

InDex

**Next generation decentralized open financial
infrastructure**

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Summary

Blockchains and cryptocurrencies have many unique attributes. From Bitcoin to Libra, people are trying to use blockchain technology to build new financial systems that address financial services inclusiveness, usability and reputation. These attributes include: a decentralized distributed database that ensures the network is not controlled by a single entity; open access and open source code that allows anyone with Internet access to participate; and secure data and value transfer using cryptographic secure encryption Security of access; distributed consensus mechanism to ensure data consistency and reliability.

We believe that blockchain technology has been serving economic systems and financial systems since its inception, and should focus on value and finance, not others. However, the limited performance and scalability of the existing blockchain, the volatility of the cryptocurrency, hinders the widespread use of blockchain technology in the financial sector. The great innovation of blockchain technology requires economy and value as the foundation, and financial applications to achieve leap.

Decentralized Finance (DeFi) is the direction of future blockchain development. InDex will focus on this area and create a more inclusive, participatory and transparent financial system.

InDex Introduction

InDex's mission is to establish a next-generation decentralized open financial infrastructure for DeFi market participants, including financial market technology developers, financial market institutions, and financial market players. InDex consists of three parts that will work together:

- An open, intelligent privacy blockchain with an atomic exchange interoperability multi-chain architecture;
- A service and ecosystem around decentralized financial service providers, DeFi projects, distributed applications;
- An independent, decentralized governance mechanism that motivates and coordinates the development of InDex.

We believe that the cultivation and establishment of services and ecosystems is as important as the development and implementation of InDex technology. InDex introduces node and Staking reward mechanisms to motivate decentralized financial service providers and developers. In the early days, InDex coordinated and provided a framework for the development and management of services and ecosystems through the Foundation, and led a collaborative effort to support the development and development of DeFi projects and DApp applications on InDex.

Members of the InDex ecosystem will include financial service providers, financial institutions, multilateral organizations and academic institutions located in different geographic regions. The currently joined members include:

- Financial service provider: Digitizing Assets、Swarm Fund
- Blockchain industry: UKEX
- Technology platform: KMD Labs、B.S. Labs
- Academic institutions: Deakin University, Australia

Blockchains are unique because they allow thousands of governance systems and monetary policies to be tried at the speed of software; in some cases, the losses caused by failures are much smaller. We have the opportunity to create distinct power distribution and balance structures and plan for our own future.

InDex governance is divided into two key components, incentives and governance. The incentive mechanism will involve accounting, nodes, Staking, etc. Over time, different participants of InDex will propose evolutionary changes that are beneficial to them.

Since all organizations and participants are unlikely to maintain 100% incentive consistency at all times, the ability of all InDex participants to revolve around co-incentives is critical to the evolution of InDex. InDex's governance mechanism is mainly in the chain and off-chain governance, and is a major issue for InDex. We will work with communities, technology platforms, and academic institutions to explore and implement patterns and technologies for chain governance.

Whether it's InDex, services and ecosystems, and the evolving governance mechanisms, InDex has openness as a principle, and any user, developer or organization can use the InDex network to build products, services and applications on this network. And add value. This is the foundation for the mission of InDex: building the next generation of decentralized open financial infrastructure.

InDex Blockchain

Framework Design

InDex integrates the needs of financial products into the underlying architecture of the blockchain to match InDex's position as an open financial infrastructure. The entire architecture design will follow the following lines:

- Security is the core element of finance. For this, we will enhance our capabilities such as rights management, network security, privacy protection, and supervision/regulation;
- Achieve high performance to meet the high throughput and high concurrent performance requirements of large-scale commercial applications;
- Provide a virtual machine complete by Turing to facilitate the construction and execution of smart contracts;
- Achieve multi-chain coexistence and cross-chain technology to solve cross-chain interoperability and asset flow issues.

At this point, the entire network will be divided into the network layer, the consensus layer and the application layer. The network layer is responsible for disseminating transactions and related information; the consensus layer is responsible for enabling the nodes to reach a consensus on the current state of the system and ensuring the consistency of the distributed system; Dapp Application layer: Responsible for updating the transaction status (ie processing transactions), thus satisfying the basic needs of financial products through the architectural design of the sandwich structure.

At the same time, in order to ensure the Extensibility and Scalability of the InDex

network, the functional components will adopt a modular design and provide the standard definition "DIC Module". All modules follow this standard definition. Modules that follow the "DIC Module" can be loaded into the entire network.

Currently, the DIC SDK provides the following modules:

- Auth: Multi-asset account model
- Bank: Transfer related
- Crisis: System economic situation processing
- Gov: Governance
- Params: System global parameter processing
- Slashing: Punish the perpetrator
- Staking: Equity pledge
- D-Oracle: Decentralized god machine

Technical Characteristics

dPoW delayed work proof mechanism

The way InDex provides network security is called Deferred Work Proof Technology (dPoW), which builds on the most secure blockchain technology nowadays, the Workable Proof Technology (PoW), which is the security used by Bitcoin networks. Essentially, it protects InDex with the hash of the bitcoin network. This can be done by storing a backup of the exponential blockchain on the Bitcoin ledger.

The delayed work proof (dPoW) works by writing a block hash of one block in InDex every ten minutes into a block of the bitcoin blockchain. This process is called notarization and it is the backbone of InDex's security mechanisms. InDex's notary node performs the technical work required to successfully complete the notary.

InDex's process of implementing dPoW is fairly straightforward. Although it provides incredible high-level security, it is an elegant and simple security solution. The whole process can be divided into 7 steps:

- 1) Select a specific Bitcoin block. The block selection is performed by the notarized node on InDex. Upon completion, the InDex network agrees on the selection of the block and preparation for notarization.

- 2) Choose which notary nodes will participate in the notarization. Next, the notary node must reach a consensus on which nodes will participate in the notarization. For each transaction that requires notarization, it is necessary to obtain 13 signatures among the 64 nodes. The system will randomly extract 13 signatures to provide nodes before the signature.
- 3) Notarized to the InDex main chain. Once the notary node network has reached a consensus, which 13 nodes will participate in the notarization process, they can create transactions on the InDex chain. Using the OP_RETURN command, this notary transaction will save the hash value of the specific block selected in the first step to the InDex network.
- 4) Notarized to the Bitcoin network. Now, the InDex network will be notarized for a block on the Bitcoin network. Using the same process as in the third step, the notary node will perform a transaction in the bitcoin network and then store the block hash value on the InDex to the bitcoin network.
- 5) Return the notarized results to the InDex network. The transaction created in the previous step is confirmed on the Bitcoin network, and the notarized node broadcasts this information throughout the InDex network. Thus, the block used for notarization and all of its previous blocks provide a completely immutable nature, and the entire network does not accept the reorganization of the notarized block.
- 6) Returns the notarized result to each dPoW protection chain. The notary node also informs each network that uses dPoW protection that the notarization has been completed. As described in the previous step, once the dPoW-protected network knows that the block is working, the block and all blocks before it become immutable.
- 7) Repeat the entire dPoW process. InDex's notary node network repeats the entire dPoW process approximately every ten minutes, providing all-weather bitcoin network-level security for all dPoW-protected chains. Even if an attacker gains control of the network, they cannot reorganize any blocks that have been notarized. Since the notary is issued every 10 minutes, 51% of the attacks are not feasible and unprofitable.

The notarization process is critical because it protects InDex from the same level of security as the Bitcoin network. After the notarization is completed, InDex cannot re-circle the notarized block. Every transaction completed before this point is protected by the BTC hash difficulty. Therefore, hackers need to break through the Bitcoin network in order to destroy the notarized block hash before they destroy or change InDex. Obviously, hackers attack AtDex for at least a few million dollars (at the current bitcoin network) level, high cost. The cost of attack will make the hacker need more thinking and attack.

Intelligent Multi-Chain Technology

InDex solves the problem of blockchain scalability with innovative multi-chain

technology. Local and independent blockchains are available for all projects that launch blockchains on the InDex platform. What happens on one chain does not affect other chains in the ecosystem. At the same time, all blockchains built in our ecosystem have the same privacy and security features as the InDex backbone.

Analogous to the Internet now, we offer each of their own high-speed Internet connections with their own modems and their own routers. There is no shared infrastructure. No matter how many video streams your neighbors have, your internet won't slow down. The same is true for blockchains launched on the InDex platform. The performance of your project will never be hampered by the activities of other projects in the ecosystem.

This distinguishes InDex from other existing blockchain platforms. No other blockchain service providers offer this level of scalability and best-in-class security. While you are forced to share infrastructure with other projects, some blockchain platforms provide security. This increases congestion and transaction costs, which limits scalability.

Other blockchain platforms offer separate blockchains, but for security, you can use your own device. This is especially troublesome if you use a Proof of Work (PoW) consensus mechanism, because smaller projects often do not have a high enough hash difficulty to protect themselves from 51% of attacks and other attacks. Without security, scalability doesn't seem to matter.

Smart Multi-Chain Support With hundreds of different parameters, hundreds of millions of different solutions can be customized. These 18 parameters are: Name, Block Time, Pre-Mine Supply, Consensus Rules, Block Rewards, Privacy Settings, Blocks. Reward reduction cycle, reward reduction, and reward era.

Smart multi-chain technology provides an extremely powerful and effective way to run programs and applications on blockchains. It has three characteristics:

- 1) Turing is complete. Support for C / C ++, which means it allows the use of Turing complete code. With Antara, any program or software can be coded to run on your smart chain.
- 2) There is no GAS fee. Multi-chain modules do not have a GAS fee, and it only pays a transaction fee regardless of how many processes are required to execute the module.
- 3) Code customization. Experienced developers can write custom modules and create more advanced modules for remote calls.

InDex is the only blockchain platform that provides a security and scalability solution for every project built on the platform.

Atomic Swaps Atom Exchange Protocol

Atomic swaps are technologies that support the fast exchange of two cryptocurrencies running on different blockchain networks. The atomic exchange is essentially a cross-link peer-to-peer transaction.

The Atomic of a transaction refers to a unit in which a transaction should be considered to be the smallest and cannot be divided.

We use a hash time lock contract to get such a feature. Hash Time Lock Contracts (HTLC) are an important part of the Bitcoin Lightning Network and they are also one of the key components of atomic switching. As the name implies, they are based on two key functions: Hash-Lock and Time-Lock.

Hash-Lock will lock the use of funds. Time-Lock ensures that smart contracts can only be executed within a predefined time frame., the use of HTLC eliminates the need for centralization, which creates Specific rules that prevent atomic swaps from being partially executed.

How atomic exchange works:

The atomic exchange protocol is designed to prevent fraud between counterparties. We assume that Alice wants to exchange the DIC in her hand with the BTC held by Bob.

First, Alice saves her DIC to the contract address, which is similar to a safe. After creating security protection in this way, Alice also generates a key to access it. She then shares the cryptographic hash of this key with Bob. Note that Bob cannot get Alice's DIC at this time because he only has the hash of the key, not the key itself.

Next, Bob uses the hash value provided by Alice to create another secure contract address for depositing into his BTC. If Alice wants to exchange BTC, Alice needs to use the same key as the address, at the same time, she also needs to show the DIC key to Bob (with the special features of Hash-Lock). This means that once Alice proposes to redeem the BTC, Bob can simultaneously acquire the DIC in Alice's hands, and the transaction process of the atomic exchange is completed.

The term "atoms" represents the consistency of a transaction, ie, the transaction is either completely successful or completely unsuccessful. If either party gives up during the course of the transaction or fails to perform as expected, the contract will be cancelled and the funds will be automatically returned to the original owner.

Atomic exchange can be done in two different ways: on the chain and below the chain. Atomic exchange on the chain occurs in a blockchain online network of either cryptocurrency (in the above case, it occurs on the blockchain network of Bitcoin and DIC). On the other hand, atomic exchange under the chain occurs

under the chain. This atomic exchange is usually based on a two-way payment channel, similar to the channel payment used in lightning networks.

Cross-Chain Smart Contract

Another major innovation in InDex is the cross-chain smart contract. In short, this feature allows value transfer between different blockchains without the need to exchange or trade, which makes it possible to combine a notarized Merkle tree proof with a combustion protocol that keeps the coin supply constant.

This new technology creates blockchain interoperability and offers two main advantages. First, if the fund project launches the blockchain on InDex and the performance of the single-chain structure is no longer sufficient to handle the project's needs, then other chains can be created and synchronized with the first chain to meet the performance requirements. Possibly, because cross-chain smart contracts allow multiple (or many) blockchains to communicate with each other and as a single chain.

This means that all projects within the InDex ecosystem can scale as needed and grow with the business. As the demand for the project increases, more chains can be added at any time so that performance will always meet the needs of development. If a chain is not enough to meet the demand and there is no way to cut it, then add another chain; if the two chains are not enough, create a third chain, and so on. There is no limit to the number of chains that can exist in a single asset chain cluster. This technology is suitable for all projects within the InDex ecosystem.

As a result of InDex's MoMoM extended solution technology, any chain on the InDex platform can verify transactions occurring on any other chain in the ecosystem. In addition, cross-chain smart contracts allow seamless transfer of value between chains without the need for transactions or exchanges. Simply put, the coins on one chain are burned and the value is allowed to appear on a separate chain within the ecosystem. In other words, it has complete blockchain interoperability.

In general, there are five steps to implementing the cross-chain verification:

- 1) The first step in the InDex platform synchronization process is to use multiple blocks of Mekle Roots and position them into the Merkle tree to create a new Merkle Root.
- 2) Repeat this same process for each smart chain on the InDex platform to generate a single Merkle Root from multiple blocks of Merkle Roots.
- 3) Use the OP_RETURN command to write unique fingerprints from all smart chains into the InDex ledger.
- 4) Then all digital fingerprints of all smart chains in the InDex ecosystem are

compiled into another Merkle tree. The generated Merkle Root acts as the primary fingerprint.

- 5) Finally, the primary fingerprint data is notarized back to the ledger of each smart chain, enabling top-level interoperability and scalability.

Zero Knowledge Proof

Zero-knowledge proof (ZK-Proofs) was known long before blockchain technology emerged, but with the advent of distributed ledgers, a whole new set of available cases has evolved.

Simply put, a zero-knowledge proof allows you to prove to the verifier that you know something, and not reveal the information you send. For example, Anna signed a smart contract with Carl, and Anna put 100DIC in it. And agree that Carl must complete a specific task, you can get 100DIC in the smart contract.

If the task that Carl is going to accomplish is a multi-confidential task, the whole situation becomes complicated. Suppose you have signed a smart contract with Anna, and the conditions for getting paid are to complete task A, task B, and task C. Now that you have completed the task, you don't want to reveal the details of these tasks to the competitors, because this is a company secret, then the ZK-Snarks will be out. ZK-Snarks are deployed in smart contracts and provide proof that you have completed these tasks, and of course the process does not reveal any information. This is a great help in protecting the privacy of your personal and company. During the verification process, ZK-Snarks will only disclose some, not all, information, and the public part is sufficient to prove your statement.

Zero knowledge proof operation principle:

ZK-Snarks consists of three algorithms, G, P, and V.

G is the key generation algorithm, and the input it accepts contains a parameter "Lambda" (which must be kept secret, cannot be made public under any circumstances), and a program C. A proof key pk, and a verification key vk are then generated. Both keys are public and available to anyone who needs to use them.

The P algorithm plays the role of prover and requires three inputs: the proof key pk, the open arbitrary input value x, and the statement of the knowledge to be proved. Here we use the "w" to represent it. The P algorithm generates proof prf such that: $prf = p(pk, x, w)$, The verifier algorithm V returns a boolean variable. Boolean variables return only two results: true (TRUE) or false (FALSE). The verification algorithm also requires three inputs: the verification key vk, the public input value x, and the proof prf.

Calculate $v(vk, x, prf)$ If TRUE is returned, the prover is correct, otherwise it returns false. The value of the parameter Lambda must always be kept secret, as anyone can use it to generate false proofs. Even if the counterfeiter does not know the true statement w , these false certificates generated using Lambda will return TRUE.

Zero knowledge proves how to operate in a non-interactive way:

Explain by discrete logarithm:

Anna wants to prove to Carl that she knows a value of x so that for a base g , she can get $y = g^x$

Anna randomly picks a number v from the Z set and calculates $t = g^v$

Anna calculates $c = H(g, v, t)$, and $H()$ is a hash function.

Then, Anna recalculates $r = v - c * x$

Carl, or anyone, can check $t = g^{r * y^c}$

The function of ZkSnarks is implemented:

The example function is as follows:

```
function C(x, w)
{
return ( sha256(w) == x );
}
```

Function C needs to enter two parameters, one is the public hash value "x" and the other is the private statement "w" that needs to be verified. If the SHA-256 hash of w is the same as "x", function C returns TRUE; otherwise it returns FALSE.

The first thing that Carl needs to do as a verifier is to generate a proof key (pk) and a verification key (vk) through the key generation algorithm G.

To do this, Carl also needs to be a random number "Lambda". As explained earlier, Carl must take care of "Lambda" very carefully, because as long as Lambda is known by Anna, she can forge the correct proof.

The process of generating the key is as follows: $G(c, lambda)=(pk, vk)$.

Two keys are already in place, and then Anna must prove the validity of her statement. She will use the proof algorithm P to generate the required proof. She must prove her statement w , after the hash (SHA-256), can get the output x . The behavior of the proof algorithm P to produce proof is as follows: $prf=p(pk,x,w)$.

Now that Anna has a proof (prf), she will pass this value to Carl for the validation algorithm of Zk-Snarks, $v(vk, x, pr)$.

Now, vk is the verification key, x is the known hash value, and prf is the proof that Anna gave to Carl. If the verification algorithm returns TRUE, it means that Anna is honest, she does have a private statement "w"; if it returns FALSE, it means that Anna is lying, she does not know what "w" is.

What is the next step?

With a low-performance, structurally stable underlying technology framework, InDex plans to add functional components and financial ecosystem applications to complement the prerequisites needed to create a more inclusive, participatory and transparent financial system.

Functional component

Dapp Development Module

At present, the Dapp module development threshold is still high, and it is not friendly to developers. InDex's Dapp development module reduces the learning curve slope by providing a comprehensive software development kit (SDK), standardized data interface development, and a unified development language.

On the one hand, it reduces the learning cost of application developers, on the other hand, it allows developers to have more time to focus on the development quality of the application, thereby improving the overall level of Dapp ecology on InDex.

The development module is developed and provided by the InDex technical team and is open source, which developers can find in InDex's Github library.

Programmable financial module

Through Turing's complete virtual machine and a large number of standard module libraries, InDex can easily set up financial modules for specific needs according to user needs. This is a fully customizable and highly flexible solution.

These open financial modules make geography and the environment no longer the only prerequisites. Users also have unprecedented transparency in financial agreements, knowing the terms of each contract before signing a contract. Similarly, financial agreements will be arbitrated by smart contracts, which will always execute as planned, thereby eliminating the risk of various counterparties in the system.

Many developers of InDex are currently trying to build many decentralized basic

financial modules. The modularity, programmability and cost-effectiveness of these multi-level financial networks will enable individuals to achieve unprecedented, more granular financial granularity.

Financial Ecological Application

Decentralized Identity

The blockchain network does not require the account or address to be bound to the real information. However, for many financial application scenarios, identity authentication is necessary and necessary in accordance with relevant legal requirements, especially in anti-money laundering and counter-terrorism financing. In the traditional scheme, we have provided identity information to the platform when we identify the identity, and there is a risk of disclosure of identity information. Therefore, combined with biometric technology and cryptography algorithms, the decentralized identity is introduced, and the identity information is distributed and stored encrypted to ensure the privacy and security of the user identity data. The identity information control right is returned to the individual, and the individual can make Whether to open, to whom to make decisions, etc. The InDex authentication protocol will follow the W3C standard and will also seek to collaborate with Microsoft DID, Sovrin, uPort, CVC, Bloom and other identity authentication projects.

Multi-Currency Wallet

A wallet is a place where users store personal digital assets. An account is the starting point and focus of the flow of digital assets. It is the origin of the entire financial network in the blockchain network. Therefore, a reliable, easy-to-use wallet application is especially necessary.

InDex network can support multi-currency storage including mainstream currency and index currency (DIC) such as Bitcoin, Ethereum, EOS, etc. in one wallet because it supports intelligent multi-chain technology.

Decentralized Data Publisher

For difference-based financial intelligence contracts, it is actually possible to decentralize the data publisher through the "Schelling point" protocol. The Schering point works as follows: The N side provides input values to the system for a given data (eg DIC/USD price), all values are sorted, and each node providing a value between 25% and 75% will To get rewards, everyone has incentives to provide answers that others will provide. The answer that a large number of players can really agree with is obviously the correct answer. This constructs a theoretically available value, including DIC/USD price, Berlin temperature. Even a decentralized protocol for the results of a particularly difficult calculation.

Through this decentralized data submission and verification method, the process of transforming real data into data on the chain is completed, and the problem of the lack of prophecy (the Prophecy machine) in the blockchain world is solved, and the decentralization is used. The voting authentication method provides the rationality and fairness of data input by means of such group voting, and solves the problem that the user cannot complete the offline data input to the chain.

Encrypted Asset Financial Services

Based on InDex's financial intelligence contract application, it can provide digital commercial bank deposit and loan business, leveraged business, and other financial derivatives services for users' encrypted assets.

Transfer encrypted digital assets to financial accounts for secure InDex financial contract applications: Your encrypted assets will be hosted by PayPal's compliant and encrypted digital asset escrow partners, safe and reliable, and users will immediately receive loan credits without credit review, application Through the intelligent credit module, you will be provided with the corresponding stable currency loan amount according to the value of your encrypted assets in real time.

Users can choose different currencies and term deposits to get fixed income. The applied coin products are collateralized by loans, not transactions, and are safe and secure. You can earn stable digital assets regardless of the cryptocurrency market. Users can also apply for a loan and get it in real time. Stabilized currency loans will be issued in real time and can be used immediately. The excess pledge is managed by the compliance custodian to ensure the rigid payment of the principal and interest of the deposit.

Open Over-The-Counter Market

OTC (over-the-counter market, also known as the over-the-counter market), over-the-counter trading refers to equity transactions conducted in markets other than securities trading. English full name Over-the-Counter Market, Chinese translation for the counter market. Unlike the exchange market, OTC has no fixed place, no defined membership, no strict controllable rules, and no trading products and restrictions, mainly one-on-one transactions conducted by counterparties through private negotiation. Over-the-counter trading is mainly in the financial industry, especially in countries with well-developed financial institutions such as banks. An OTC transaction for a digital asset is a form of personal asset-to-person digital asset transaction, and the platform serves only as an intermediary guarantor. However, traditional digital asset OTC transactions are at risk of being attacked, violating anti-money laundering regulations and malicious fraud due to lack of supervision.

InDex will help applications running on the chain implement intelligent digital asset OTC transactions based on financial intelligence contracts and blockchain technology to circumvent the risks that traditional OTC exchanges must face.

Decentralized Exchange

The traditional centralized exchange is a centralized platform for trading, and the platform endorses trust. In a decentralized exchange, the assets of both parties to the transaction are stored in their respective accounts. When the order of each other is reached, the seller calls the smart contract address of the decentralized exchange, and the coin transaction between the buyer and the seller is completed by the smart contract and returned to the buyer and the seller. During the entire transaction, assets are stored in the user's wallet and do not need to be recharged to the exchange. Only when the two parties reach a deal, the digital currency of the transaction is exchanged through the smart contract. Therefore, there is no third party in the intermediate process, and security is guaranteed by smart contracts.

The decentralized exchange on InDex allows people to trade cryptocurrencies without the risk of counterparty. The component is open source and the transaction function can be used by any developer to connect to any coin on the decentralized exchange. InDex will offer a full range of technical solutions for anyone to use. The exchange component fully implements order matching, transaction clearing, and settlement. The order matching aspect is performed by an atomic exchange protocol.

Generalized Forecasting Market

The modern forecasting market is based on the participants' goal of making the best possible predictions for a future event. This time can be political elections, tomorrow's weather or even a game. By setting up a highly intelligent and neutral god machine on InDex, it is possible to run a fair, modern forecasting market on InDex. The market value of the entire forecasting market exceeds trillions of dollars. In the foreseeable future, even if only the value of some forecasted markets is introduced into the InDex ecosystem, the entire system will gain considerable value inflows and development prospects.

Whether it's a god or a Sherlin coin, the forecast market will be easy to implement, and the forecast market with Sherlin currency may prove to be the first mainstream "Futarchy" application to decentralized organizational management agreements. Predicting the emergence of the market, and simultaneously opening up the exchange process of data on the chain and under the chain, to meet the data sampling problem of online applications.

A group of traders (real and machine) trading shares, based on the outcome of future events, is the best description of the forecast market on InDex.

Decentralized Mining Pool

Large-scale mining pools have a huge computing power, which virtually captures the lifeblood of a chain. Through the use of huge computing power, it has the potential to have a negative impact on users. Some bitcoin developers even think that this threat is too serious, and they must urgently take a fork and modify the mining algorithm. If successful, a number of existing mines can be eliminated. Although many people are cautious about forks, they are worried that shareholders will not agree; but this method can prevent miners from abusing power.

Using InDex's financial intelligence contract to solve these problems, decentralized mines can be deployed on any cryptocurrency. Decentralized pools can provide a more democratic process, and each miner can initiate a transaction. In other words, the mine pool is less likely to decide whether the transaction will pass. The reason why miners join the mine is that they have a reliable and stable salary, but the risk of mining monopoly is greater. Miners who have no power will find it hard to find blocks and get rewards.

InDex Applied Ecological Development

Develop with InDex

In order to encourage more people to participate in the various aspects of InDex's ecological construction, we have separately set up funds and plans for developers, application projects, and money holders, in order to encourage outstanding contributions among them. Individual or team.

If you are a developer, you can participate in our test network. Here, you can preview the latest modules and supporting technical documents that InDex will use in advance, and look forward to your valuable comments in the community. So that DAO can better grasp The direction of progress.

If you are a currency holder, I hope that you can follow every DAO initiative and proposal, focus on the development and construction of the entire community, and make your comments and suggestions, the entire community is looking forward to your feedback.

If you are a team member and would like to be able to distribute your own apps and projects on InDex, we hope that you can get in touch with us so that we can

understand your thoughts and intentions so that we can provide you with the necessary help and support.

Developer Fund

To quickly support developers, expand the InDex ecosystem. To solve the problem of shortage of funds for excellent projects, a developer fund has been set up to support developers in further research and development.

Application conditions:

- The developer applies to DAO, and the content of the application needs to include, product description, product display (including but not limited to product link or installation package APK);
- Applicant needs to verify software ownership;
- Audit criteria: The product itself has reached DEMO level or higher;
- Use of funds: To support the applicant's further development or operation plan. Scope of participation: The developer's project areas include, but are not limited to, the following categories based on blockchain technology application scenarios:
- Dapps(covering finance, payments, games, currency, internet of things, energy management, social communications, etc.);
- Query, conversion, assist development, and other excellent tool applications with practical value;

Eagle Plan

After a period of development, blockchain technology has gradually gained more attention and research in the industry. Many traditional enterprises have tried to integrate blockchain technology into their own industries to solve some data-based pain points, including supply chain, ticketing and other links.

For the blockchain industry and the development of InDex itself, the InDex team launched the Eagles program, which will help companies or teams interested in blockchain technology and InDex.

The plan will provide assistance in the basic knowledge of blockchain science, technical support and business model recommendations, as well as financial support for projects with better evaluation results, which will play a role in incubation.

Financial Compliance Service

As an open financial infrastructure, InDex understands the need and importance

of financial compliance for business. Based on the actual situation of InDex's own team, it was decided to set up a compliance help team to provide technical, auditing and legal assistance to all teams that need compliance advice on the InDex ecosystem. The establishment of the group also indicated that InDex has been The original intention of the infrastructure in the compliant financial block chain that has been claimed and adhered to.

These help services are completely free and will be donated to DAO if any revenue is generated to further advance the InDex ecosystem.

InDex Governance

InDex's mission is to create a more inclusive, participatory and transparent financial system. To achieve this mission, InDex needed a supervised entity composed of diverse independent members.

We refer to this oversight entity as the InDex Committee, an independent, not-for-profit membership organization based in Singapore. Singapore's attitude towards the openness and support of blockchain technology has been the main reason why the Commission has chosen here. The InDex committee aims to facilitate the operation of the InDex blockchain; coordinate the various stakeholders (the network's verifier nodes) to agree on the process of promoting, developing and expanding the network; and manage the reserve assets.

The InDex Committee is managed by the InDex Foundation, which is composed of a representative from all notary nodes. Members of the InDex Foundation work together to make decisions about the governance of networks and reserves. All decisions will be made through opportunities and opportunities. Major decisions or technical decisions require two-thirds of the members to vote.

Through the committee, the notary nodes are aligned with the network's technical solutions and development goals. In this regard, the Commission is similar to other non-profit entities in the form of foundations that manage open source projects. Since the future development of InDex relies on a decentralized and growing community of open source contributors, the committee is a necessary medium to guide the development and adoption of protocols or specifications.

In the early years of the network's development, additional roles were required to complete the following tasks for the committee: recruiting the founder of the notary's notary's node; fundraising for a quick start of the ecosystem; designing and implementing an incentive program to drive InDex It is widely adopted, including the issuance of such incentive bonuses to founders; the establishment of social

impact funding schemes in the name of foundations.

At some point in the future, due to the high development of InDex and the stability of the organization, the Foundation will slowly withdraw from the management of InDex, returning the decision-making power of the transaction, the execution of decision-making and the control of assets to the community, and smoothing. Slowly return the governance work to the community and realize the most primitive community autonomy structure in the blockchain.

Technology R&D Roadmap

At present, InDex has completed the development of the basic technical architecture and modules. The DPoW consensus method works well in the test network, giving the entire network bitcoin network level security performance; smart contract with Turing completeness and scalability Technical verification has been completed, including the Assets contract, which is the bottom of the general economics, the Channels contract that supports instant payment in the untrusted link, allowing the user to promote and manage the Gateways contract of the assets on other blockchains, allowing users to set up Inheritable decentralized fund Heir contract, etc.; completed zero-knowledge proof link, allowing users to trust the reliability of the transfer in a completely anonymous state, that is, the outside world cannot observe any transaction data, Assets are transferred or traded; using atomic exchange technology, the function of decentralized cross-chain asset trading is realized.

In the established project development plan, the next step is to realize the formation of the Antara framework including the PIP (Public Interest Project) to realize the economic behavior of DAICO and the dynamic library problem of solving developer creation and sharing solutions.

Road Map :

Q3 ,2019	Realize the main online line, mining software and wallet synchronized online; DPoW consensus mechanism deployment; The establishment of the Open Financial Assets Standard (FRC-20); The first application project was launched, and the multi-currency wallet was launched;
Q4, 2019	An anonymous transaction module based on zero-knowledge proof technology is launched; Complete the development of Lightning Network and connect to the

	corresponding third-party mobile wallet; Application development document library establishment; Application Development Competition and Developer Fund Establishment;
Q1,2020	The Oracle module based on aggregated data is online; The stable currency module anchoring the legal currency of each country is launched; Official mobile wallet online;
Q2,2020	Multi-signature function is online; The atom exchange technology module is online; Decentralized exchange completed prototype development;
Q3,2020	The intelligent multi-chain technology module is online; Instant micropayment module online;
Q4 & Beyond 2020	Dilithium-based digital signature scheme added to InDex for anti-quantum level security performance upgrades; Upgrade other modules to absorb and plan other advanced technology modules;

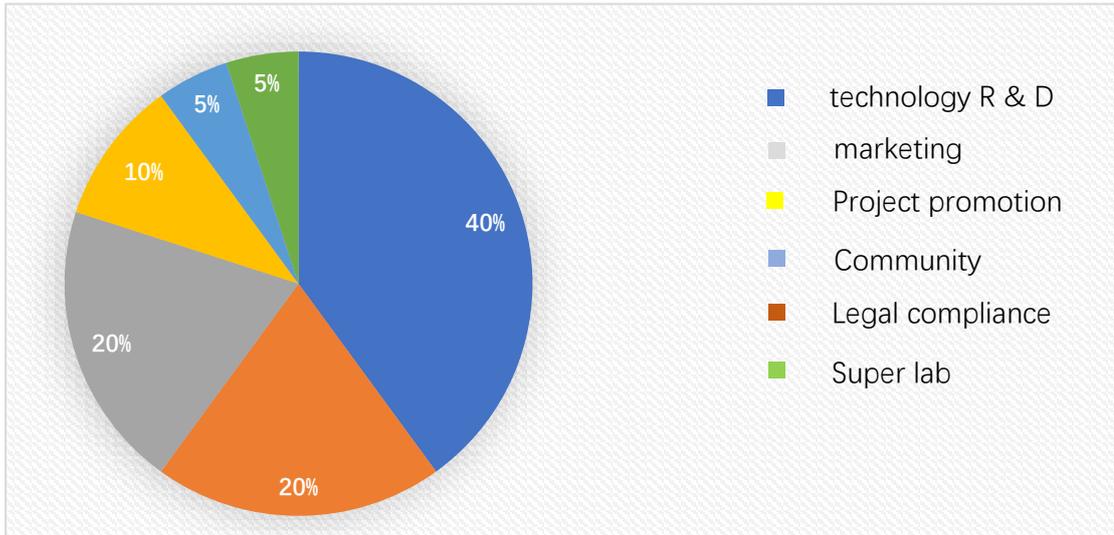
Network Basic Settings

Digital Index Coin, referred to as DIC, is a trading medium and currency value symbol used in all application scenarios on InDex. The index currency is fuel on InDex and is used to pay for transaction fees, contract execution fees, and so on.

- Total supply: 3.1 billion pieces
- Block reward:360 DIC
- Reward distribution: 20% for founding team, 30% for master node, 50% for miners
- Block interval: 60 seconds
- Half cycle: 2 years (four years before)
- Halving mechanism: 6% of the total annual output, the annual output in the third year is 3% of the total, and the output in the fifth year is 1.5% of the total, and continues to follow the total amount of 1.5. % continues to produce.

Fund Use Plan

The 20% block awards won by the founding team will be allocated in the following proportions:

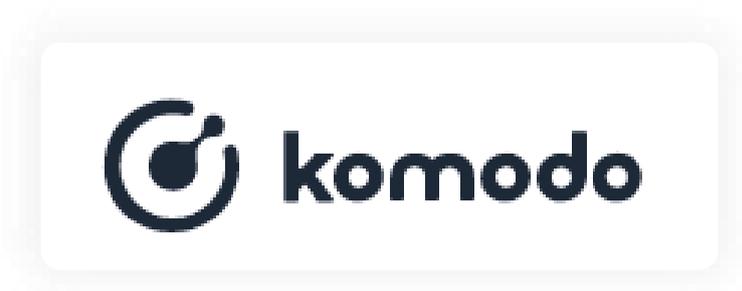


Team

Technical Team

The technical team of index comes from the professionals of blockchain technology, cryptography technology, financial technology and software engineering in many countries around the world. At the same time, we cooperated closely with many technical teams around the world, including B.S. labs. And KMD labs. Index's technology R & D is based on mature development teams and many mature technologies to reduce the risk of technology development.

Technical partners



KMD labs.

Composed of the world's top blockchain technology experts developed by the Komodo public chain, CryptoConditions intelligent contract, atomic exchange and other blockchain science underlying technology development has very rich experience.



B.S. labs

Founded in 2016, it is a senior blockchain R&D lab consisting of experts and professors in the fields of cryptography, financial technology and software engineering. B.S. labs. Participated in the research and development of multiple blockchain projects including zenpool.

Management / Consultant Team

Daniel Santos

Founder and CEO of token Advisors, a cryptocurrency strategist and blockchain consultant for the global board of directors. Currently, Token Advisors, under the leadership of Mr. Santos, provides blockchain consulting services to clients in Asia, Australia, North America and Europe. He has over 15 years of experience in leading financial institutions such as Citigroup (London), Renaissance Capital (Moscow) and Standard Chartered Bank (Singapore).

Denis ZNAMENSKIY

APPLIED MATHEMATICS PhD, FORMER CTO, BLOCKCHAIN and ALGOTRADING EXECUTIVE At ALGOCHAIN, CTO, HEAD of RESEARCH At ZIPQUANT. Dr. Denis has demonstrated skills in management of quantitative teams, hedge fund and startups; and possess strong theoretical and practical understanding of blockchain technology, AI, capital markets, mathematical expertise in numerical methods, and strong analytical capacities.

Wynn Ho

Wynn is a serial investor and a Business Consultant for more than 25 years. Accumulated vast experiences through investments in various industries across many countries, able to assess, evaluate and make accurate decisions in lightning speed. Wynn has held senior positions in Cold Storage Singapore and Lion Group Sdn Bhd, Principal Consultant of high-tech company Pacasa Holdings; Regional Director of ET Energy; Principal Consultant of Zheng Cheng Power; and CEO of PWR Holdings Pte Ltd.

Sky Qiushuo

A Singapore, Australia, UK Certified Public Accountant, KPMG Senior Auditor and Chartered Financial Consultant, and an early practitioner who set up Singapore overseas

foundation entities and facilitated the compliance operations of many startup teams in Singapore, including several Top 100 projects by market value.

Risk Warning

It refers to the possible change in income due to the common factors of the whole, which affects the returns of all securities in the same way. For example, related policy risks. At the same time, systemic risks 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.

Intra-Team Risk:

InDex brings together a team of talented and energetic talents, attracting experienced practitioners in the blockchain field and experienced technical developers. The stability and cohesion within the team is critical to the overall development of InDex. In the future development, it is not excluded that there is a possibility that the core personnel will leave and the conflict within the team will cause the overall impact of InDex.

Project Coordination, Marketing Risk:

The founding team will spare no effort to achieve the development goals set out in the white paper and extend the room for growth. At present, InDex has a relatively mature business model analysis. However, in view of the unpredictable factors in the overall development trend of the industry, the existing business models and overall planning ideas are not in good agreement with the market demand, resulting in unpredictable results. At the same time, as this white paper may be adjusted as the project details are updated, if the details of the project update are not supported by InDex participants in a timely manner, or if the public does not understand the new development of the project, the participants or the public are asymmetrical because of the information. The lack of cognition of the project affects the subsequent development of the project.

Technical Risk:

First of all, the project is based on cryptographic algorithms. The rapid development of cryptography will inevitably bring potential risk of being cracked. Secondly, technologies such as blockchain, distributed ledger, decentralization, and disambiguation support core business development. The InDex team cannot fully guarantee the landing of the technology; again, during the process of project update adjustment, there may be loopholes that can be compensated by issuing patches, but the degree of impact of the vulnerability cannot be guaranteed.

Hacking And Crime Risk:

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. Electronic money is characterized by anonymity and difficulty in

traceability. It is easily used by criminals, or is attacked by hackers, or may involve criminal activities such as illegal asset transfers.

Other Risks Not Currently Known:

As blockchain technology and the industry's overall situation continue to develop, InDex may face some unforeseen risks. Participants are required to fully understand the team background, understand the overall framework and ideas of the project, rationally adjust their vision, and participate in rational support before making participation decisions.

Disclaimer

This document is for informational purposes only and is provided for informational purposes only and does not constitute any investment advice, instruction or solicitation to sell stocks or securities in InDex and its related companies.

Such offers must be made in the form of a confidential memo and must comply with relevant securities laws and other laws. The contents of this document should not be construed as a forced participation in the support program. Anything related to this white paper is not considered participation support, including requesting a copy of this white paper or sharing this white paper with others.

All participants volunteered to support the development of the InDex platform and had a clear and necessary understanding of InDex prior to participation. The InDex 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, and some implementations may change as the project progresses, and we will adjust it in the new white paper. We will update the white paper on the official website, and participants are requested to obtain new versions in a timely manner and adjust their decisions in a timely manner based on the updated content.

InDex expressly disclaims any loss as a result of the reliance of the content of this document, the inaccuracy of the textual information, and any actions resulting from this document. 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. As the official token of InDex, the index currency is an important tool for platform performance, not an investment. Having an index currency does not mean granting its owner ownership, control, and decision-making power over the InDex platform. Index coins, as crypto tokens used in the InDex platform, do not fall into the following categories: a) any kind of currency; b) securities; c) equity of legal entities; d) stocks, bonds, notes, warrants, certificates Or other instruments that grant any rights. The value added of the index currency depends on the market law and the demand after the application falls. 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. The InDex Platform complies with any regulatory regulations and industry self-discipline statements that are conducive to the block platform's compliance with any regulations governing the healthy development of blockchain technology and its applications, as well as industry self-regulation and the health of its applications. Participant participation means that the inspection will be fully accepted and adhered to. At the same time, the participants disclose the statement and so on. 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.

The InDex platform clearly communicates the possible risks to the participants. Once the participants participate in the support, they clearly communicate the possible risks to the participants on behalf of their confirmed platforms. Once the participants participate in the support, they represent the understanding and recognition of each of the details. The terms and conditions indicate that accepting the potential risks of the platform is at your own risk.

Conclusion

The above is a comprehensive exposition of the InDex ecosystem. We hope that through the efforts of all stakeholders, we will strive to create a more complete, reliable and easy-to-use decentralized open financial infrastructure and a highly developed autonomy,Structured community.

DeFi is ultimately to achieve the tokenization of all assets, freely carry out uninterrupted transactions throughout the global market, and rebuild trust and financial systems through a developed Internet network, allowing more people, no matter where they are. You can easily enjoy modern financial services, truly realize inclusive finance, automate execution through smart contracts, without third-party custody and auditing, without identity discrimination, any financial system that anyone can participate in.