



Kademlia

Web3 smart entertainment social
service platform



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Kademlia

SUMMARY

In today's digital era, blockchain technology, artificial intelligence and the Web3.0 ecosystem are undergoing unprecedented rapid evolution. Technological change is reshaping our digital world at an astonishing pace.

The curtain of technological change in the Web3 era has begun:

Blockchain creates digital assets;

Smart contracts build a new smart economic system;

Artificial intelligence becomes the intelligent brain of the global digital network;

5G network, cloud computing, and edge computing build a more ambitious new digital space;

The Internet of Things fully maps the physical world to the digital world;

AR enables real-time superposition of the digital world and the physical world.

NFT becomes the key to web3

In order to welcome this immersive world that is infinitely close to reality, Kademlia has established a permanent system to continuously provide services and content, and to better connect with the real world through continuous development and enrichment of the ecosystem. Breaking the limitations of time and space, users can establish social connections with people around the world. Users can also invite their real-world friends to explore Kad together. Kad helps the majority of netizens successfully migrate to decentralized "WEB3.0" by providing more comprehensive, diverse and convenient identity recognition services.

Kad was jointly established by Singapore's Kenetic Investment Institution and AI Research Institute Dyliss. We believe that by combining artificial intelligence, NFT technology, blockchain innovation and decentralized social services, we can break traditional boundaries and create a more intelligent, efficient and personalized digital experience.

This white paper aims to introduce Kad's vision, technical architecture, business applications and economic model in detail.



1 Introduction

1.1 Background

In today's digital age, we are witnessing rapid evolution in the field of information technology, which not only changes our lifestyles, but also redefines the concepts of finance, social interaction, and digital identity. Blockchain technology, artificial intelligence, and the Web 3.0 ecosystem are key enablers of this evolution, and they are transforming our digital world at an unprecedented rate.

The rise of blockchain technology

Blockchain technology, as a distributed ledger technology, is known for its decentralized, tamper-proof and secure features. It makes the creation and trading of digital assets possible, redefines the traditional financial system, and opens a new era of digital finance. Not only is blockchain the basis for cryptocurrencies such as Bitcoin, it has also enabled the rise of smart contracts, which are self-executing contracts that enable various transactions and agreements to be executed without the need for intermediaries.

The wisdom of artificial intelligence

Artificial Intelligence (AI) technology has become the smart brain of the digital world. AI algorithms and models are constantly improving and can process large amounts of data, make complex decisions, perform natural language processing and image recognition, thereby providing users with smarter services and experiences. AI has penetrated into finance,

medical care, media, logistics and many other fields, bringing innovation and efficiency improvements to various industries.

The emergence of Web3.0

Web3.0 is the next stage of the Internet, which transforms the Internet from a tool for information exchange into a platform for value exchange. The characteristics of Web3.0 include technologies and concepts such as decentralization, autonomous identity, smart contracts, NFT, virtual reality and augmented reality. This new era will usher in a more open, secure, transparent and personalized digital world.

The rise of NFTs

In the Web3.0 ecosystem, the rise of non-fungible tokens (NFTs) has attracted widespread attention. NFT is a blockchain-based digital asset that is unique and irreplaceable. They have created new ways of value flow in fields such as art, entertainment, games, and real estate, and have become an important part of the digital asset field.

In this context of change, the Kad project came into being. Initiated by Singapore's Kenetic Investment Institution and AI Research Institute Dyliss, Kad aims to break traditional boundaries and create a more intelligent and efficient world by integrating artificial intelligence, NFT technology, blockchain innovation and decentralized social services. and personalized digital experiences.

1.2. Vision

Kad's vision is to promote the perfect integration of intelligent technology and investment in the field of digital assets, providing users with a more intelligent, efficient and personalized investment experience. We achieve this vision through the following core components:

Kad's vision is to build a comprehensive digital platform that provides users with the following key elements:

The future of digital identity: We are committed to building an eMIS digital identity system that complies with Web3 network standards and provides users with a secure, decentralized digital identity verification tool.

The evolution of social: We hope to redefine the way of social interaction through a decentralized smart social service network, enabling billions of users to connect more deeply and more securely.

Innovation in NFT: Kad will provide users with a polygonal network interface that allows them to easily participate in NFT transactions, create, buy, sell and manage NFT assets.

Intelligent investment: We will integrate artificial intelligence technology to provide users with intelligent investment advice and enhance their investment experience.

Kad's vision is to drive technology and innovation in these key areas to provide more possibilities for everyone's digital life.

1.3 Importance

Why is Project Kad so important? Digital assets and blockchain technology have transformed our financial systems and the way we socialize, but several challenges remain, including privacy concerns, interoperability and user experience. Kad's goal is to solve these problems while providing users with more control and intelligent tools to better cope with the needs of the digital age.

We encourage you to learn more about the Kad project and understand our vision, technical architecture, and business model in this white paper. This white paper will provide you with detailed information to help you understand our commitment and how you can participate in and support the development of this innovative project.

As we move forward, we welcome you to journey with us and explore the possibilities of the digital future.



2

Function and application value

Kad (Kademlia) is a comprehensive platform integrating AI digital investment, NFT trading, blockchain technology innovation and Web3.0 ecology. Initiated by Singaporean investment institution Kenetic and AI research institute Dyliss, the team has a team of top scientists and engineers dedicated to promoting the perfect integration of smart technology and investment to make investment more intelligent, efficient and personalized.

Kad aims to establish a master key that complies with the Web3 network through the eMIS digital identity system, and at the same time build a decentralized smart social service network that serves billions of people. Through the wedge-shaped NFTs polygonal network interface and AI technology, Web3 users and developers are allowed to access the Kad ecological network, carry out related business activities and manage their own communities.

The Kad ecological core suite is an important part of the Kad project. It includes a series of key products and platforms designed to provide users with a comprehensive digital experience. The following is a detailed introduction to each component in the Kad ecological core suite:

2.1 Kad Wallet

Kad Wallet is a visual multi-chain digital asset wallet based on the blockchain value transfer protocol ecosystem. It is committed to creating a new generation of technology-driven global multi-chain ecological

wallet based on social networking. Kad Wallet Realize the entire ecological link value through multi-chain wallets, with point-to-point value links and transfers such as payment, social networking, trust network, artificial intelligence, AI, finance, big data, metaverse, etc., to improve the circulation efficiency of various assets in the ecological wallet network and reduce circulation costs. Completely display user assets through contract analysis, intelligently recommend high-quality applications through data analysis, support viewing of multiple types of on-chain assets such as NFT, support NFT transfer operations, support standard ERC721 protocol analysis, and also integrate cross-chain multi-currency wallets and payment settlement platforms , currency trading platform, social groups, information quotes, DApp and other functions, it can meet almost all your needs for digital currency in one stop.

Kad Wallet is committed to creating a new value ecological social wallet system based on blockchain technology. Kad Wallet is positioned as "strong authentication": the system will perform different levels of mandatory authentication on the real identities of global users to ensure that the identities of users who come to the platform are true and valid; "high privacy": the system will adopt a privacy design mechanism based on Bitcoin. Protect users' core privacy data; "Weak ties": a social payment platform targeting strangers; "Strong personality": fully allowing users to express their own personalities, orientations and needs.

2.1.1 Account system

Kad Wallet provides a complete account system, and each social ID is unique. Enter Kad Wallet network post Kad Wallet will assign users a unique digital identity, Kad Wallet 's blockchain network will encrypt all user data to ensure user privacy.

At the same time, in order to ensure the authenticity and effectiveness of community users, user information needs to be improved to participate in social network construction. Kad The birth of Wallet will first penetrate into Kad 's main core businesses, including but not limited to transactions, games, chat, malls, entities, etc. And Kad will penetrate its core payment terminal. Long-term holding of Kad will be of great value to the development of the Kad ecosystem, as it will enable the social network to formulate long-term plans and ensure that the management team can work smoothly. Stakeholders' long-term holding attitude will also lead to healthy long-term economic growth for them, rather than fast-in and fast-out hype.

Decentralized wallet Kad Wallet is a decentralized multi-chain digital asset wallet that supports multiple platforms and integrates multiple functions such as wallet, transaction, metaverse, social networking, and DAPP. Kad Wallet ensures the richest and most secure underlying layer so that users can trade, store, send and receive more conveniently, converting crypto assets into real-world goods and services. In order to enable anyone to store, send, receive, consume, and exchange encrypted assets at any time, Kad Wallet has created a complete wallet ecosystem, using the wallet as the entrance to create a full-chain asset ecosystem. Let global users adapt to the multi-chain era faster and make asset management more convenient.

2.1.2 Lightning transfer

In order to solve the problem of tedious payment of digital assets and slow arrival in accounts, we have established a new payment system based on graphene technology to provide a one-stop payment solution for all asset users in the system and to open up fast and free transactions between users and merchants. The bridge can complete the transfer in as little as 1 second. In addition, the exchange rates of various countries can be combined in real time to quickly settle the amount of local shopping in legal currency. In addition to supporting multiple assets, Kad One of the features of Wallet that is superior to similar blockchain wallets is the lightning transfer function. The various lightning transfer solutions currently on the market are not yet mature. Kad Wallet is based on high-performance graphene technology and can transfer money in seconds. Moreover, in Kad There is no GAS fuel fee for transferring ERC20 tokens in the Wallet . Compared with the high GAS fees for transfers in other Ethereum series wallets, Kad Wallet is very user friendly.

2.1.3 Visual management

Anyone can use Kad Wallet creates a virtual identity in Kad - Zone . Users have the ability to customize attributes and do whatever face painting and body look they want. The system fully protects users' data and privacy, allowing individuals to manage their identity while eliminating real-world barriers of race, color, religion, class and politics to truly become who you want to be.

● **Decentralized identity**

Create decentralized identity Kad Wallet will provide the ability to create decentralized identities, which will help users in Kad Zone maintains a unified identity when using services in various scenarios, and decentralized identities will be designed to be carried by proprietary NFTs.

● **avatar**

Kad Wallet will create avatars for users' decentralized identities. This avatar can not only be used as a social image, but also other clothing NFTs can be worn in the future to participate in Kad Different application scenarios of Metaverse add more fun. Some clothing NFTs will even have special effects, which will be a bonus for users to participate in the application.

Social Connection Kad Wallet will provide a multifunctional social tool, which will include social system, Kad community, tipping, fundraising, etc.

● **social system**

Kad Wallet allows users to add friends, send private messages, and see each other's public messages on blogs and forums. Of course, users can also set up private posts so that even friends cannot see the author's identity.

● Kad Community

Kad Communities can be divided into one homepage and many communities with different themes. Users can choose to join communities on topics they are interested in and then post their content, which other users can rate, vote and reply to. Those with outstanding scores will be placed on the home page. This will form an online community.

2.2 Kad SWAP

Kad has a built-in exchange, which not only facilitates operations such as transfers, collections, and transaction record inquiries, but also provides services such as buying and selling digital currencies, NFT transaction exchange, and mutual exchange of legal currency and ordinary currencies.

Current decentralized exchanges can only support currency-to-crypto transactions of a single series of assets. Kad Swap 's decentralized exchange is superior to other similar exchanges in that it is multi-asset cross-chain and can support different series of digital assets to be directly traded on the chain. trade. Kad Swap currently uses a gateway to cross-chain, similar to the BitShares gateway openledger. In the Kad Swap decentralized exchange, transactions can be conducted directly across major public chains. Kad Swap uses BitShares graphene technology, which is much faster than other decentralized exchanges and can reach a peak processing capacity of 20,000 transactions per second. At present, centralized digital asset trading platforms frequently experience problems such as being attacked, having coins stolen, and transactions being rolled back, causing users a lot of distress. We aim to create a multi-currency digital trading platform that is secure, efficient and as transparent as decentralized trading technology.

2.2.1 Digital assets on the Kad Swap chain

1. Anonymous payment

Kad Swap adopts a standard non-trust system, embeds the same anonymity layer, has strong protocol scalability, and makes a series of improvements on the core concept of CoinMix. For example, the use of links to achieve strong anonymity, same face value technology and currency mixing technology can achieve the effect of improving confidentiality and interchangeability, especially currency mixing technology, which makes the assets themselves fully interchangeable. When a user receives funds, the funds will not retain previous usage records, and users can easily distinguish them from previous transaction history, so that all assets are equal and each user's use is simple and safe.

2. distributed server

It has no central server, but distributed servers located around the world ensure enhanced security. Cracking it is very difficult, if not impossible. Many DEXs are hosted on decentralized servers, meaning the data is peer-to-peer and distributed globally.

3. Privacy

Compared to regulated exchanges, DEXs do not require any personal information or identification documents to identify accounts. Many decentralized exchanges do require you to set up an account before you can start trading. However, unlike more centralized exchanges that

require users to verify their identities through various forms of official government IDs, most decentralized exchanges allow anyone to set up an account under any name they choose with little to no approval process. .

4.Transparent transactions

Kad Swap merges multiple transactions together with integrated CoinMix technology. By tracking the fund flow of joint transactions, the fund dynamics of relevant addresses can be tracked, thereby ensuring the transparency of information. The anti-attack technology uses the Darksend passive operation mechanism to enable the user's client to connect to other clients through the master node. Once entering the master node, The amount of funds that users need to remain anonymous will be queued up and broadcast throughout the entire network, but the user's identity will not be exposed, and each round of Darksend is limited to only 3 participants, thereby increasing the difficulty of the attack and ensuring the overall stability and security of Kad Swap . .

5.Transactions are simple and fast

Kad Swap multi-chain wallet is simple and clear, with 5 major pages: homepage, market, exchange, currency, and latest price.

- You can add the currency of interest to the homepage for easy viewing;
- On the market interface, you can observe the latest prices of each currency and the rise and fall index within 1 hour;

- The exchange interface can quickly exchange other currencies and check orders.
- You can view token details and data analysis on the currency interface. The embedded transactions are convenient and you can view data records.
- The latest price can be used to query the latest price of the currency.

Moreover, Kad Swap uses BitShares graphene technology, master node allocation technology and EOS underlying technology, which greatly improves the speed of information flow between both parties to the transaction.

2.3 Kad Chat

Smart entertainment social platform (traffic pool)

Kad Chat is a Web3 social application platform based on DSIM user identity. Users can participate in various community actions and functional sections by holding NFT and platform points. This platform also supports users to form and manage DAOs and communities. In addition, Kad Chat provides various auxiliary plug-in functions to meet users' various needs in Web3 networks. Through Kad Chat, users can enjoy a secure social experience and build deeper decentralized social connections with other users.

2.3.1 DSIM Digital Passport (Proof of Identity)

DSIM digital passport is the cornerstone of the Kad ecosystem. It is built based on the Zero-Knowledge Proof (ZKP) SNARK system and VC standards to provide secure authentication and identity management. This digital passport contains important identity information of the user, such as authorization keys, encryption keys, delegation keys, verification keys, and service endpoint links. The DSIM identity system has multiple usage methods such as cross-chain, cross-platform, and off-chain, providing users with a flexible and secure digital identity verification tool.

2.3.2 Safe Chat

The chat system is the basic function of Kad Chat . Kad Chat uses encryption algorithms to encrypt chat content end-to-end to ensure the privacy of chat data. Kad is the world's first application that truly implements decentralized social chat functions. Many advertise that it Centralized social networking is essentially centralized. Kad Chat chat information does not have a central database. Chat content and accounts are all recorded on the blockchain. Kad Chat uses end-to-end asymmetric encryption of information. As security and privacy issues become increasingly prominent, users' demand for new encrypted communication tools is increasing day by day. Kad Chat is based on the characteristics of blockchain security and anonymity, and uses EOS underlying technology to strengthen the security and privacy of information exchanges.

2.3.3 Core functions

- Private circle: based on Kad Chat Be private and let valuable content generate rewards.
- Chat security: end-to-end public and private key information encryption, safe and reliable
- Reputation system: User reputation system based on blockchain, cannot be tampered with, is true and reliable
- Digital gifts: Fun digital gifts to make chatting more interesting.
- Globalization: a global decentralized real-time communication system with high performance and strong availability

2.3.4 Contacts and Kad group chat

- Kad Chat Built-in exclusive Telegram group, players can use Kad account to log in to Kad Chat directly Telegram groups, and you can easily join each DAPP exclusive discussion group to communicate with other players.
- The group has all the functions of Telegram. Players can add contacts and have private conversations; they can also use Kad Chat to Get timely updated information in the community group; you can also create your own group to socialize in an exclusive circle.

(1) Third-party platform login

- Kad Chat Already supports binding Telegram account to Kad account and logging in directly
- Will soon support Facebook, Kakao, Line and other account binding and direct login

(2) Kad red envelope

Kad red envelope is Kad Chat Featured Platform Features as Link Kad Chat The link between the community and external users,

Positive gift-based social networking based on Kad can be easily realized .

- Users can easily wrap Kad assets in the wallet into red envelopes and send them to built-in and third-party social platforms such as Kad Telegram group, Facebook group, Kakao group, etc.

users who are already Kad receive red envelopes, they will directly receive Kad assets.

- If you are not a Kad user and receive a red envelope, you can directly become the invitee of the person who sent the red envelope and join Kad Chat more easily and obtain Kad assets.
- At present, Kad red envelopes have been widely used in community interaction, platform activities, newbie incentives, etc. within Kad .

2.4 KadZone

Entertainment life consumption platform (traffic pool)

KadZone is an entertainment and lifestyle consumption platform that is tightly integrated with the KadChat identity system of eSIM/DSIM users. Users can use the mobile AR camera system to scan the real-life map and capture NFT rewards placed by merchants through the task release system. Users can also complete merchant capture tasks, obtain corresponding NFTs, and enjoy merchant offline consumption discounts and merchant pass red envelope rewards. Merchants can enter information through the map system, purchase and pledge a certain number of platform tokens to virtually open a store on the platform, thereby obtaining token rewards and NFTs. This platform encourages real-life consumption of virtual traffic, providing users and merchants with an interesting and beneficial interactive experience.

The various components of the Kad ecological core suite cooperate with each other to provide users with diversified digital services and entertainment experiences, while building a secure and decentralized digital ecosystem that promotes the management, investment and social interaction of digital assets. The features of this ecosystem include identity security, NFT points, asset tokenization and real-life consumption of virtual traffic, bringing users into the digital future of the Web3.0 era.

1. Personalized image

Compared with traditional social platforms, KadZone has creative settings such as virtual images and online spaces. Users can perform character modeling, face shaping, accessories, etc. with a high degree of freedom to create their own virtual 3D image and participate in social interactions.

- Every user of KadZone will soon have a DIY customizable 3D virtual image and their own private virtual space. The 3D virtual image and personal space will also have personal DIY functions. You can customize your own appearance and decorate your personal space. In the future, space communication between players will be opened, and player characters can visit other people's spaces, etc.
- Personal decoration-oriented clothing, accessories, furniture, ornaments, etc. will be circulated as NFT in the Kad Yuanverse Mall. The Kad Metaverse will also open up the editor function to support players' own designs. Players with strong design capabilities provide design services and can produce personalized clothing and home decorations to sell to other users.

2. Holographic digital human

If we follow the character presentation standards in the movie "Ready Player One" oasis or the world of Epic Games UE5 "The Matrix: Awakening", the current development of virtual digital humans still suffers from low automation in production methods, high production thresholds, and immature key technologies. and other constraints. This results in low overall production efficiency, long production cycle, and high cost.

Based on this, KadZone uses dynamic 3D image production technology and Amazon cloud technology to create an exclusive holographic digital human. It allows users to create fashionable virtual 3D images with human appearance, behavior, and thoughts through operations such as pinching faces, designing outfits, etc., while improving production efficiency and reducing production costs.

3. Virtual social networking

Social networking in the Metaverse not only requires the upgrade of the identity system, but also requires basic technology to support user interaction under the same server, putting forward higher requirements for low network latency, anytime, anywhere, and immersion.

KadZone borrows holographic virtual imaging technology to achieve a huge restoration of real scenes. At the same time, it borrows some auxiliary equipment to greatly improve the user experience and increase user stickiness. Compared with virtual social networking, the advantages of user interaction in Yuanverse social networking are more obvious, and it is more like a combination of online social networking and offline social networking.

In the social scene built by KadZone , users can achieve a social experience from two-dimensional to three-dimensional and build digital social relationships. Content creators will create in a more open content system, further improving the content production, tool application and income experience of creators. Based on the iteration of the user and creator ecology, brand merchants can launch various marketing scenarios that parallel reality or even transcend reality.

In terms of hearing, KadZone creates "concert-level" real sound effects for thousands of people. As long as you put on your headphones, you can enjoy the immersive audio and visual effects of the 100,000-person venue. Turn on the microphone, and when the user is close to other users, the real-time voice interaction button will be automatically triggered. Once turned on, you can communicate with other users in real time.

4. Immersive interaction

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5. KadZone Games

Currently, KadZone supports many popular games such as Kad Plan and Crazy Alien . In order to save users from the tedious operation of switching wallets back and forth when experiencing DApp, Kad developed the MiniWallet mode. After users turn on the MiniWallet

mode, they only need one authorization operation to stay in the game for entertainment.

KadZone Game Features

KadZone 's games focus on high-quality content. They adopt a combination of self-research, cooperation with traditional high-quality game developers and existing successful games to blockchainize traditional classic games. While ensuring the quality of the games, they also hope to bring traditional games to the blockchain. Users are attracted to form an incremental effect. At the same time , Kad will also open the game crowdfunding function to establish a strong relationship between developers and users from the budding stage of the game.

At the same time, as an important function of KadZone , there are games with a good ecology and a large player base on the Kad platform . Exclusive in-game ERC20 tokens can also be issued based on Kad , allowing players to hold exclusive game tokens while playing games. , enjoy the benefits brought by game development.

3 Technology Architecture

Kad 's technology is mainly based on the underlying mechanism of Kad Chain . Currently Kad adopts distributed control rights management (DCRM), time lock (Time Lock), quantum exchange (QS), universal wallet and global short account number (USAN, universal short account number universal wallet and global short account number), SCT smart contract Technologies such as templates (SCT) allow users and companies to easily create financial derivatives or develop products based on market needs and target groups.

From the perspective of product function implementation, Kad 's cross-chain can actually be regarded as a hidden internal function. The purpose is to prevent users from paying attention to the chain itself and reduce the perception of the cross-chain action as much as possible. In cross-chain roaming, even if assets are distributed on 5 or more chains, operations such as on-chain transactions, liquidity provision, and financial derivatives casting can still be completed in one step. The technical level mainly combines Kad Chain 's DCRM, time locking and other technologies to ensure the decentralization and security of the product. This technical framework has been successfully adopted in projects such as Anyswap and Multichain before, and has certain guarantees.

In order to achieve cross-chain interaction of multi-currency assets, Kad Chain uses DCRM (Distributed Control Rights Management) technology to manage tokens on various blockchains in a distributed manner on the public chain . and assets, which establishes a layer of control

management platform on various blockchain tokens, allowing users to lock their digital assets across chains to the same blockchain platform, or to lock out across chains to designated accounts at any time . This technology supports more than 90% of mainstream encrypted digital assets: BTC, ETH, USTD and other ERC-20 Tokens, etc.

3.1Kad's technical features

Kad The Chain open platform adopts a four-layer structure :

- Core layer : The core layer of the blockchain, including p2p network, dpos consensus protocol, public and private key algorithm, account system, etc.
- Protocol layer : Provides various decentralized protocols, including decentralized transaction protocols, decentralized payment protocols (wallets) and other modules.
- Interface layer : Encapsulates internally, performs modeling and adaptation externally, provides a series of interfaces that conform to application scenarios, and reduces the complexity of application docking.
- Application layer: Various blockchain applications developed based on Kad Chain, visual social networking, payment metaverse, Kad Pay , Kad wallet , etc.

The one-stop decentralized application solution Kad Chain open platform is positioned to provide commercial blockchain application development services and build a highly scalable solution between "blockchain underlying technology" and "blockchain upper-layer application". The blockchain application business support system is committed to providing one-stop decentralized technology solutions for enterprises and institutions, and minimizing the threshold for enterprises to develop blockchain applications. Kad Chain is gradually forming a complete blockchain application ecosystem, and the Kad Chain open platform provides mature and complete decentralized technology solutions for enterprises (B-side) to help enterprises improve the efficiency of blockchain application development and reduce development and maintenance costs. For users (C-side), Kad integrates decentralized wallets, decentralized exchanges, decentralized social networking, lightning transfers, mining and other functions to help users lower the threshold for entering the world of digital assets.

Kad Chain Developer Ecosystem The Kad Chain open platform has mature and complete functional modules such as decentralized wallets, decentralized exchanges, decentralized social networking, lightning transfers, and game malls. Developers can directly call or freely combine and modify them according to their own needs. . Kad Chain provides developers with both API and SDK interfaces. Technical teams with development capabilities can call the API interface to develop their own, while teams that do not understand development can call the SDK interface and integrate it directly into their own products. This move can significantly simplify the development process of blockchain applications, greatly shorten the development cycle, and help enterprises quickly develop and deploy their own blockchain applications. The Kad Chain platform supports Python, JAVA, and PHP. Go, JS, Ruby and other mainstream programming languages. Kad adheres to the principles of openness, collaboration, sharing, and value feedback, and is willing to work with all users and developers in the social network to jointly create a Kad developer ecosystem.

3.2 Distributed Control Rights Management (DCRM)

Before introducing DERM, we first need to understand Kad Chain .

Kad Chain builds a public chain to map different cryptocurrencies and digital assets to this public chain, and the mapped assets will be transferred to Kad Chain 's decentralized account. Simply put, through mapping, Kad Chain will realize the management and interaction of multiple heterogeneous assets on its platform.

In realizing cross-chain interaction of multi-currency assets, Kad Chain uses DCRM (Distributed Control Rights Management) technology to manage tokens and assets on various blockchains in a distributed manner on the public chain. , which establishes a layer of control management platform on various blockchain tokens, allowing users to lock their digital assets across chains to the same blockchain platform, or to lock out across chains to designated accounts at any time. This technology supports more than 90% of mainstream encrypted digital assets: BTC, ETH, USTD and other ERC-20 Tokens, etc.

Note: Currently, cross-chain bridges such as Anyswap, Fantom, Multichain, and Nerve all use Kad Chain 's DCRM technology at the bottom layer. The difference with Kad is that it has implemented cross-chain routing on this basis, thereby realizing one-click operation of transferring the same asset on multiple chains at the same time, and is expected to launch a liquidity DEX that aggregates all chains in the future.

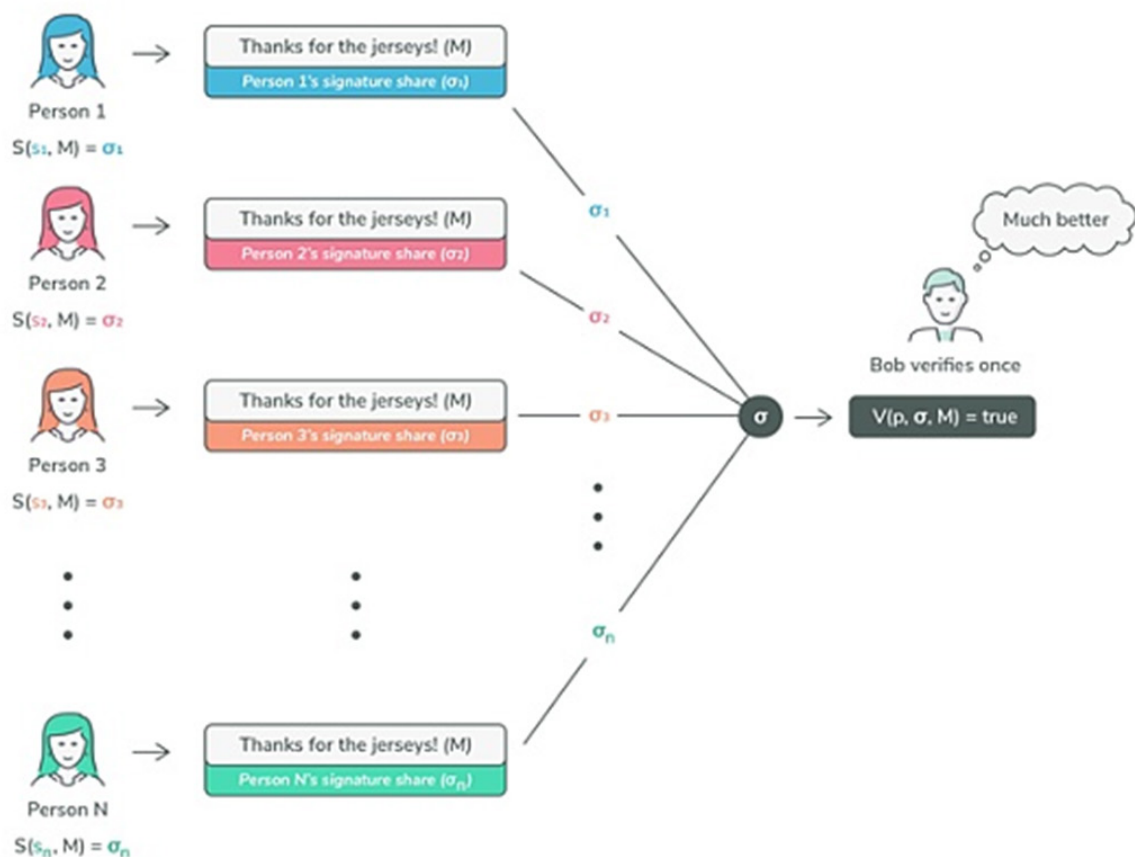
So how does DCRM manage user assets in a distributed manner?

In order to better manage users' virtual assets on the chain and prevent single point failures of nodes, it is necessary to manage the private key, which corresponds to the public key or address of the assets on the chain. There are currently three mainstream ways to disperse private key risks (ie, decentralization): 1) Multiple Signatures; 2) Shamir-Secret Sharing; 3) Threshold Signatures.

In Kad Chain 's distributed key scheme (DCRM), one of the current mainstream schemes is adopted - it provides distributed key generation and Transaction signature algorithm is used to control the accounts and assets of a series of blockchains using this algorithm [7].

The simple understanding of DCRM is to divide the complete key into several parts. The fragmented key does not need to be reorganized from generation to storage and use. The fragmented keys are then handed over to different nodes for safekeeping, and each node will only have access to one or several fragments of the key.

At least 5 signature shares can be combined into a single overall signature



(Introduction to Kad Threshold Signature Scheme (TSS))

Threshold signature is a distributed multi-party signature protocol that includes distributed key generation, signature and verification algorithms. As shown in the figure above, a group of signers has only one public key, one private key and one signature, and each signer has the same public key and a unique part of the private key. Signers collaborate using a special communication protocol that does not expose keys in order to generate a signature, but only generates a signature. The verifier only needs to check a signature to determine if the transaction is correct. The problem is that all signers need to stay online.

Kad signers create a unique address through the threshold signing protocol. This means that it is impossible for a signer to run away with the money. All operations must be performed by all selected signers to generate signatures. Note: Kad Chain currently has 15 signers, and at least the minimum number of 11 signatures is required to be valid.

For example, in terms of specific implementation, assuming a user owns 10 BTC, 20 ETH and 30 BNB and wants to use Kad Chain to manage his token assets, he first needs to initiate a Lock in request. Lock in triggers the smart contract, and a group of super nodes will be randomly selected on the chain to complete the Lock in function and lock the user's assets on the original chain. Each super node generates a new private key shard for the user's Lock-in token assets, and the nodes do not know each other's private keys produced by each other. When the private key is sharded, a new public key will be generated. The user who initiated the Lock in request will transfer 10 BTC, 20 ETH and 30 BNB to

the corresponding public key address. When Lock out is required, at least 11 nodes can lock out after signing one after another with the private key shards they hold, that is, the corresponding assets are converted from the Kad Chain pool and transferred to the user's address.

Through Kad Chain 's DCRM distributed control rights management, Kad can extend financial functions between multiple currencies and give DeFi more composability, such as multi-currency and multi-role smart contracts. In addition, it also opens up the private key management of different chains in different fields, allowing users and institutions to enjoy services such as distributed custody, account unification, and private key sharding technology.

3.3 eMIS digital identity system

One of the features of the Kad public chain is its powerful identity verification and privacy protection functions. This is closely related to the eMIS digital identity system:

Distributed identity storage: Kad public chain uses distributed identity storage to disperse user identity data on multiple nodes. These nodes form a decentralized network of the public chain, and the user's identity data is encrypted and stored on these nodes, thus ensuring the redundancy and security of the data.

Encryption technology: Users' identity information and verification data will be protected by strong encryption during storage and transmission. The public chain uses advanced encryption algorithms to ensure that users' personal information will not be leaked by unauthorized visitors or nodes.

Decentralized identity verification service: The Kad public chain provides smart contracts and decentralized identity verification services that users can use to verify their identity. These smart contracts run on the public chain, providing users with highly trusted identity verification without relying on traditional centralized identity verification agencies.

This technical architecture not only makes users' digital identities more secure, but also makes full use of the decentralized nature of the public chain to ensure the transparency and credibility of identity verification.

3.4 Decentralized smart social service network

The decentralized nature of the Kad public chain has also had a profound impact on its social service network:

Blockchain technology: The decentralized smart social service network will completely rely on public chain technology to ensure that users' social data and interactions are recorded on the blockchain. Each user's social interactions will be recorded on the public chain in the form of smart contracts, ensuring data security and non-tamperability.

Smart contracts: Smart contracts on the Kad public chain will be used to execute social agreements and transactions between users. Users can create a variety of social contracts, ranging from simple messaging to more complex virtual social activities, and these contracts will be automatically executed on the public chain without the intervention of intermediaries.

Content sharing and interaction functions: Kad's decentralized applications (DApps) will be built on the public chain to provide content sharing and interaction functions between users. These DApps will ensure user data privacy and security through smart contracts.

This technical architecture makes Kad's social service network a highly decentralized, secure and transparent platform where users can share and interact with confidence without worrying about data leaks or untrustworthy intermediaries.

3.5 NFTs Polygon Network Interface

Kad public chain provides great convenience and security for NFT transactions:

NFT creation and management: Kad's NFT polygon network interface will be tightly integrated with public chain smart contracts. Users can use these contracts to create their own NFTs and store them on the public chain. This ensures the uniqueness and immutability of the NFT, making it more attractive in the market.

NFT trading market: Kad's NFT trading market will also be built on the public chain. All NFT transactions will be conducted through smart contracts, ensuring transaction transparency and security. Users can browse, buy, and sell NFTs on this marketplace without having to worry about untrusted intermediaries.

This technical architecture integrated with the public chain provides Kad with a highly secure and trusted NFT platform where users can conduct various NFT transactions without worrying about criminals or data tampering.

3.6 Artificial Intelligence

The smart contracts and smart contract execution capabilities of the Kad public chain provide a solid foundation for artificial intelligence technology:

Data analysis and prediction: Smart contracts running on the public chain can use the rich data on the blockchain to perform data analysis and prediction. This means that Kad can use machine learning algorithms to analyze users' investment behaviors and preferences and provide users with intelligent investment recommendations.

Personalized recommendations: Based on the user's historical data and interests, Kad can implement personalized content and service recommendations in smart contracts. This includes NFT recommendations, social connections and investment opportunities to make the user experience more personalized.

User Support and Automation: Kad can utilize smart contracts to provide automated user support services. This can include resolving user issues, providing assistance and fulfilling user requests, thereby increasing user satisfaction and increasing the usability of the Platform.

This technical architecture enables the Kad project to take advantage of the smart contracts and distributed nature of the public chain to provide users with intelligent services and optimize their digital asset management and user experience.

In general, the Kad project makes full use of the decentralization, security and credibility of the public chain, combining these features with identity verification, social services, NFT transactions and artificial intelligence technology to provide users with an intelligent, Secure and personalized digital ecosystem.

4 Economic model

KAD is the governance rights and interests token in the Kademia ecological closed loop. It will play important roles in transactions, transfers, circulation of GAS fees, chain game NFT asset leasing, loan fees, interest settlement, and enjoyment of board dividend certificates in the Kademia ecosystem, thereby making the chain Through the entire business closed loop.

Token value drives community consensus

It allows players to not only earn huge profits through social interaction, but also to reach a community consensus system and establish media for value transfer. At the same time, every value transfer is accompanied by a deflation model and a destruction mechanism, thus forming a robust economic system and value-driven model.

4.1 Token information

Token name: KAD

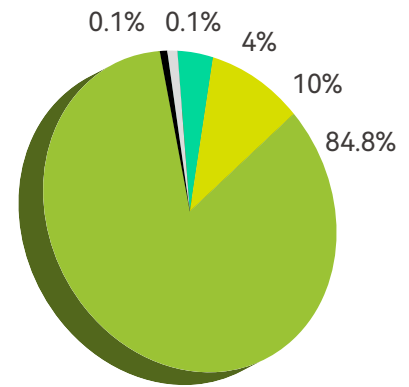
Total number of tokens: 1 billion

First issue of Kad circulation: 1% : 10,000,000 pieces

- IEO: 7000000
- Node allotment: 2000000
- Airdrop: 500000
- Activity reward: 500000

Remaining allocation: 99%

- Technical operation and maintenance 0.1%
- Operation support 0.1%
- Node ranking 4%
- NFT card output 10%
- Currency holders share 84.8% of the output



4.2KAD NFT card

In the Web3 era, Kad Chat provides users with a brand new social experience. Different from traditional social platforms, Kad Chat focuses on "soul matching", that is, matching users with the most suitable social partners based on their interests, occupations and Web3 participation, while also recommending the most suitable social partners for them based on their Token and NFT holdings. Social groups or events.

KAD NFT card equity proof is a profit-maximizing equity proof mechanism. Each card has a unique NFT token, indicating its rarity and value.

- Golden Card: 500
- Silver card: 1200
- Exclusive NFT card: 3000

4. 3 Long-term value

KAD is a token issued based on the blockchain. It is the core of the Kad social network. The usage scenarios of Kad include but are not limited to:

- Wallet that supports multiple digital currencies
- Decentralized point-to-point encrypted communication (private chat, group chat, voice)
- Trustworthy social networking (video, positioning, Kad transfer, red envelope sending, etc. functions)
- Payment for knowledge
- Payment gateway and clearing
- DAPP store
- Expression and skin market
- Product promotion engine
- Digital currency trading
- User content generation community

Kad is not only a social network, but also a vast and prosperous value-reflecting application ecosystem. Because social networks are a necessity for users, they are highly sticky and can quickly develop into network effects, laying a solid foundation for the Kad ecosystem and making it highly feasible. Traditional centralized platforms occupy the upper reaches of the value chain, lay out application ecosystems through independent research and development, or charge high traffic taxes by building platforms, and enjoy exclusive social network dividends. Kad adheres to the principles of openness, collaboration, sharing, and value feedback, and is willing to work with all users and developers in the social network to jointly create a Kad developer ecosystem.

5 Core team

Start-up team

John Lee - Founder and CEO

He has worked for technology companies such as Google and Facebook and has more than 15 years of experience in Internet technology and product development.

Before founding kad , he co-founded a successful artificial intelligence company, whose technology was used in many fields.

He is good at leading and managing technical teams and is committed to applying AI technology to the fields of digital media and art.

John Smith - Technical Director

Has more than 10 years of experience in software development and artificial intelligence.

Master's degree from MIT

Visiting Professor, University of California, Berkeley

One of the main R&D members of Quorum, a blockchain project owned by JPMorgan Chase

And participated in the early construction of EOS and Blockone projects

Served as technical advisor to Block.one

One of the early developers of Ethereum

ZK Rollup technology R&D team member

Amazing breakthroughs in the two major technical bottlenecks of privacy protection and scalability

Daniel Larimer- Co-Founder

Daniel has been a serial entrepreneur since 2004

Over the years he ran three companies

He led the technology development behind block.one's EOS project

Designed, built and deployed the first successful blockchain-based

Social media platform <https://steemit.com>.

Emily Wang -Strategic Consultant

Former one of the core members of the asset management team of

Digital Currency Group

Member of the Federal Reserve's Monetary Policy Oversight

Committee/Member of the U.S. Securities and Exchange Commission (SEC)

Participated in the early establishment of Grayscale Fund

Operates multiple trust products based on digital currency markets that are quite popular in the secondary market.

Such as GBTC, ETHE, ETHG, etc.

Its investment territory spans various segments of the blockchain industry

And have unique insights into crypto asset management and operations

6 Route map

September 2023

KAD participated as a sponsor in this summit "Davos Digital Transformation Summit on World WEB3 Charity Week" and joined hands with HKD.COM Hong Kong Digital Capital Exchange to start KAD DAO's Asia-Pacific digital ecological journey

October 2023

- The remaining KAD of the nodes that meet the standards in the entire network will be distributed gradually. Please refer to the distribution rules for details.
- K Pay wins the future of physical payment + digital financial management = perfect integration
- Start the official assessment of "Card Mining Machine"
- Start competing together to produce 100 million KAD. For details, please see: Card Mining Machine Assessment Standards
- Enable network-wide computing power node ranking rewards
- KADDAO Community Organization Committee Win-Win Plan

November 2023

Launched KADNFT digital IP image

December 2023

- The public chain blockchain browser is officially launched and will fully launch the application era of decentralized public chains.
- Comprehensively launch transaction destruction, DAO proposal destruction, advertising revenue destruction, auction destruction, cross-chain destruction, and various ecological application destruction in the public chain destruction era. Hong Kong WEB3.0+RWA entity industry digital application seminar and KAD decentralized digital ecological node summit
- KAD Public Chain Node Consensus Ecological Overseas Tourism Summit is launched one after another

January 2024

- Jointly opened the KADPAY bank card foundation. European banks jointly issued a blockchain U card: Empowering global blockchain projects: Issued by European banks, not subject to domestic supervision, the card is bound to the wallet address, scanned and deposited in USDT, available in many countries The amount of legal currency (including RMB) that can be withdrawn is 50,000 US dollars in cash per day.
- KAD platform real-time IM chat is online
- Open the external KadPay API and open the Kadmall e-commerce ecosystem. Kadmal's main services: self-operated e-commerce platform, local life, and agricultural e-commerce projects. Build a merchant, business district, and payment ecosystem around kad (merchants are welcome to connect with KadPay)

Q2-Q3 2024

Comprehensive openness and cooperation deepen the research and development of KadDigital Bank and Kad wallet, aiming to create a complete digital transaction center design and development, aiming to provide more convenient NFT transaction services

Q4 2024

The platform token Kad is fully logged into world-renowned exchanges such as Binance and OK.



Developer's message

Dear Kad developers and technology creators,

In the Kad ecosystem, you are the architects of the future and the creative thinkers of the digital world. Together we are creating the future of Web 3.0. As developers, you are responsible for making the digital ecosystem smarter, more secure, and more personal.

Kad's mission is to provide users with a secure, decentralized, and efficient digital experience, and you are the key executors of this mission. Your code, innovation and efforts will give the Kad ecosystem more functions and possibilities, making it a home for people in the digital world.

At Kad, we encourage open collaboration and creative thinking. Constantly explore new technologies and new application scenarios, while adhering to the principles of security and privacy. Transforming our vision into reality and building a more equitable and inclusive digital society is our shared goal.

Let us work together to strive for the prosperity of the Kad ecosystem and user satisfaction. No matter where you are, no matter your skill level, you are part of the Kad ecosystem and we need your unique contributions.

Thank you for your dedication and passion, and let's drive the digital future together!

May the spark of technology bloom in your hands, and may the power of innovation flourish in your minds.

With high respect,
Team Kad

Disclaimer

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