



KIRA Network

Whitepaper Rev. II, September 2020

MATEUSZ GRZELAK, FOUNDER, JSC KIRA CORE
MILANA VALMONT, CO-FOUNDER, JSC KIRA CORE
PARTNERS@KIRACORE.COM

Powering DeFi with Liquid Staking

The number of projects utilizing *Proof of Stake* (PoS) consensus is increasing rapidly, meanwhile *centralized exchanges* provide the only means to acquire, and simultaneously trade & stake tokens originating from many independent networks. A trustless solution must be created, providing similar functionality to its centralized counterpart by allowing PoS asset holders to not only access the market but also use any DeFi applications while earning block & fee rewards. Currently, the majority of stakeable assets can be found on centralized exchanges, stripping the PoS networks of the intrinsic security guarantees they offer.

Cryptocurrency users and Validators dependent on the network fees to sustain their business are herded into using popular centralized exchanges to realize their rewards since the majority of decentralized exchanges or other DeFi products do not provide market access for their specific tokens, struggle to maintain liquidity, pose high security risks by using smart contracts or are unable to scale. KIRA Network eliminates all the stated disadvantages while allowing market and DeFi products access to occur in a truly decentralized, P2P fashion and without limiting liquidity or ability to earn block and fee rewards.

KIRA Network is designed to secure and power DeFi applications by utilizing the real, intrinsic value of any digital asset at stake, such as cryptocurrencies, stablecoins, digital fiat or even NFT's. KIRA further provides liquidity to staked assets through staking derivatives which at the same time can be used with any DeFi application in a trustless manner. KIRA Network itself is a hub providing and incubating DeFi products such as native exchange protocol or novel crowdfunding application where investors do not spend their money, but delegate their assets to mine new tokens and maintain full liquidity of their capital.



Table of Contents

| | |
|-----------------------------------|-----------|
| Powering DeFi with Liquid Staking | 1 |
| Overview | 3 |
| Security | 4 |
| Liquidity | 4 |
| Utility | 4 |
| Scalability | 4 |
| Sustainability | 4 |
| Upgradeability | 5 |
| Interoperability | 5 |
| Expansibility | 5 |
| Consensus | 6 |
| Governance | 9 |
| Code of Conduct | 11 |
| Resolving Network Faults | 12 |
| Decentralized Development | 13 |
| Exchange Protocol | 14 |
| Protocol Guarantees | 14 |
| Accessibility | 15 |
| Scalability | 17 |
| Ownership | 18 |
| Liquid Staking | 19 |
| Legal Compliance | 20 |
| Kira Token | 21 |
| Initial Validator Offering | 22 |
| Decentralized Offerings | 23 |
| Licensing | 25 |

Overview

Kira is a decentralized network, conceptualized and designed by the Kira Core JSC. The codebase (*sekai* repository) is open sourced at github.com/kiracore and initially maintained by Kira Core with the intention to be fully migrated *on-chain* and further managed by the KIRA Network itself, without dependency on continuous codebase maintenance by any centralized entity. The whitepaper presents a minimum set of features that are being developed to enable the network to become self-governed, economically self-sustainable and capable to further extend the capabilities of it's own codebase.

KIRA Network is operated by the independent set of decentralized network actors called Validators, who produce blocks containing the current state of the ledger using [Tendermint](#) byzantine fault tolerant consensus protocol. KIRA Network is not owned by any centralized entity, Kira Core JSC or any other entity related to the Kira team holds no power over any of the network operations. No single person or entity regardless if centralized or decentralized can single handedly control the network, regardless of their wealth status or amount of KEX tokens accumulated.

Cryptocurrency space is a highly competitive environment, Kira is designed to provide the minimum set of novel and essential features to ensure its competitiveness and long term presence in the ecosystem.

- Security - Multi-Bonded Proof of Stake
- Liquidity - Staking Derivatives
- Utility - Exchange Protocol
- Scalability - dApp Sharding
- Sustainability - Governance System
- Upgradability - Contracting System
- Interoperability - IBC & XCMP Protocols
- Expansibility - Initial Validator Offerings

Security

Kira utilizes the value of real assets at stake to secure the network thanks to its novel Multi-Bonded Proof of Stake (MBPoS) consensus. Compared to other types of PoS algorithms there are no limitations in regards to how much value can be at stake and what types of digital assets can be staked to ensure that total value locked (TVL) is sufficient to secure Kira regardless of the changing market conditions.

Liquidity

Decentralized Finance aims to provide asset holders with ability to maximally utilize the potential of their capital to generate income. Kira natively supports staking derivatives representing staked tokens 1:1 to maintain security while providing liquidity of all assets at stake. Staking derivatives enable users to benefit from access to DeFi applications deployed within and outside of the KIRA Network while at the same time stay incentivised through block and fee rewards generated thanks to the network operations.

Utility

Interchain Exchange Protocol (IXP) is the first blockchain application deployed on the KIRA Network that can provide utility through market access to all the tokens at stake within Kira, as well as to the entire digital asset space. Thanks to order book sharding IXP can offer unlimited number of token pairs and operate in the truly permissionless manner.

Scalability

Uncapped value at stake shared between uncapped number of validators provides ideal conditions for sharding blockchain applications by deploying them on independent sub-chain (zones). By guaranteeing that value at stake is greater than value used within any particular zone Kira can securely parallelize its blockchain application logic and overcome any possible scaling limitations of a single blockchain while ensuring fast finality which is essential for use with any financial applications.

Sustainability

Maintaining proper economic incentives is essential to guarantee efficient operations of any decentralized network. Kira utilises a governance system to control all economic aspects of the network operations, such as inflation of the native token and interest rates for staking foreign tokens to attract digital asset holders to the network and efficiently adapt to always changing market conditions and guarantee long sustainability of operations.

Upgradeability

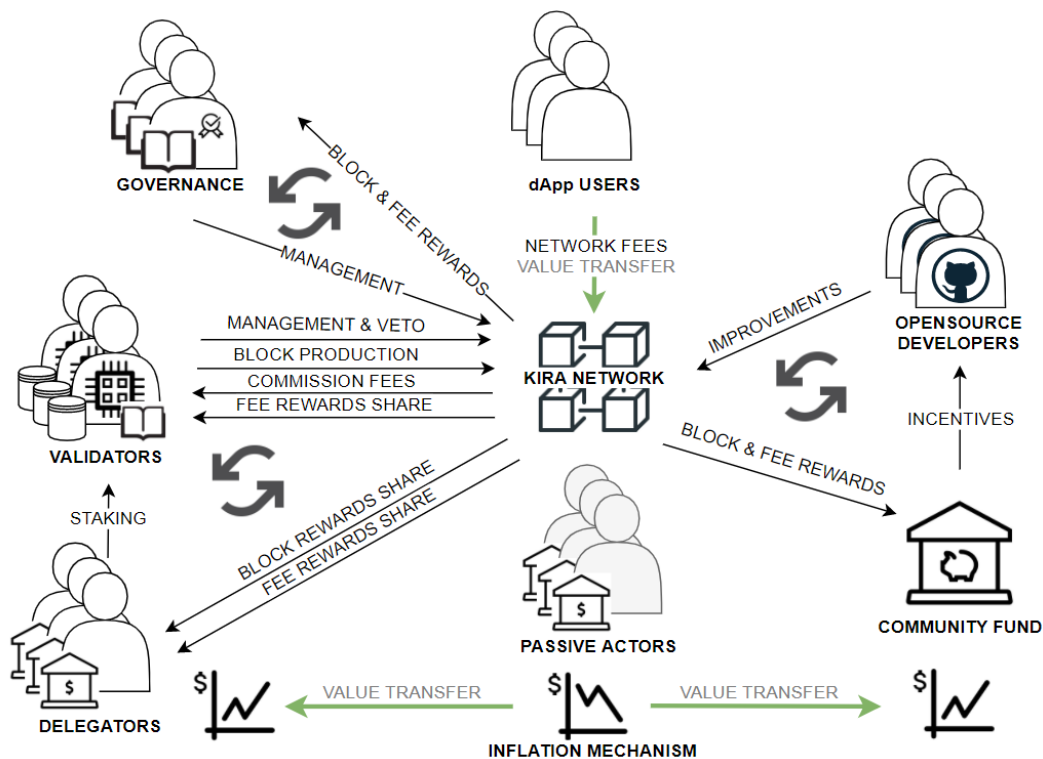
Kira uses an on-chain contracting system similar to real-world employment agreements to incentivise developers, auditors or any other employees which is essential for not just the codebase evolution but also to maintain visible presence in the ecosystem. By combining on-chain contracting with support for CosmWasm smart contracts KIRA Network has the ability to expand its utility without need for coordinated upgrades and halting block production.

Interoperability

Trustless staking of any digital asset or use of any of blockchain applications within KIRA Network is possible thanks to interchain protocols such as Cosmos IBC and Polkadot XCMP. By interconnecting with other networks within the interchain ecosystem Kira can facilitate value and data transfers between various DeFi applications.

Expansibility

To grow its own ecosystem Kira utilizes Initial Validator Offerings (IVOs) enabling investors to crowdfund new projects without spending or limiting liquidity of their own capital. The IVOs are operated by individual validators to which investors delegate their token (at 100% commission) to mine new tokens by benefiting projects launching those tokens through block and fee rewards.



KIRA Network, Overview

Consensus

Nearly every permissionless and decentralized network tends to become more centralized over time. This has been the case with geopolitical regions that have access to cheaper electricity (Proof of Work), or due to cartels accumulating stakeable assets, power and influence (PoS). Although these factors cannot be considered inherently bad and outright compromising for such networks, it is clear that the cryptocurrency community expects a solution that induces growing trust and decentralization over time.

The Multi-Bonded Proof of Stake (MBPoS) is the first consensus model that enables decentralization of the value at stake and does not assume that the majority of token holders are rational economic actors. In contrast to the plutocratic Proof of Stake models whereby only a single asset can be staked and proportionally determines the voting power, leading to centralization of that power in hands of large token holders, who might or might not act in an economically rational manner.

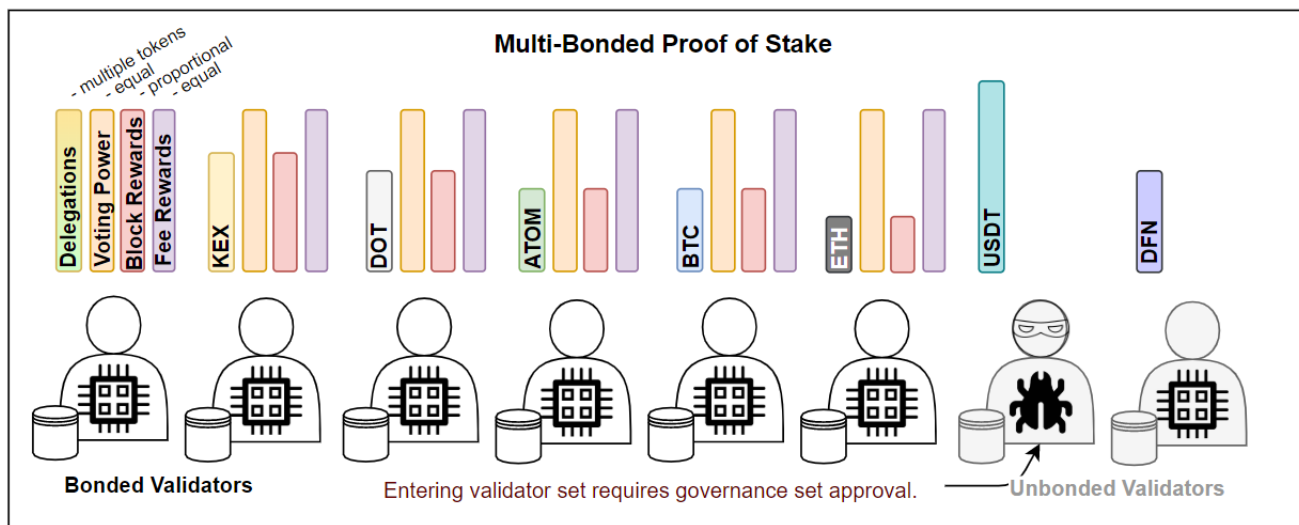
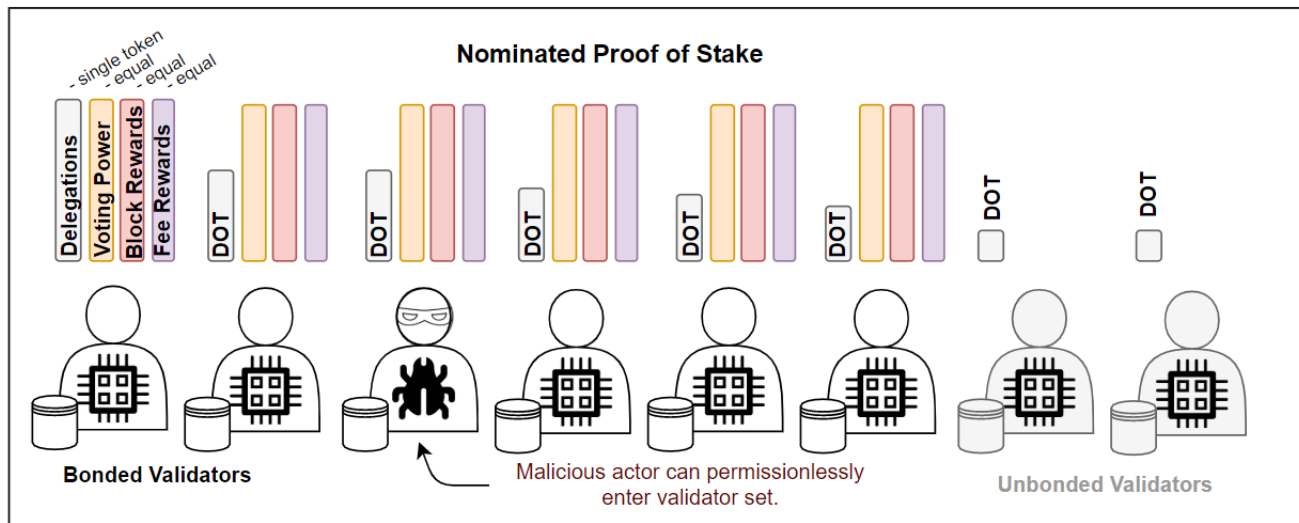
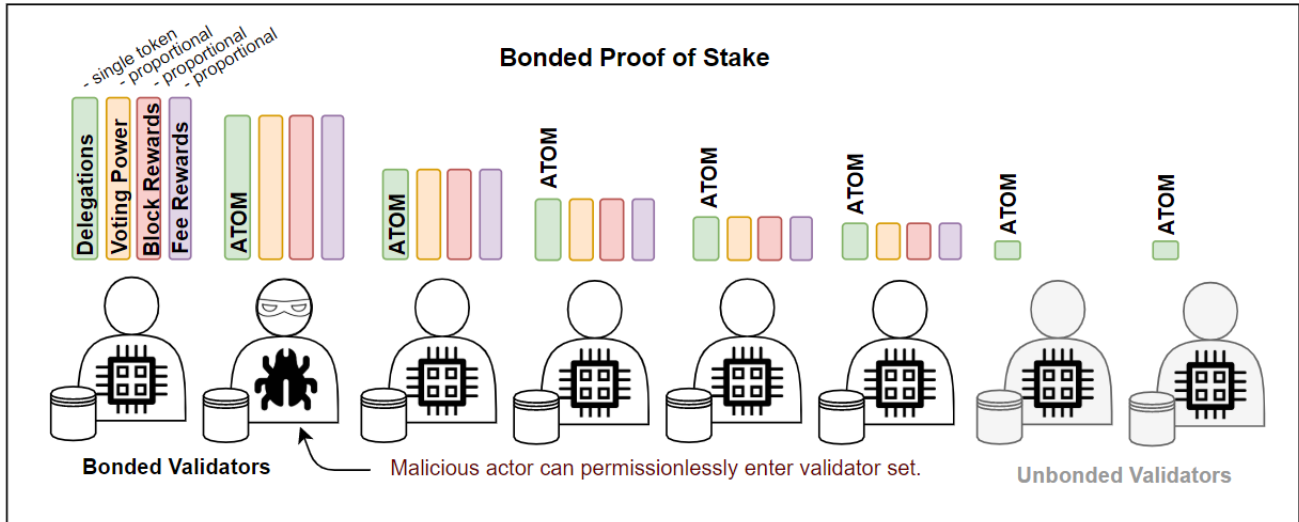
In Kira, each network operator (validator) has equal voting power and equal chance to propose new blocks. Entering and leaving the validator set is permissioned by the governance which determines its own rules for onboarding new validators to prevent sybil attacks. By requiring that validators are identifiable and active community members the governance can exponentially increase difficulty of forming cartels by large token holders with conflicting and purely profit seeking intentions.

The governance permissioning process is also used to evict network actors who try to delay consensus on purpose or in other ways defy governance defined Code of Conduct which users of the network treat as Service Level Agreement (SLA). For that reason Kira does not have to penalize stakeholders for downtime of their network operators and only a single slashing condition is required for double-signing (creating forks) to prevent double-spend attacks. By removing downtime slashing risk Kira validators are no longer forced to operate within large data centers and can reduce cost of operations by hosting validator nodes in their home environment, as long as minimum networking and hardware requirements are met.

What distinguishes MBPoS from other PoS consensus mechanisms is the fact that slashing only occurs when $\frac{1}{N}$, where $N \in (1, 3)$ of all validators commit a double-signing fault (attempt to create a fork). Furthermore, even if such an event occurs the governance set decides on appropriate punishment (% of assets to be slashed) and if eviction from the validator set should take place. This mechanism helps to mitigate issues where validators become evicted due to the software or hardware malfunction (that is not a fault of the operator) and guarantee safety of delegators stake which is essential when staking highly valuable assets such as Bitcoin, digital Fiat or commodities.

Inflation of the native asset and Incentive distribution to foreign token holders is defined by the governance and is used to attract network activity to the system as well as security by incentivising stakeholders of highly valuable or even real-world assets. Kira distributes incentives in two distinct ways. Delegators are assigned block rewards in proportion to the global stake bonded (to all validators), meanwhile, fee rewards are distributed in proportion to the local stake bonded (to the individual operators). Delegators who are in the network solely for profit-seeking have to distribute their stake to operators with the smallest amount of stake bonded, as to maximize their revenues. In essence, this prevents mindless stake centralization.

Validators can charge self-defined commission from their delegators and will additionally benefit from up to 50% of all fee rewards. This allows validators with smaller stake bonded to easily sustain their operations, without being pushed out of the set by large token holders and continue operations without having to depend on the market value of the native token.



MBPoS vs BPos vs NPos Consensus

Governance

The Kira governance system is a core of all network operations and is bootstrapped through the evolutionary process aimed at continuously increasing its efficiency and decentralization without dependency on the wealth or stake distribution.

Incentivisation of the network actors and ensuring their alignment in terms of pursuing common goals is one of the most important aspects of efficiently achieving consensus. It is however very difficult if not impossible for the blockchain application to judge incentives or economic sanity of individual governance members or network operators. Furthermore, leaderless governance systems can easily become deadlocked while trying to achieve excluding goals. We also have to take into account that not every set of on-chain rules will work with the same efficiency and achieve the same results for different types of decentralized networks and in all market conditions.

Kira operates with just two rules enabling bootstrap and evolving almost any imaginable governance model. The rules of the system state the following:

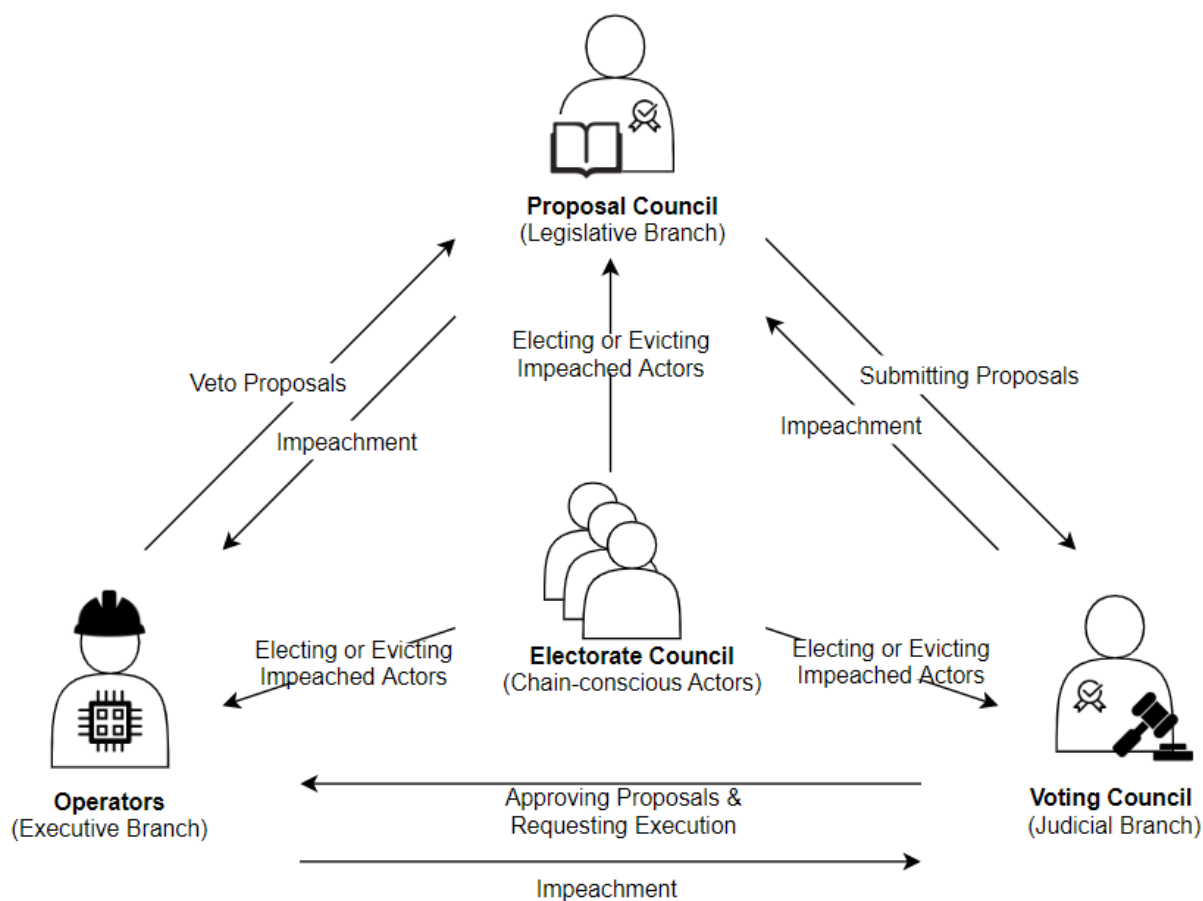
- Only whitelisted actors can execute on-chain actions (submit transactions of a given type)
- Whitelisted actors can only execute on-chain actions that they have permissions to execute

This seemingly simple permissioning system in combination with roles and individually assigned parameters provides a powerful and robust set of rules.

Roles are nothing else than a collection of permissions that can be associated with the specific account address. Thanks to roles, the network has the ability to curate permissions of all addresses associated with them at once rather than individually change permissions of all network actors.

Each permission assigned to the role or individual address can have individually defined parameters that can become an input to the function (action) that each network actor triggers when submitting a given transaction type. Thanks to these parameters the permissions can be more granular.

Network Actor Permissioning ensures that the governance system can not only efficiently define roles and permissions of its own members but most importantly expand and self-evolve its own structure. A good example of evolving a governance model might be the creation of multicameral systems where subsets of councilors specialize in creating and voting on specific subsets of proposals. Another example might be a separation of power through [checks and balances](#) systems where governance branches have the power to check and limit each other, thus preventing a single governance branch from achieving privileged positions.



Example of the Checks and Balances governance model implementation with KIRA Network

Code of Conduct

Code of Conduct (SLA) is a curated set of self-organization rules immortalized within blockchain state. Kira leaves it to its own governance system to define its own Code of Conduct and enables control over all economic aspects of the network such as freedom to control community pool tokens, interest rates for staking foreign tokens or inflation rate within certain safety thresholds.

Rather than laying out dogmas of specific rules that the community must obey. Kira governance can define its own on-chain and off-chain rules for onboarding new validators and governance members. Kira governance can ensure that wealth status is no longer the only determining factor when judging candidacy and every individual can be treated as an individual. This eliminates vulnerabilities of plutocratic governance models where holding more coins simply implies holding more power but not necessarily being a responsible or rational actor.

It is through these Code of Conduct guidelines that KIRA Network can amass & organize hundreds, or thousands of network operators, providing them with the means to cooperate in a clear, transparent, and verifiable manner. Through the brilliance of all its active members, a first truly decentralized and secure Proof of Stake network can not only be brought to life, but also continuously and efficiently operate.

Resolving Network Faults

In order to attract foreign capital (assets originating from outside of the cryptocurrency ecosystem) to participate in securing MBPoS blockchain applications, we must first ensure that the staking mechanism is sound. In other words, there needs to be minimal possible risk of slashing (for delegators) whilst maintaining network security (i.e. resolving the 'Nothing at Stake' problem).

As it stands, the majority of the PoS networks penalize those that delegate their stakes to operators who are frequently offline, as well as those who double-sign (attempt to fork). These rules are often automated and expose delegators to a multitude of risks, such as validators misconfiguring the software they operate, software or hardware failure. In most cases, those faults do not threaten the network operation, and are not the fault of the operators, yet are penalized. This discourages delegators from staking their assets.

KIRA Network mitigates downtime risks by utilizing an operator set which has been permissioned by the governance, and actively looks for & removes frequently offline validators from the set, rather than penalizing delegators for delegating their stake to often unavailable operators. KIRA Network mitigates double-signing risks, by instantly jailing misbehaving operators. It is then up to the governance to decide whether the misbehavior was done on purpose, or due to other reasons, ultimately deciding whether or not delegators should be penalized. Slashed assets are deposited into the community pool, rather than destroyed (as is the case with the majority of other protocols). These assets can later be used to reimburse potential damages or reward node operators (fishermen) tasked with detecting network, or other operator faults.

Decentralized Development

The Kira Core team will initially incubate the development process, however, in the long-term, KIRA Network operations need to be self-sufficient and not reliant on the participation of any particular group of actors. In order to deliver the most optimal blockchain application which is also capable of evolving through the collective effort beyond the initial scope, Kira recognizes the following economic instruments:

- Governance Controlled Community Fund Incentivising Development
- Blockchain Application Inducing External Value Into the Network
- Management, Roadmap, and Coordination of The Evolution Process

Similar to real-world employment contracts, Kira will allow contractors to define their desired currency, as well as close the contract in a way that protects both parties. This is Kira's alternative to funding development through the native token. Employers will have the ability to pause the contract, enabling them to contribute only within desired hours, making the process flexible.

Through instant and predictable fractional payouts, Kira can attract new actors to work on the ecosystem, ultimately working towards a fully decentralized development effort. This method also allows Kira to make payments without causing large market movements. Lastly, the Kira Core team will serve as one of the first actors to be employed in this manner, showcasing the future of employment and freelancing.

Exchange Protocol

Kira Interchain Exchange Protocol (IXP) is a sharded DEX module enabling delegators to maintain incentives while staking and simultaneously benefiting from market access. Users can deposit and exchange their assets trustlessly over interchain protocols, such as Cosmos IBC and Polkadot XCMP.

Kira aims to establish itself both as a primary settlement and market access layer within the Internet of Blockchains (IoB), and as a focal point for interchain commerce, by providing a range of future DeFi applications such as Interchain Exchange Protocol and later other applications developed by the community as the result of governance incentivisation program.

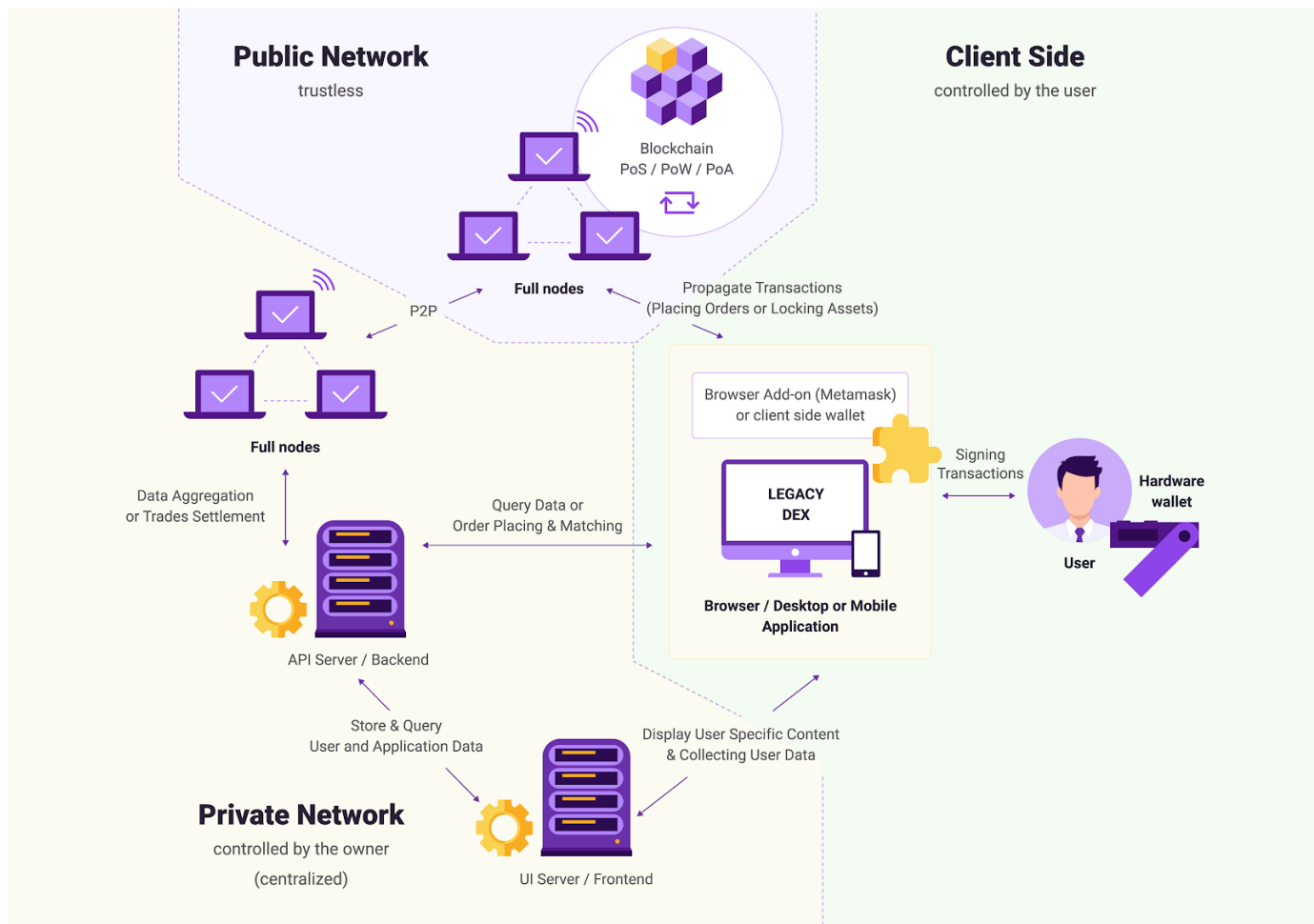
KIRA Network mission is to support the emerging proof of stake economy in realizing its full potential by delivering a gateway for unfettered market access. We believe that all participants should be able to transact free from the whims of gatekeepers who might otherwise govern which tokens will (and will not) be permitted to access the market. It is this freedom that is crucial to the security of blockchains operating under Proof of Stake consensus and must be protected at all costs.

Protocol Guarantees

- Accessibility
 - Client-Side Availability
 - Secure Access
- Scalability
 - Market Sharding
 - Interchain Slashing
- Ownership
 - Governance Assisted Listing
 - Verification and Trust
- Liquidity
 - Liquidity Pool
 - Staking Derivatives
- Legal Compliance
 - Selective dApp execution
 - Transaction Verification Tools

Accessibility

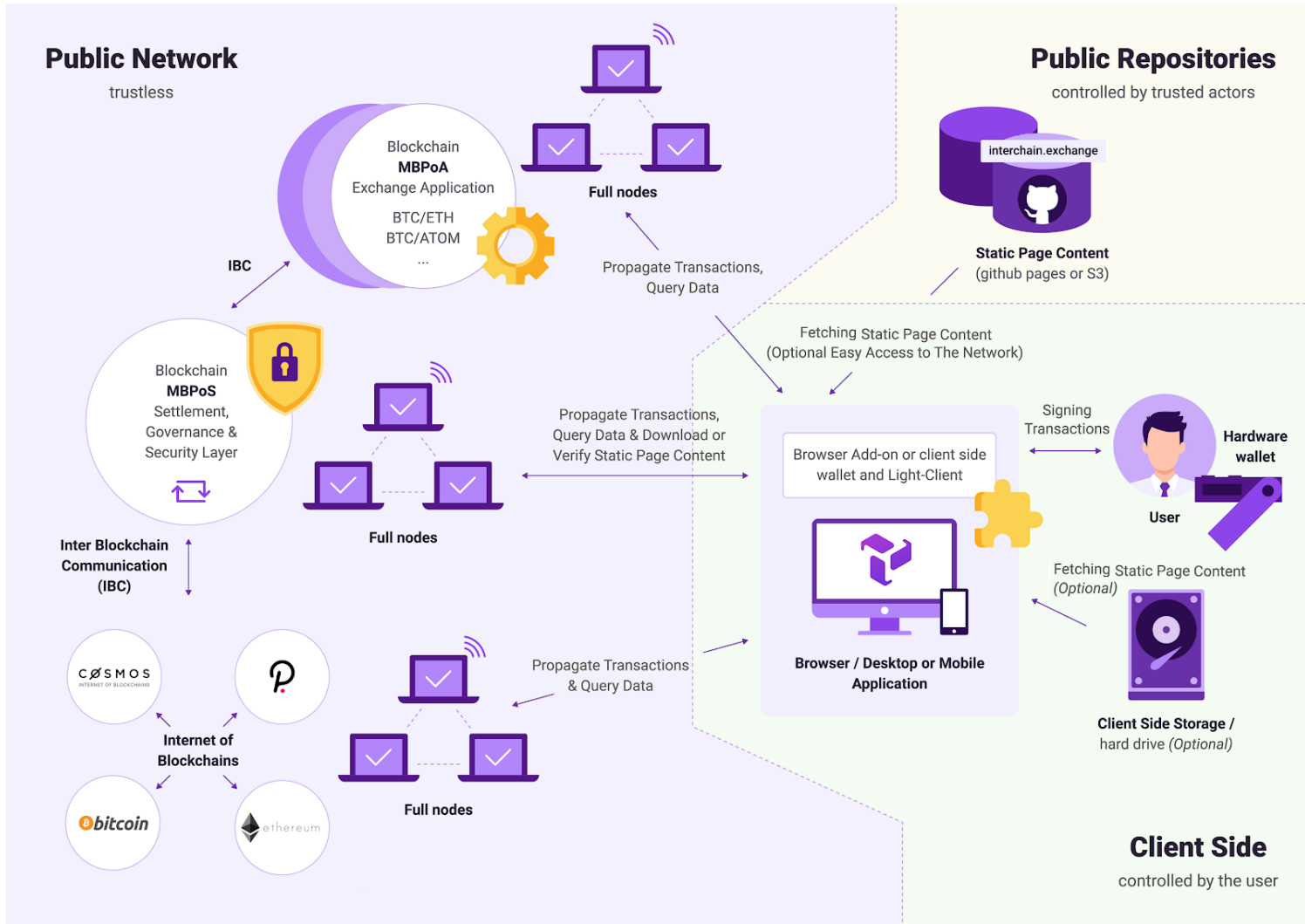
Centralized exchange users will find that User Interfaces (UIs) can become unresponsive, or even completely inaccessible during hours of peak network activity, leading to frustration, monetary and opportunity costs. The decentralized exchanges available today present similar issues and are even further encumbered by the privately owned network layer. Due to this, DEXs can often become the target of regulatory pressure, as was the case with a [specific popular DEX](#) which was coerced into imposing KYC onto its users for compliance purposes.



Traditional (Legacy) Decentralized Exchanges — Architecture Overview

The majority of architectures behind blockchain-connected applications make use of backend gateways, such as APIs, in order to achieve blockchain state aggregation or processing. Those are often operated by a single, centralized entity. Although the process allows for efficient presentation of on-chain information to the end users, it also reduces accessibility should a network traffic intensify or a fault occur. Gateway faults or censorship can prevent non-sophisticated users from accessing their funds in a timely manner, especially if the backend service is not open-sourced. A lack of market access can cause users to incur losses equivalent to CEX hacks.

On the other hand, Kira Interchain Exchange Protocol offers a completely decentralized solution, allowing users to maintain full custody of their funds at all times. Furthermore, because users directly communicate with the network or trusted operators, Kira (like Bitcoin) puts itself beyond jurisdictions and enables peer-to-peer market access.



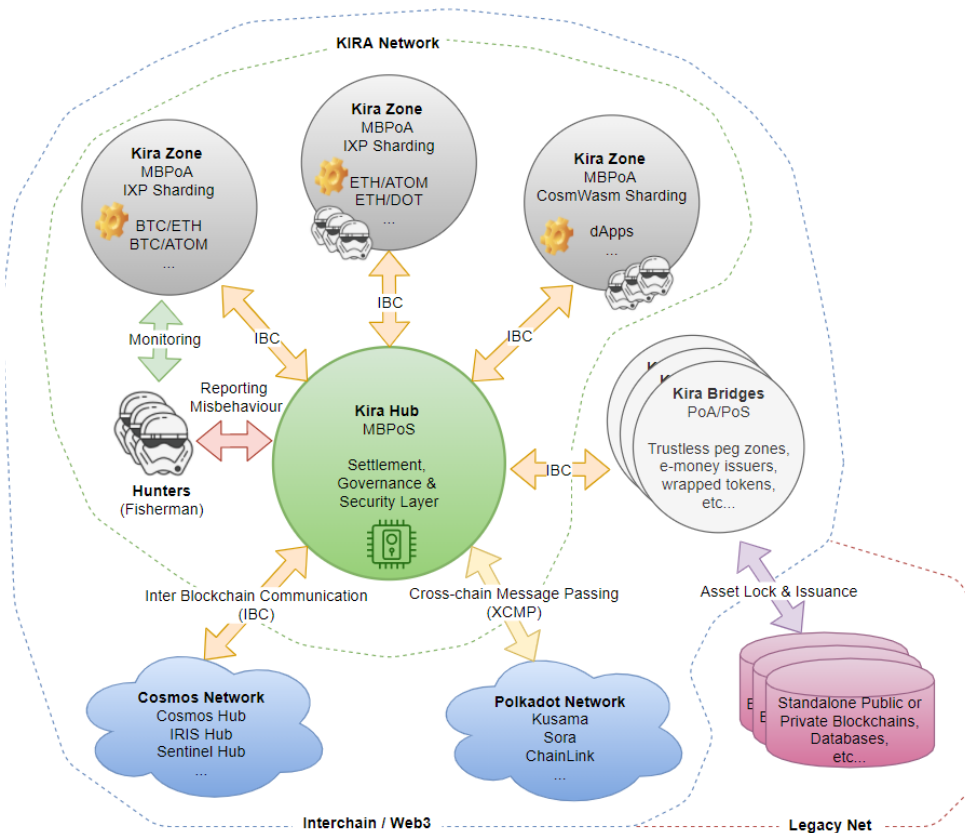
Kira Interchain Exchange Protocol — Architecture Overview

The scalable dApps of the future demand highly reliable access to the Internet of Blockchains which users can depend upon, even in extreme circumstances. Today's centralized (and even some decentralized) exchanges are highly dependent on the availability of backend services, via which user requests are proxied in order to interact with blockchain applications. This architecture threatens application availability when the system is experiencing stress, attacks, censoring, or down time due to maintenance. It furthermore exposes users to a multitude of threats, even in the presence of security best-practices, i.e. multi-factor authentication

Scalability

Exchange Protocol consists of many independent, interconnected shards named *zones* where various cryptocurrencies can be traded in a fully parallelizable manner to achieve centralized exchange experience and transaction throughput while maintaining decentralized exchange level of asset security, in order for them to remain fully within user custody even if originating from various different blockchains.

While the next generation networks like Cosmos and Polkadot provide access to broad economy of their native ecosystem tokens and legacy cryptocurrencies via the standards like [IBC](#) or [XCMP](#) - Kira directly bridges to them and offers a trustless market access for all assets within various Internet of Blockchains (IoB)



Kira Hub - provides a governance, security and settlement layer for Kira, as well as interchain routing between all zones and other networks.

Kira Zones - an independent set of sub-chains operating specialized blockchain applications. Zone validators are interchain-slashable on the Kira Hub.

Kira Bridges - independent networks or services enabling asset transfer with various non-IBC compatible networks, databases, and e-money issuers.

Ownership

Management of most exchanges is disjointed from their users and network operators. The listings, withdraws, deposits, exchange, and other fees are usually either enforced by the protocol and limit the usability of the system or driven by business decisions of centralized entities without a say nor a veto power from the community. Exchange Protocol takes entirely the opposite approach; by enabling a simple and permissionless process in which new tokens can be listed in a matter of minutes.

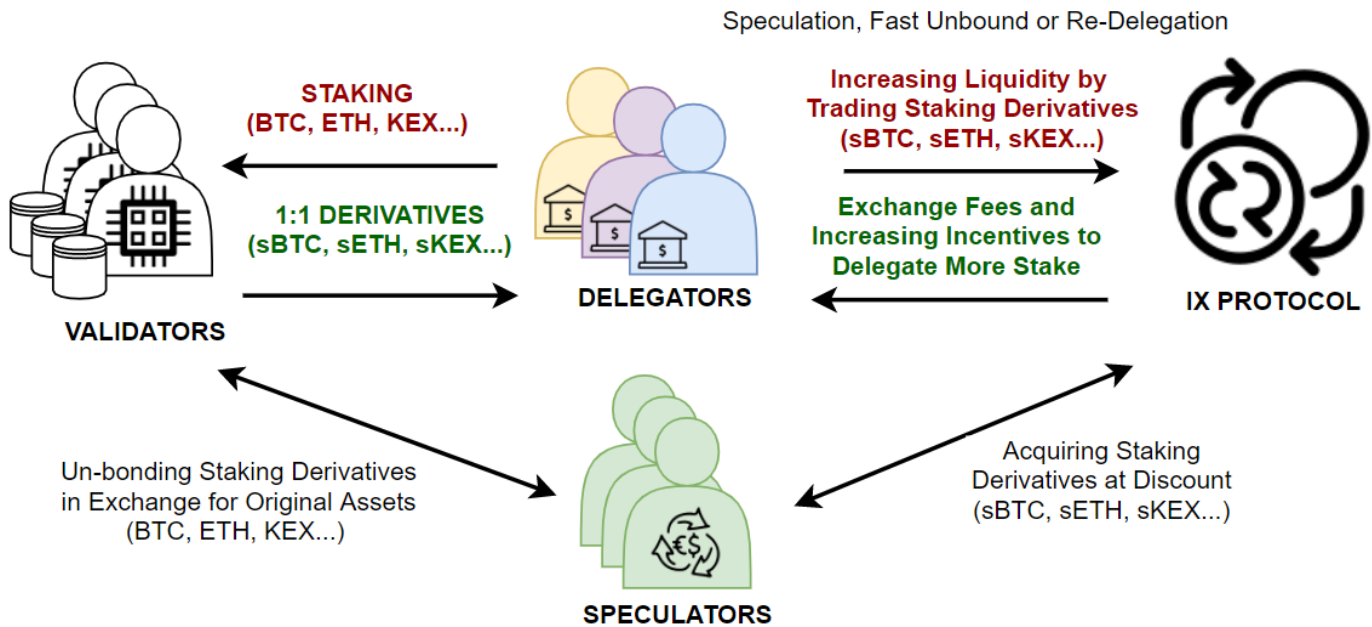
- In order to list a new token pair, there has to be a minimum amount of whitelisted tokens locked, in order to enable the trading of the new asset.
- The amount which has to be locked is defined by the governance.
- Users are able to collectively lock assets, meaning that it's not up to one person whether a token is traded or not.
- If the amount of locked assets is not met, or if the assets are unlocked, the trading of that token will be stopped within a predefined time period.
- If the amount of locked assets is met the new token pair will be available unless governance vetoes the listing within a predefined time period.

In this way, tokens are included by default (unless governance veto is raised) but can be removed at a later date by community action, thus decentralizing decision making in the listing process and disincentivizing malicious actors from listing fake tokens. The governance of the network can prevent fraud and reimburse users in case of potential application faults, unforeseen events, or malicious acts.

Liquid Staking

Liquidity of the exchange protocol and all other DeFi applications deployed on the KIRA Network are supplied with liquidity of all assets at stake. Staking derivatives are automatically issued to users staking their tokens and represent these derivatives 1:1. For example, by staking BTC, a staking derivative sBTC would be issued to the delegator, and while the original BTC would remain illiquid and slashable, sBTC could be freely transferable and tradable. If the BTC were to be slashed due to validator misbehavior, the sBTC derivative would be able to claim only a portion of the BTC it is representing.

Kira's liquidity pool mechanism utilizes economic forces instead of complex algorithms and creates a predictable opportunity for speculators to acquire shares of stake-able assets below the value they represent. It also creates utility for delegators who can unbound their own stake without having to wait for an unbound period. Increased use of the exchange protocol, due to the liquidity of all stake-able assets, increases the revenues generated through the network fees and creates even more incentives to stake. Finally, along with increasing value at stake, the security of the network raises.



KIRA Network - Liquid Staking

Legal Compliance

Kira enables its validators to decide whether or not they want to only secure the settlement layer (Kira Hub) or also participate in the consensus of exchange zones or any other DeFi application deployed on top of the KIRA Network. Kira validators can maintain greater legal compliance in comparison to other networks such as Ethereum 2.0, where all validators are forced to take part in the execution of all smart contracts (including exchange dApp's) regardless of their legal status in their individual jurisdictions.

Validators will be further provided with tools enabling them to process transactions originating from only specific individuals whose identities are KYC'd through a 3rd party distributed digital identities networks (dID's). This will enable Kira DeFi Zones to become customized with individual validator sets and specific types of tokens, geared towards greater security and compliance while maintaining an option for censorship resistance in case of exchange zones and their operators who prefer to maintain their privacy.

Kira Token

Kira Token (KEX) is a native staking asset of the KIRA Network. KEX acts as a reserve currency in terms of which staking all other foreign tokens is valued. KEX is required to be held by governance members and validators to participate in the consensus. Other utilities of the KEX token include the most efficient means of network fee payments, which are necessary as a transaction spam prevention mechanism.

Kira governance is tasked with controlling the inflation rate of the KEX token within certain safety ranges and defining interest rates for staking all tokens in the network. For that reason staking KEX can maintain its utility and remain the most efficient way of accessing incentives from the block and fee rewards. Governance of the network has full ability to control the economy and can define any other suitable model for ensuring long term operations of the network.

Kira Token is used to induce the flow of value away from the passive actors (non-delegators) and users who pay network fees - to delegators and validators (active actors) who ensure maintenance, security, and availability of the KIRA Network.

| Holder Incentives | Delegator Incentives | Validator Incentives |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Lowest possible network fees when paid in KEX • Lowest possible exchange fees when paid in KEX | <ul style="list-style-type: none"> • Most optimal reward rates when staking KEX • Up to 99% of all block rewards <ul style="list-style-type: none"> • Distributed in KEX token • Proportional to global stake • Up to 50% of all network fees <ul style="list-style-type: none"> • Distributed in foreign tokens • Proportional to local stake | <ul style="list-style-type: none"> • Commission fees configurable individually by each validator • Up to 50% of all network fees divided equally among all validators • Governance seat with equal voting power among all other governance members |

Kira Token Holders - Network Actors Incentives

Initial Validator Offering

Initial Validator Offering (IVO) is a crowdfunding mechanism utilizing distributed networks with native-asset inflation or other incentivization mechanisms for the network operators (validators, mining pools, delegators, or miners). Initial Validator Offering is compatible with any type of decentralized network, especially Proof of Work, Proof of Authority, or Proof of Stake blockchains. Opposed to traditional crowdfunding mechanisms such as Initial Coin Offerings (ICO's), IVO investors never lose custody or liquidity of their assets while acquiring tokens through interchain mining rather than auction mechanism.

New tokens can be issued for every predefined token-pegged value acquired by IVO Validators on the networks they operate on. Token distribution can happen automatically or manually through foundation or other non-profit entities tasked with token distribution.

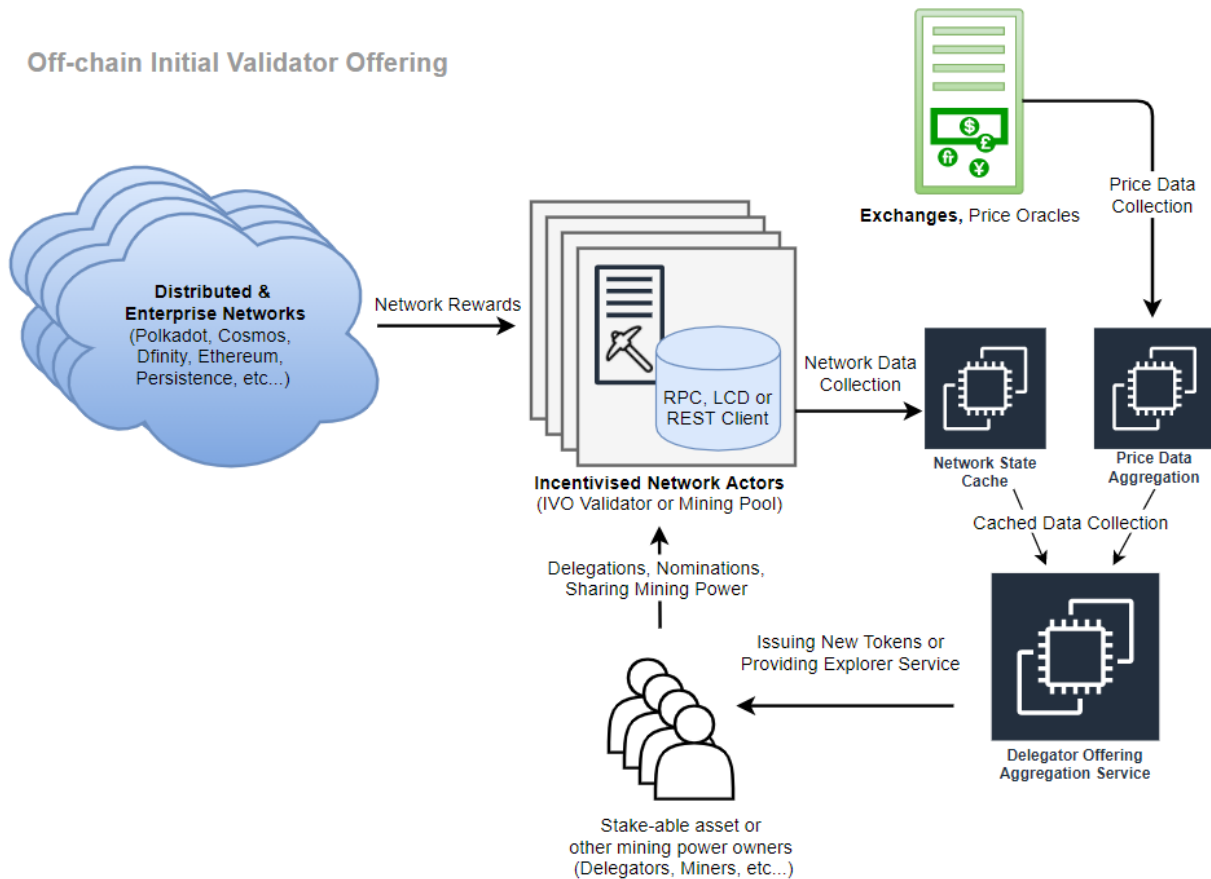
Kira Token (KEX) will be one of the first-ever tokens distributed through the IVO process.

| Initial Coin Offering (ICO) | Initial Validator Offering (IVO) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Requires (investment) exchange of tokens or fiat currency for tokens • Investment can't be pulled out and is unlikely to be refunded • Investor is required to reveal his identity through KYC process • Tokens sold through ICO have a high risk of becoming a security and compromising legality of the public offering (STO regulations) | <ul style="list-style-type: none"> • Requires trustless locking of assets (interchain mining) to generate tokens • Assets used to mine tokens can be pulled out at any time • No sale or exchange of assets for tokens is taking place • Tokens mined in the IVO are not issued by any centralized authority, there are no limitations to the type of tokens that can be mined. |

Initial Coin Offering (ICO) and Initial Validator Offering (IVO) comparison

I

Off-chain Initial Validator Offering



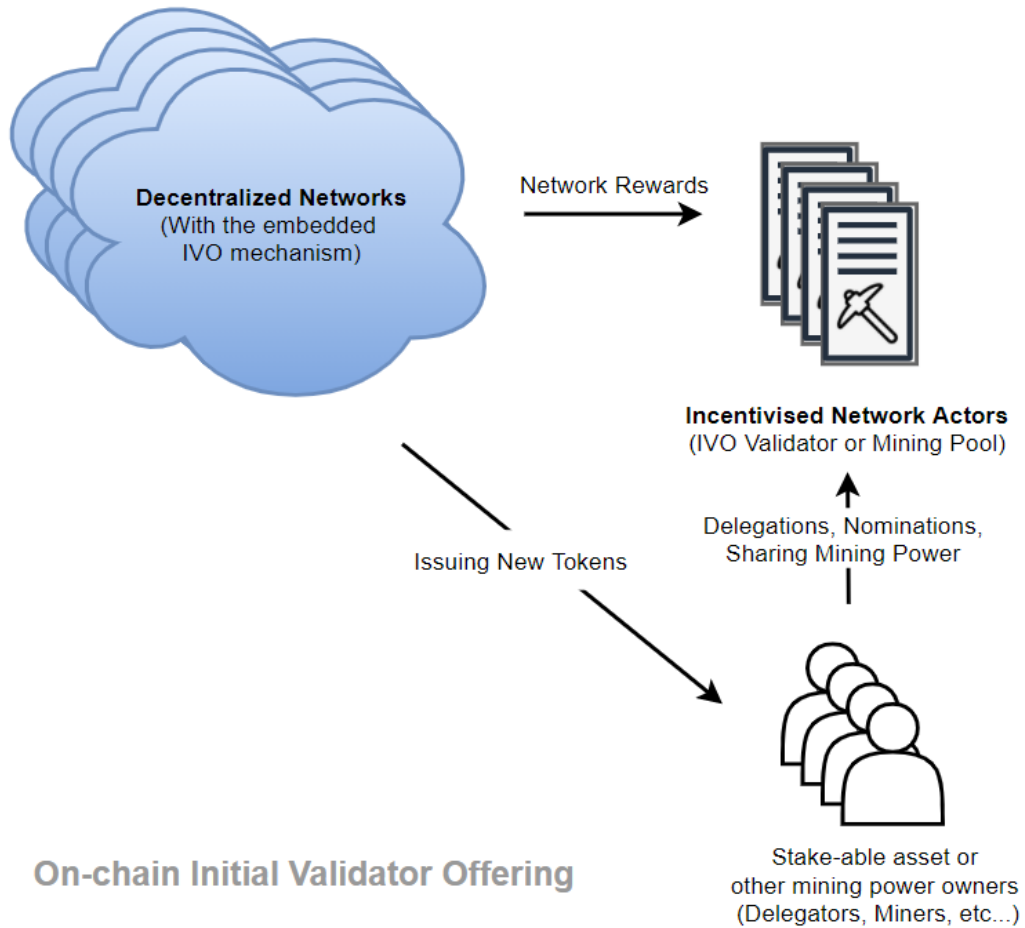
Off-chain Initial Validator Offering Service Visualization

Decentralized Offerings

Through the on-chain Initial Validator Offering module, KIRA Network makes it simpler for everyone to deploy their own, trustless, highly available, and transparent Initial Validator Offering without the need to operate any centralized backend software.

By deploying a validator node on the KIRA Network, new interchain projects, businesses or even nonprofits will be able to crowdfund their own operations and benefit from the following features:

- Automatic, instant and trustless token distribution
- Staking of any foreign asset thanks to the MBPoS consensus
- Full liquidity of assets at stake thanks to Kira Staking Derivatives
- Issued Tokens can instantly access market thanks to Kira Exchange Protocol
- Lowest possible risks of slashing in comparison to any other DeFi product



On-chain Initial Validator Offering Visualization

Thanks to Initial Validator Offerings, KIRA Network has a chance to become the founding stone of the next cryptocurrency paradigm and help new businesses to crowdfund their operations and expand the interchain ecosystem while inducing foreign capital into the cryptocurrency space.

Licensing

KIRA Network and all improvements to Bonded/Nominated Proof of Stake consensus mechanism in the form of the Multi-Bonded Proof of Stake as well as other Kira Core JSC inventions are released under the MIT license **with the exception for all software related to the off-chain Initial Validator Offerings**.

Initial Validator Offering is an invention and intellectual property of Kira Core JSC, released under the Affero General Public License, version 3 (AGPL). Modifying the Initial Validator Offering (IVO) (for example, creating a new blockchain application or off-chain offering software or service), reimplementations, use in other software, or otherwise creating new work based on any materials related to Initial Validator Offering, licensed under the AGPL, your software will be automatically licensed under the AGPL and needs to be made available to everyone who is a recipient of your new or modified software or interacts with it remotely over a network.

You must inform your users that the source code is available and acknowledge Kira Core JSC as an intellectual property owner. You need to prominently include a distinct and highly visible [Kira Core Logo](#) and "[download source](#)" button or link on your website, such as where programs are downloaded, and in the user interface of any software that interacts with your modified code. The "download source" button must allow anyone to directly download the exact source code and applicable cryptographic keys needed to install or use the modified AGPL software.

If you would prefer different licensing terms, Kira Core JSC offers commercial licensing options. For more information, contact us at partners@kiracore.com