the information of house sources, but large-scale user coordination is a double-edged sword. The moment the user coordination facilitates us a lot, it also results in the low-quality information of house source and inaccurate, even malicious information of house source because any organizations and individuals can edit and issue information of house source through various house source platforms, as well as the lack of professional examination.

In addition to high openness of the platform that leads to the low quality of information, there is a situation that the intermediary business man overuses his credit, such as many problems like flush fake house source arising from house agents who take their own benefits as root.

For solving the above problems, it is not easy to achieve that in the centralized platform. How to decentralize and ensure the unique information of house source does become a key problem urgent to be solved. Both the buyer and seller of property or house leasing agency, mostly do some matching through location, rental, housing price or some other characteristics on the transaction platform(58.com), and then the platform will charge some costs from users. Because there are no uniform process and data criteria, the subjectivity of the platform is much stronger which will lead to the information out of date, completeness, accuracy so that it will cost too much for both business parties to verify data and concrete condition.

But the block-chain technology naturally seems the dealing criteria in accordance with these problems and the block-chain spirit corresponds to HOS spirit. The block-chain technology can not only improve the efficiency and credit of this process, but also register the location, address of the property in details, even details of leasing rate, housing price, successive landlords and lease to make market participants gain more reliable data in lower costs.

If there is a house encyclopedia in Version Block-Chain, making use of distributed Internet to carry out centralized management and introduce different means like token incentive mechanism for serving information of house source, under the condition that the recognition of different parties on specific house and its leasing status is reserved in block-chain without any modification, the way the Internet offers information of house source will meet a new revolution.

一、Subject Background

1.1 Industry Pain Points

1.1.1 "Centralization" of centralized platform

The housing leasing industry is inherently flawed. In real life, the assessment, description, and quality of rental properties on centralized platforms such as Airbnb and Booking are collected by a proprietary non-transparent internal database. This has led to the potential misuse of the system. For example, if the platform is based on profit-driven, to a certain degree, the information publisher (owner/apartment operator) with higher price is better presented , and even the case of the scalping, and the authority to modify/delete a negative comment is opened. A consumer report criticized concentration on the study of online rating services because the owner/condominium operator could get in touch with customers and persuade them to change the negative comments to positive ones by providing refunds or other compensation.

In addition, in real life, more than 90% of transactions come from centralized third-party platforms. The platform provides information aggregation, deposit protection and other services to assist the owner/condominium operator and tenants in providing information and matching transactions, meanwhile it will charge a commission as the service fee.

1.1.2 Financial services have a high threshold and long process

For apartment operators, before they can successfully find a tenant and receive rent, they often need a large sum of capital to pay for the supply chain service. The large investment may make the profit cycle longer, hindering the expansion of apartment operator business. This has led to the distribution of assets for apartment operators.

However, when traditional financial institutions provide financial services to apartment operators, they will encounter black boxes from operators. The risk control review standards are not uniform, and information asymmetry leads to frequent debts. In addition, due to the limitations of channels and information, financial institutions need to spend a lot of manpower and material resources finding and evaluating small-sized apartment operators. For apartment operators, financial institutions often conduct long-term review before acquiring urgently needed housing or renovation funds. Apartment operators also need to submit complicated materials. When the funds are actually credited to the account, the former one-store listing may have been taken by other operators.

1.1.3 Heavy assets need lighter operation

Real estate has always been the world's largest asset class and the largest source of wealth for most families. However, despite its size and volume, it is still one of the least efficient assets. Historically, people have tried various ways to make this market easier to manage and circulate. But every individual or institution that buys or owns real estate faces A series of questions such as opaque transaction costs, information asymmetry, difficulty in ascertaining rights, and variability of taxes.

1.2 Solution

1.2.1 Intelligent Contract——Use digital form to define commitment

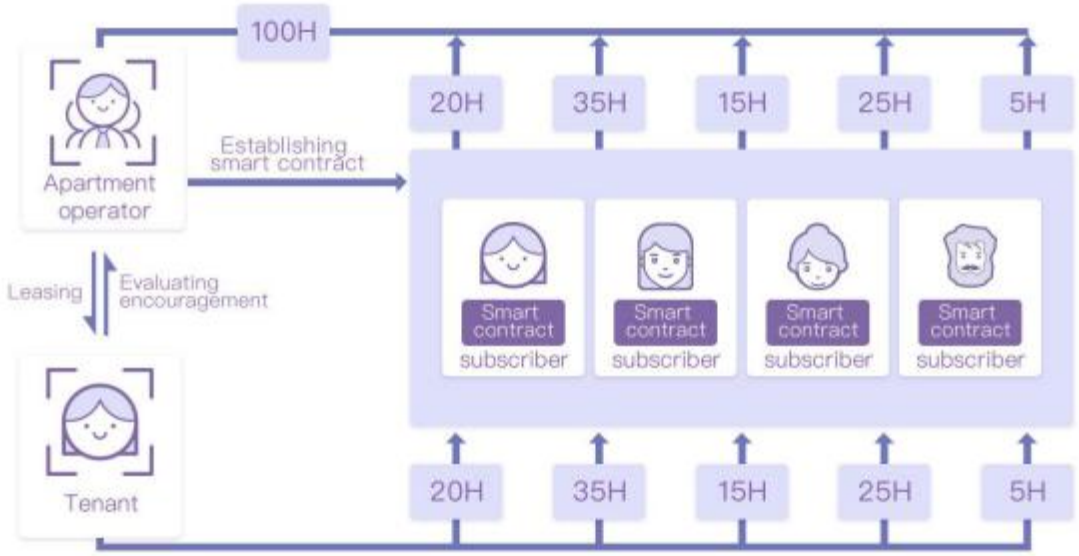
Intelligent contract can deal with a variety of trading such as rent,utility bill,cash deposit and so on. Blockchain technology' s advantages like decentration, tamper-resistant, process of transparent and traceability, which suits intelligent contract naturally. If Intelligent contract can be used in house rental market with intelligent contract function, proprietor/apartment operator and tenant can bypass intermediary organ in the rental trading, then both parties will have a more direct and more reliable way to remote or point-to-point communication. Due to intelligent contract, every term of lease contract can be recorded in blockchain' s account, every trade can be created by intelligent contract. All of the data about trade and comment can not be tampered, can not be destroyed, and can be traced, which makes all the parts of this environment must take the responsibility for their behaviors, to prevent bad trading. Not only the tenant can evaluate the proprietor/apartment operator, but also the proprietor/apartment operator can chose to accept or refuse the tenant according to their acquired appraise and the experience of renting. Therefore, if any part of the trading will concentrate its attention to improving its own quality, then it will have benign development.

In blockchain' s world, centralized platform will be abandoned, then there is no problem with double dipping to exist, which forces intermediary organ have to turn from solicitation to providing value-added service, which enhances the operational capability of intermediary company. The company also can use its advantage of branch and network to strengthen customs' stickiness by a large margin, so as to it turns from charging intermediate fee one-time to charging intermediate fee

continuously by services. Via blockchain technology and intelligent contract, platform will reduce human cost and system cost vastly, and then platform results those cost to the participator of blockchain' s environment which makes these participators all get more profit.

1.2.2 Decentralized trading market

We encourage apartment operator to transfer the possession of their holding leasehold usufruct, and issue these information to HOS Chain, the legitimate subscriber can use corresponding numbers of Token by needs to exchange usufruct, then apartment operator will possess the Token again and use it to next business development. The usufruct holder will obtain the rent from tenant as steady profit in the future days. And the usufruct holder will also exchange the right again if they want.



Apartment operator votes to review the uploading houses from the start, so the process of usufruct exchange gets simple and efficient.

1.2.3 Tokenization of Physical Assets

With the rapid development of encrypted assets, it will become feasible to use blockchain technology to solve the problem of liquidity and opacity in the real estate market. Tokenization of physical assets for listing needs to be decided by community users. At the same time, the listed information will be synchronized to the relevant property management companies, local authorities, and trusted law firms. Multiple parties will jointly verify the legal documents provided by the listed parties and give digital signatures. Once signed, all documents will be pushed to the HOS Chain and stored encrypted. Because of the non-tampering nature of blockchains, these documents are never variable and are almost impossible to fake.

II. Establish the world's first encryption chain of house leasing industry based on EOS public blockchain in the name of security

HOS is a DAPP focusing on house leasing market, which is developed based on EOS and realizes the functions of house information publishing, transaction, mortgage and transfer of right of earnings by aid of the advantages including decentralization and tamper-resistant feature of blockchain. All the above-mentioned user behaviors can be awarded or exchanged by the means of Token.

Based on fully matching the blockchain ecosystem and integrating the cooperation partners owning large number of market resources, we will establish the world's first decentralized and complete house leasing ecosystem based on EOS public blockchain. In the HOS ecosystem, the house owners/apartment operators can publish house resources through network very conveniently without worrying about privacy problem, because the users can retain the ownership of personal information, data and transaction through the unique authority management model of HOS.

HOS breaks through the stereotype of blockchain agreement in financial transaction application and creates its application pioneer in the house leasing industry. The blockchain technology will establish global criterion for house leasing this time, which will be applied in the whole world based on a different way.

Ⅲ、Technology principle

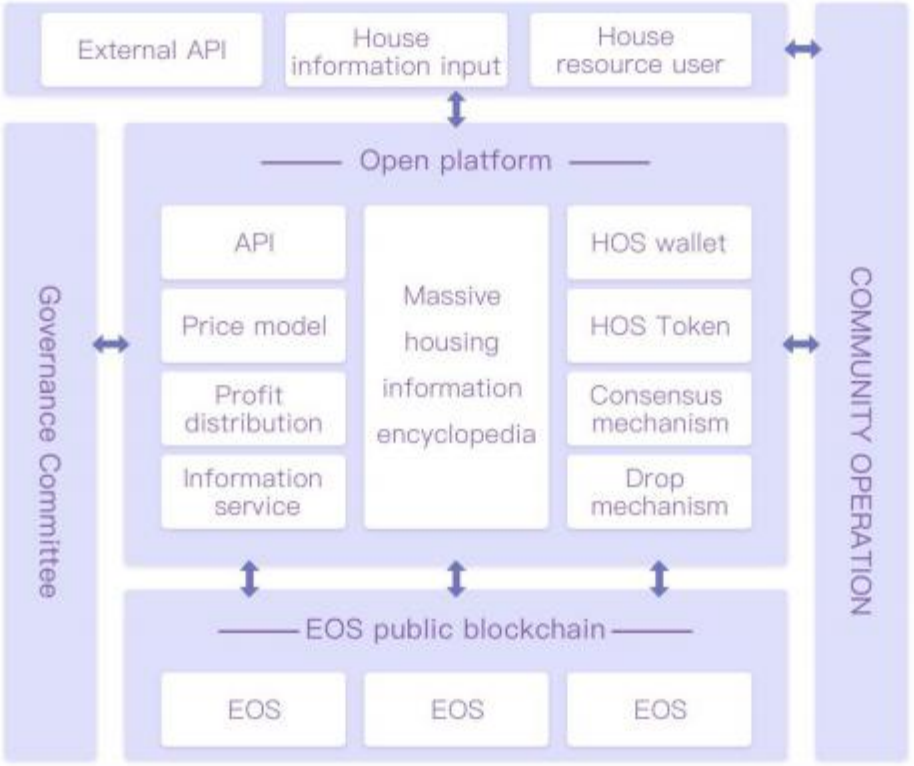
3.1 Business Module

HOS1.0 orientates at DaaS, namely Data-as-a-Service (data as a service), aims at providing service platform for apartment operator to publish information and providing a mutually-connected information and transaction platform for operator and tenants. Meanwhile, HOS will continue for operation and development to step towards 2.0BaaS, namely Blockchain-as-a-Service (blockchain as a service) and establish the leasing earning right transaction and management platform based on mobile information application for the apartment operator. And its final form 3.0 will evolve into Token exchange based on physical assets to enhance the mobility of physical assets.

HOS app is a distributed application (DAPP)[4]. In order to guarantee asset uplink, HOS app relies on the real house information mastered on the offline centralized operation platform to conduct internal audit for uplink registration at the initial stage of platform launching, thus to guarantee the deep application of market. With the flourishing transactions on the transaction platform, the uplink form of centralized house information will gradually disappear.

3.2 Business Model

3.2.1 Logic structure diagram



3.2.2 System authority model

A. House information uploading authority;

B. House information browsing retrieval authority;

C. House leasing earning right transfer and listing authority;

D. House property right transfer authority.

3.2.3 Authority management core

As a business application, HOS design centers on the idea of security. In view of various DLT (Distributed ledger technology) technologies, only EOS framework realizes the balance of effectiveness and security through long-term and extensive tests, and can be practically applied in business application. Therefore, our technology architecture bases on EOS to guarantee security and efficiency.

Meanwhile, we also design various mechanisms to largely guarantee information privacy and security.

- Real-name system (RNS)

From supervision of administrative departments to implementation of tax policy, any business activities need to adhere to real-name certification strictly thus to guarantee the asset security of users, which allows no excuses and is also the required obligation of mature business enterprises for implementing their social responsibilities and maintaining social order. Therefore, our blockchain should guarantee an uncompromising real-name mechanism.

We accept the idea and thought of OFID, and design RNS mechanism with HOS feature, which allows transaction sponsoring or realization under the situation of address verification based on real name. Any transactions without real name verification on address will be automatically shielded, which largely reduces the risk of asset being stolen. In addition, any abnormal transactions can be tracked based on real-name mechanism.

The users can own several addresses, freeze and report for loss of the addresses after they pass the initial real-name certification. The processing on users' addresses are conducted by the system administrator address. Under the real-name design system, all authority management work is conducted by a series of administrators. The behaviors of all administrators and subordinated administrators will be strictly published in the blockchain browser.

- Privacy-insulated mutual authentication

All addresses can only make effective transactions based on real-name authorization. Meanwhile, the system designs an open interface to allow users to conduct mutual authentication to confirm whether the transaction address is

consistent with the identity of transaction counter-party under the premise of knowing the identity information of transaction counter-party.

For example:

Bob (subscriber) purchases the earning right of house leasing of Alice (assignor) in the HOS transaction market, wherein, the transaction market knows the identity information of Bob, and the exchange can verify whether the exchanged address of Bob is owned by himself by aid of the applied address for exchange of Bob and the open interface provided by HOS blockchain.

Similarly, when the transaction market receives the transaction exchanged in the account of Alice, the exchange can rely on the identity information and transaction address of Alice saved in advance to verify whether the transaction is from Alice through the API interface provided by HOS.

- Privacy protection

  HOS sets rigorous privacy protection in each interactive link of the ecosystem.

  For example:

  The tenants must obtain the authorization of the house owner/apartment operator to look up to the partial or complete information of the house when they are browsing the house information, besides, the house leasing parties should pass the real-name authentication. Any party can verify the identity of the other party through HOS blockchain browser by aid of the open information such as wallet address. We will make feedback about the verification result to confirm the other party has passed real-name authentication without presenting the specific information of the other party thus to protect privacy information. The whole process can not realize the inquiry on the identity information of the involved party from the transaction interface, which needs no network transmission. When the

house is leased successfully and the leasing contract is signed, the involved parties can refer to the complete information about each other.

In the link of leasing earning right transfer, we can also guarantee the user information not to be peeped and even prevent malicious act for happening through the same mode. While in the links of voting and evaluation, we completely protect the user information, any users can verify whether the users pass the real-name authentication through the open user ID and wallet address, wherein, the non-real-name voting or evaluations will be possible to be confirmed as invalid, and they will obtain no Token awards.

We hope to fundamentally protect the information and asset security of users through this method.

- Authority management

In the HOS, the technology team retains a core ROOT user authority. Some authorities can be awarded to or stripped from other users through the ROOT user, including transaction authority, real-name authentication authority and even asset information publishing authority, which will be presented to all transaction users through publishing. In the future, the awarding or stripping on some authorities can be realized through voting of the previous-level authority key management account. Each authorization-based transaction will be presented in the blockhain browser in real time. The ROOT key forms a key tree and its ROOT address will be updated regularly to guarantee system security.

All applications of the system on authority will be published in the blockchain browser. We believe imprisoning the power will really protect the power owners, otherwise, the power will cause a reverse effect.

- HOS Block Chain Browsers

Distributed ledger technology is involved to account book instead of transaction. The users care more about the asset deployment dynamics of various asset holders instead of each transaction. Based on our known knowledge, we develop a new blockchain browser which lays emphasis on monitoring the asset dynamics of all asset holders.

In addition, HOS has some management addresses with special authority, including special authority address and regional administrator address, therefore, the blockchain browser will conduct real-time monitoring on the behaviors of these addresses thus to guarantee each authority implementation to be reasonable and legal, and guarantee our reputation and asset security of users.

All addresses with authority will be published strictly, including address owners. Authority implementation will be completed in the blockchain by the means of similar transaction, therefore, the whole power implementation is completely transparent and will be monitored in real time by the blockchain browser. And the implementation codes of all authority blockchain will be translated into natural language understandable for users to avoid technology gap.

Each authority management behavior will be reasonable on an implementation basis to guarantee openness and transparency.

IV.Autonomous Committees and Regional Committees

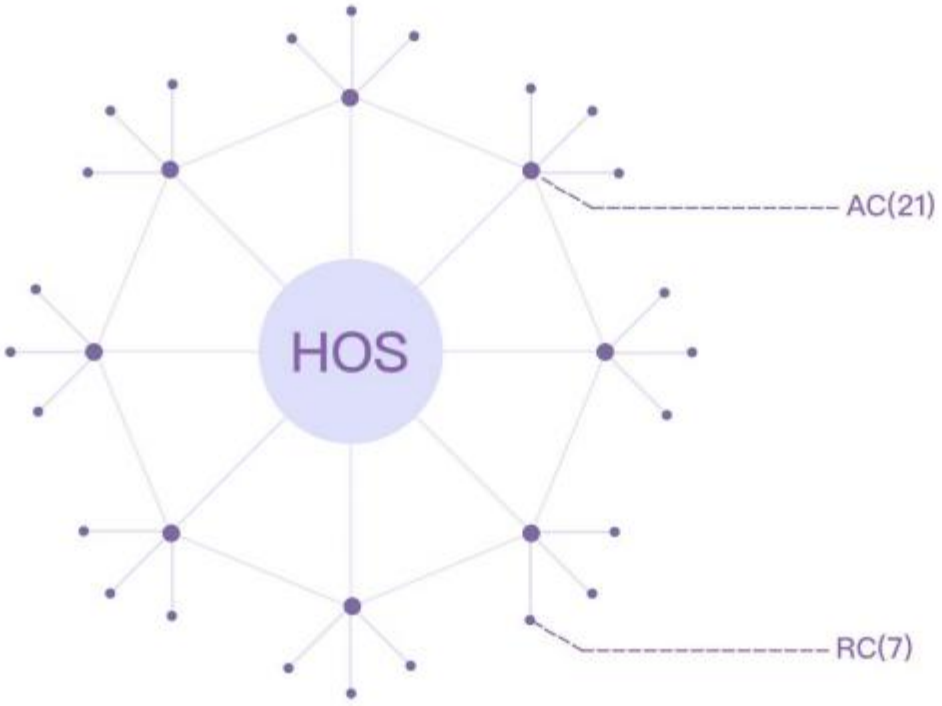
4.1Summary

Though technology solves security problems, there are still a lot of problems remain to be solved as such a ecological community with a large number of users.

In a centralised world, argument between owner / apartment operator and renter will be adjudicated by the third-party platform on which the transaction produced. Unavoidably it will take a long time to reach a consensus and the interests of both sides will also be damaged by the unfair judgment of the third-party platform.

Consensus mechanism is the key to block chain projects. And HOS carry over the DPOS consensus mechanism from EOS. The biggest bright spot of DPOS compared to POW and POS lies in speed and efficiency. But everything has two sides. If you want to achieve the legendary million TPS per second, you must reduce the number of nodes. 21 nodes can balance the degree of centralization and the block efficiency.

Based on the above factors, HOS established the Autonomous Committee with 21 members and its Regional Committees. These 21 members of the Autonomous Committee need to be produced by open vote to ensure the authenticity and accuracy of platform information. For keeping fair, we use VIS to nsure that each verified HOS account can only vote on one member of the Autonomous Committee who has already validated. This prevents the interest collusion between stakeholders.



Certainly, it is also necessary for the community to identify the votes through the VIS arbitration mechanism when the base of the electorate becomes larger. We treat it equally to the votes no matter they are validated or not. Meanwhile, it's transparently that how many unverified and verified votes it gets for each regional node.

4.2Autonomous Committee (AC)

The emergence of the Autonomous Committee: 21 Autonomous Committee members are produced as 21 nodes by all users in the community by voting. The service term of each member is tentatively scheduled for 6 months.

The adjudication mechanism of Autonomous Committee:

Being responsible for identifying the identity of Regional Administrators;

Being responsible for supervising the work of the district administrator.

All the Token holder can take part in the vote but the weight is slightly different between each voter. The weight sorted from high to low are following:

The one who with higher reputation

The one who post more and higher quality information

The one who hold more tokens

4.3Regional Committees (RC)

The emergence of the Regional Committee: Every registered member can take part in this contest through self-recommendation and produced or recalled by Autonomous Committee by vote. The membership of each regional committee is 11. The service term of each member is tentatively scheduled for 3 months.

The jury users of criminal or civil proceedings in developed countries such as the United States and Britain are usually 6 to 12 in the real world. So the number of voters in each region set to 11 in order to ensure that the vote is bound to produce results.

Of course, with the continuous development and expansion of the community, we will consider to increase the number of Regional Committee in order to give all users the reasonable rights and interests of building community ecology.

The adjudication mechanism of Regional Committee:

(1) The members of the Regional Committee will vote on each issue of information. the request will be accepted and deemed to be a successful release when 7 or more members of the Regional Committee believe that the information

is in conformity with the release requirements. Contrarily, the request will be rejected and failed to publicat when 2 or more members of the Regional Committee believed that the information was untrue.

(2)The members of the Regional Committee who participate in the voting will be awarded tokens in accordance with their contribution.

The detail will be explained in the Constitution. The formulation of specific rules will be made by all community users.

4.4Adequate principle of community autonomy

The decentralized autonomous community will reduce the cost of decentralized certification system and give full play to the power of the community to safeguard the interests of the community.

HOS leasing ecology

One house owner paying attention on service quality publishes his own house information on HOS, and the tenant retrieves the information on HOS through the elements (such as region and price), if the tenant thinks the house information conforms to his own demand, he will reserve the house. Besides, the house owner can look up to the renting experiences and evaluations of previous house owners on the tenant through the information, if the house owner thinks the tenant is the suitable person, he will accept the house reservation. Wherein, the tenant writes evaluations for the house owner before completing the renting and he will receive the evaluation reward from the house owner through HOS.

All registered users can submit the house information held by them based on fixed module and apply for voting, once the submitted information is checked by the regional committee and passes the voting, the users can obtain certain HOS

Token reward. In addition, they can obtain the dividend of rewards from information browsers. We encourage individuals and organizations to publish information through HOS, especially more upstream and downstream suppliers in the house leasing industry chain, such as decoration, intelligent household electrical appliance and so on. Meanwhile, unified Token settlement mode can be used for integrating the various parties in the chain thus to make them commonly maintain the HOS leasing ecology.

V. Development plan

5.1HOS Incentive

In order to better establish the ecological environment of HOS, we design that the users can obtain corresponding returns from their efforts and contributions. At the beginning of HOS, certain proportion of Tokens will generate in the public incentive pool.

5.1.1Specification of mining reward

①Mining Reward

The house owner/apartment operator can obtain mining reward through publishing high-quality house information[6], the more the quantity of houses and good evaluations is, the more Tokens they can obtain, which can prompt the self-supervision of apartment operators and enhance service quality.

Certainly, based on considering the qualifications of transaction parties and the asset security of subscribers, we give priority to select large-scale house leasing institutions to participate in the ecological construction of HOS and provide abundant rewards

②Action Reward

The members of Autonomous Committee and Regional Committee make great efforts for the ecological construction and maintenance of community, we will release Tokens to them as rewards according to their contributions. Meanwhile, the community users can join in the committee members for supervision and conduct evaluation on house information published by other users, wherein, the valuable

evaluations and behaviors can be accepted and according Token rewards will be released. The tenants will also obtain corresponding Token rewards to their renting days after they move in the house.

5.1.2Token reward decreasing

The total quantity of HOS coins are fixed, and it will decrease with the increase in mining. According to the mining speed and cycle of global house quantity, we assume the quantity of HOS reward will decrease by half after one certain quantity of house information is explored and published, and the initial rewards of HOS will be 20. Similarly, we will take 0.2 billion from total Tokens to be the incentives for tenants, 50 million for the first year, decreasing by half every two years.

Therefore, we encourage the users to participate in mining as soon as possible thus to obtain the largest benefit.

5.2 Ecological business

5.2.1 Provide information service

When the HOS information data depth provides external data service, it will charge certain expense; When the various-dimensional data of HOS are enriched to form HOS big data, big data+artificial intelligence will provide external model service. All charging services will be presented through HOS Token.

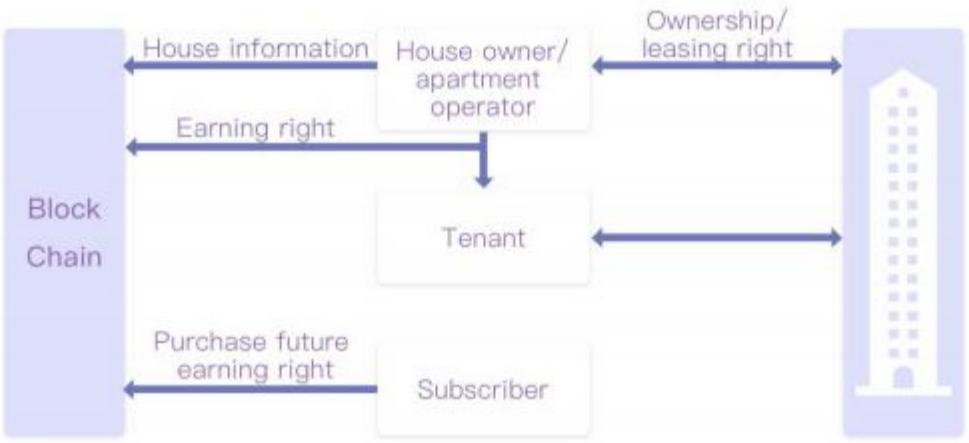
For example, if A Company wants to train a deep neural network model with regional house leasing price trend, it needs to dispatch some data of yours to train the model, but if it adopts the third-party centralized platform or procedure to

dispatch the data, your information may be stolen, or A Company gives the designed model to you, but you steal the model. As long as the third party is involved, it can not only steal your data but also stead the model of A Company.

How to avoid the information being disclosed or stolen? Good solution: A Company buys your data and doesn't touch your data but just take the model after training the model based on your data. In this process, A Company and you don's need to trust with each other. Such kind of method is based on AI+Blockchain.

5.2.2Provide house leasing earning right transaction service

The house owner/apartment operator leases the house to the tenant, and they Token the future house leasing earning right for transferring between platform users.



The house owner/apartment operator has earning right and can release transfer advertisement, while the HOS Token holders can similarly release the purchasing advertisement. The transferred earning right should be audited and voted by the committee members, and we will collect small quantity of service charge to be the remuneration for the committee.

5.2.3Wide application of physical asset Token

We plan to enhance the mobility and price authenticity of physical assets through the HOS system to solve the low market efficiency problem, which actually belongs to the guarantee management problem of house property assets under the dynamic price environment, similarly, we can apply the system into the storage, transfer and transmission requirements of more physical assets, write the asset information in the smart contract, token the asset value and adopt HOS to make transactions in the community exchange.

We welcome more partners to join in us to perfecting and applying HOS system thus to make the system realize the maximized and reasonable application and create larger value.

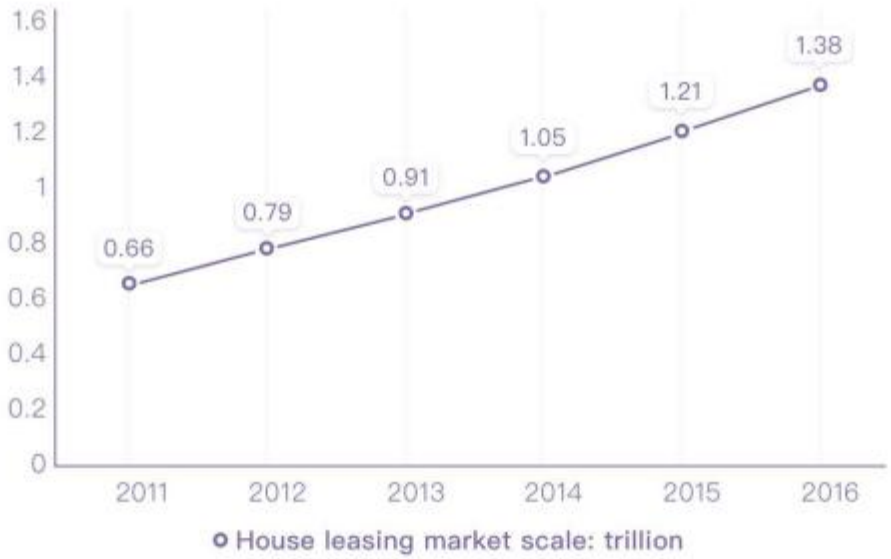
5.2.4 Value of HOS Token

As a large number of house information is published on the HOS platform and the community is gradually perfected and expanded, the application scenes and transaction value of Token will continuously be enlarged.

5.3 Expectation on HOS service platform value

Currently, the annual rental scale is about 1.38 trillion Yuan in our country. In 2016, the GMV of house transaction market was 15 trillion Yuan and ranked first among China, America and Japan while the ratio of rental scale and transaction market scale was only 7%; the GMV of leasing market in America was 3451.1 billion Yuan and ranked first, the GMV of transaction market was 6900 billion Yuan and

ranked second, and the ratio of the above two was 50%; the GMV of leasing market in Japan was 723.4 billion Yuan, the GMV of transaction market was 1000 billion Yuan and ranked third, but the ratio of them was 72%, ranking first.



House leasing industry market scale situation from 2011 to 2016[7]

The second-hand house transaction and leasing demands stimulate the demand on real house information. The HOS service platform has large potential in the future.

5.4Expenditure distribution proportion

The total quantity of HOS is 2.1 billion

Distribution structure:

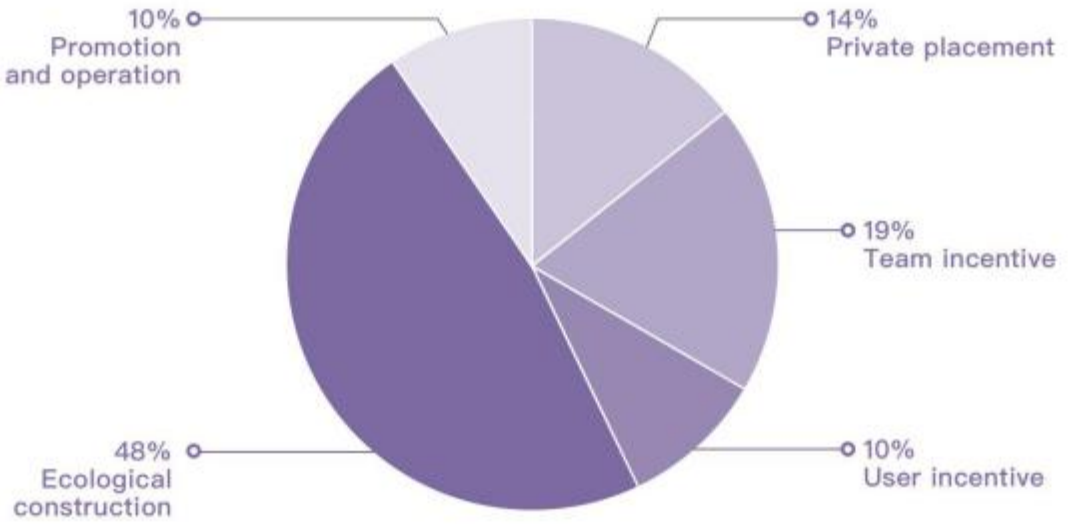
0.3 billion for private placement

0.4 billion for team incentive

0.2 billion for promotion and operation

1 billion for ecological construction

0.2 billion for user incentive


10%
Promotion
and operation
14%
Private placement
19%
Team incentive
48%
Ecological
construction
10%
User incentive

VI.Route map

Power accumulation

1 First stage:

2017Q1 Conducted accumulation in the house leasing industry for many year and deeply understood the industrial pains

2017Q2 Researched the blockchain and operation mode of smart contract, designed the initial scheme

2017Q3～Q4 Conducted pressure test and logical deduction based on EOS main chain, determined the business mode

Favor accumulation

2 Second stage:

2018Q1 Completed framework establishment and conducted platform development

2018Q2 Formulated the white paper and mde publicity for operation

2018Q3 Launch the ecology comprehensively and complete the C-end carrier H5/APP/WEB

2018Q4 Conduct launching test of DAPP

2019Q1 Realize external openness of API and provide open platform

2019Q2～Q4 Conduct publicity, complete the flow and conduct advertising investment

Evolution and change

3 Third stage:

2020Q1 Realize centralization-perfect change of decentralization, make accumulation to develop the exchange

2020Q2～Q4 Make the leasing earning right authority open, and develop the community constantly

Deep development

4 Fourth stage:

2021Q1 Cooperate with government departments, positively help house property to realize inventory and property listing transactions

2021～Q The future is full of infinite potential like the starts and the sea

VII. Risk warning

7.1Policy compliance risk

Currently, some countries have no clear supervision policies on blockchain project and exchange mode, therefore, there exists with possibility of participants facing losses owing to certain policies; in the market risks, if the overall value of digital asset market is overestimated, the investment risk will be enlarged, and the participants may have too high expectations on the project growth, which can not be realized.

7.2 Economic cycle risk

The economic cycle risk is objective and unavoidable. The house leasing market will present a periodic change with the periodic change of the economic cycle, meanwhile, the digital asset value change will affect the investment enthusiasm of the whole market on the project.

7.3Technology risk

The project has completed the concept proving before starting, and published the design of some code frameworks and milestones, but the situation that the technology test and technical route pre-estimation is insufficient exists, which will have certain influence on project development schedule.

7.4Token risk

The application scope of HOS Token is limited by the users and the market. After the project is tested and launched, the acceptability and popularity of HOS in the chain will be uncertain. Token doesn’ t represent that the holders enjoy any rights on HOS project, and the HOS team will not repurchase and make any right promise to Token.

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[4]Johnston,D.et al." The General Theory of Decentralized Applications,DApps." GitHub,June 9,2014.https://github.com/DavidJohnstonCEO/D

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