Koinos Account Protocol

NFT Name Service
Account Abstraction
Free Mana

CONTENTS

BACKGROUND

Blockchain offers two simple promises: trust-less and verifiable ownership of digital assets, but it is extraordinarily difficult for users to take advantage of these properties when blockchain is too challenging to operate for the average user.

We mistakenly believe that we own our digital assets such as digital books, music, social media posts, or even our digital identity. However, our experience has shown that these can all be taken away with a simple click of a button, meaning true digital ownership is simply not possible without disruptive tools like blockchain, and it will be impossible to scale at the social level unless blockchain is free to use.

In 2023, millions of people will try blockchain for the first time in an attempt to own their digital self. Users will sign up for a centralized exchange (CEX) and go through KYC protocols to buy tokens and to participate in the promise offered by blockchain technology. But disappointment is certain because KYC is both intrusive and lengthy to complete, and in the end, users still don't have true ownership since they do not self custody their private keys (PK), hence the saying "not your keys, not your coins".

To make matters more difficult, blockchain addresses and their corresponding private keys use an incomprehensible alphanumeric string of characters that makes it too difficult to manage and remember. Most importantly, they do not provide the true representation of a user's identity since they are assigned and not chosen.

Naming services were developed to allow users to choose their own names as representations of their wallet addresses in place of long alphanumeric strings, but their main disadvantage is that users must obtain a cryptocurrency to acquire the name, which brings us back to the primary challenge of acquiring tokens that we started with.

The take away lesson is that in order for blockchain to succeed, we must abstract the complexity of using blockchain away from the user by providing better account management tools and make access to blockchain resources easier to obtain.

Koinos Account Protocol (KAP) is specifically designed to give users the ability to acquire a named account and simultaneously gain access to blockchain resources at absolutely zero cost and with no waiting.

This will redefine the entry point into blockchain by solving the largest barrier to entry and empower individuals to take back control over their digital identities.

INTRODUCTION

KAP is a fully permission-less and decentralized protocol with three main objectives.

1. Give users the ability to choose and own a unique named identity to represent themselves.

2. Abstract the complexities of account management with smart contracts.

3. Provide tokenless access to blockchain dApps through Mana stations.

Named accounts need no introduction, but KAP offers two distinct benefits. First, owning a KAP account grants you access to Mana Stations. Mana Stations allow tokenless access to smart contracts, in other words, users won't need any tokens to interact with dApps on the Koinos blockchain.

Traditionally, blockchain users must acquire their own tokens to pay gas fees which require the use of a CEX. KAP Mana Stations remove this step entirely, allowing instant access to blockchain applications.

The second distinct benefit of having a KAP account is the improved user experience when executing transactions. Koinos wallets accept smart contracts unlike EVM block chains which do not allow smart contract functionality in user wallets (also known as Externally Owned Accounts). Smart wallets on Koinos combined with tokenless access allows KAP to abstract many of the difficulties that blockchain users currently face, including account security, transaction execution, account management and recovery.

KAP users will gain access to a variety of these account management tools by acquiring a KAP account ending with the TLA **.koin**, otherwise known as a "Second Level Account" (SLA). Users have the choice in owning either a free or premium SLA (pricing based on name length) depending on their needs.

KAP also offers users the ability to own "Top Level Accounts" (TLA), which allows a user chosen suffix. For individuals, this represents the highest level of ownership. For developers, TLA offer a unique user management tool since a TLA can directly issue their own SLA.

EXAMPLE

Typical KAP account address:

Custom TLA usage:

SELECTING A KAP NAME

KAP allows anyone to choose a user name that uniquely represents themselves or their organization. To ensure the namespace remains accessible and fair, KAP accounts that are 11 or more characters will always be 100% free and will never require users to obtain a token to purchase. KAP accounts that are 10 characters or less will require a one time fee to register and an annual renewal fee to maintain.

Account names that are 11 or more characters are typically suitable for common user names comprised of a user's first name, last name, numbers, common words or short phrases.

Account names that are 10 or less characters are considered premium names due to character limitations and will require a fee to obtain and maintain them.

If a named account no longer suits the user, they can simply abandon the name but the account will exist forever. Premium accounts however, will be reclaimed by the KAP protocol if their annual fee is unpaid.

Users may also have several KAP accounts to manage their identities across different dApps.

EXAMPLES

#1
There are likely many users who want the name `x.koin` because it is a popular pseudonym. Since this name is 10 characters or less, the prospective owner would need to pay a one time registration fee and an annual renewal fee.

#2
Blockchain Architect Michael Vandeberg of Koinos Group wishes to acquire the KAP name `michaelvandeberg.koin`. Since it is 16 characters, the name would be free.

#3
Andrew Levine, CEO of Koinos Group, wishes to acquire the KAP name `alevine.koin`, but since it is only 7 characters, he would have to pay both a registration and annual renewal fee.

Andrew can also choose to use `andrewlevine.koin` which is 12 characters, making it completely free.

#4
An NFT collection called "OGRex" owns the TLA `.ogrex`. The NFT can issue a specific name for their collection to enhance user's ability to authenticate the NFT, or even allow user defined names.

Some examples may be: `number212.ogrex`, or `most_rare.ogrex`.

KAP ACCOUNT TYPES

FREE .KOIN ACCOUNTS

Free accounts offer new-to-blockchain users a quick entry point into blockchain so they can immediately begin experiencing blockchain with zero risk since they require zero tokens to acquire or maintain. The chosen name must be 11 or more characters and will end in .koin only.

Free accounts may also be suitable for experienced blockchain users who have their own $KOIN and simply want the benefits of having a human readable name for an improved experience. As we saw with previous examples, there are many options for users to select from.

Regardless, once a user chooses their name, the KAP protocol will mint and issue an NFT to the wallet address of their choice and their name will exist on the blockchain forever with no further maintenance required.

Free accounts that include access to blockchain resources will maximize the accessibility of user identification and representation and most importantly, it will be the foundational element to a universal, portable, pseudonymous namespace that is wholly owned and controlled by its users.

PREMIUM .KOIN ACCOUNTS ($)

Paid accounts offer a premium experience on the Koinos Blockchain and will require $KOIN to pay the registration and annual renewal fees. The chosen name must be 10 or less characters and must end in .koin. Premium accounts derive their value from being character limited, making them easier to identify.

Premium accounts share many of the same characteristics of free accounts, but they include access to higher amounts of Mana and premium KAP features at no additional cost.

Accounts with lapsed registration fees will be reclaimed by the KAP protocol after a 60 day grace period, which allows the name to be registered once again by anyone. The primary value of premium accounts lies in the uniqueness of the chosen name.

Additionally, only premium accounts will be eligible for the $KAP airdrop.

All fees paid by premium accounts will be deposited and managed by the KAP DAO treasury.

KAP ACCOUNT TYPES (continued)

PREMIUM TOP LEVEL ACCOUNTS ($)

Top Level Accounts offer a feature rich experience and can only be created by burning a specified amount of $KAP. The TLA itself can also be burned, releasing $KAP back to the original owner.

Since TLA names have no restrictions, there are no limitations to what users can choose, making them perfect for organizations that wish to use the KAP account naming structure for their business or dApp.

TLA's are also suitable for high value individuals wanting the highest level of representation similar to the KAP smart contract owning the .koin TLA, accessible via the link kap://koin or reference by the phrase "dot koin".

Organizations who own a TLA are attempting to bring value to the name through valuable action but they may one day default and abandon the TLA or a competing organization may want the TLA if they believe the name has more value to their organization.

A new TLA will not initially have an annual renewal fee however any TLA may receive a bid by any individual, at any time. This will triggers a recurring annual registration fee, regardless if the bid is rejected or accepted.

The fee is determined through a bid based fee mechanism based on Vitalik's blog on ENS fees found at:

https://vitalik.ca/general/2022/09/09/ens.html.

BID BASED FEE MECHANICS

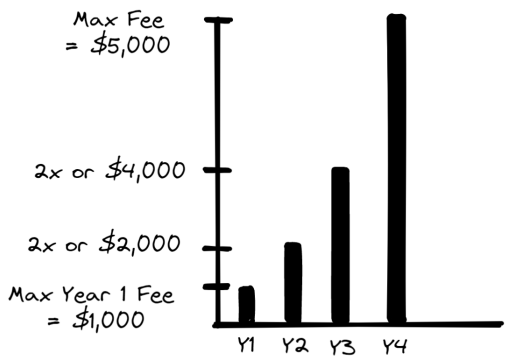
Any user may submit a bid of any value which is deposited into an escrow account, giving the TLA owner 30 days to review.

If the original owner does not respond or rejects the bid, the escrow balance is returned to the bidder automatically. If the bid is accepted, the TLA is transferred to the bidder and the escrow is released. If this is the first bid, then it will also be the first time the annual renewal fee is assessed.

The maximum annual renewal fee is 1% of the highest bid but capped at $1,000 for year 1, doubling until it reaches the maximum annual fee.

EXAMPLE:

A $500,000 bid results in a max annual renewal fee of $5,000. The fee is $1,000 at year 1, $2,000 at year 2, $4,000 at year 3, and $5,000 at year four.



Bid Based Fee Growth

TOKENLESS ACCESS

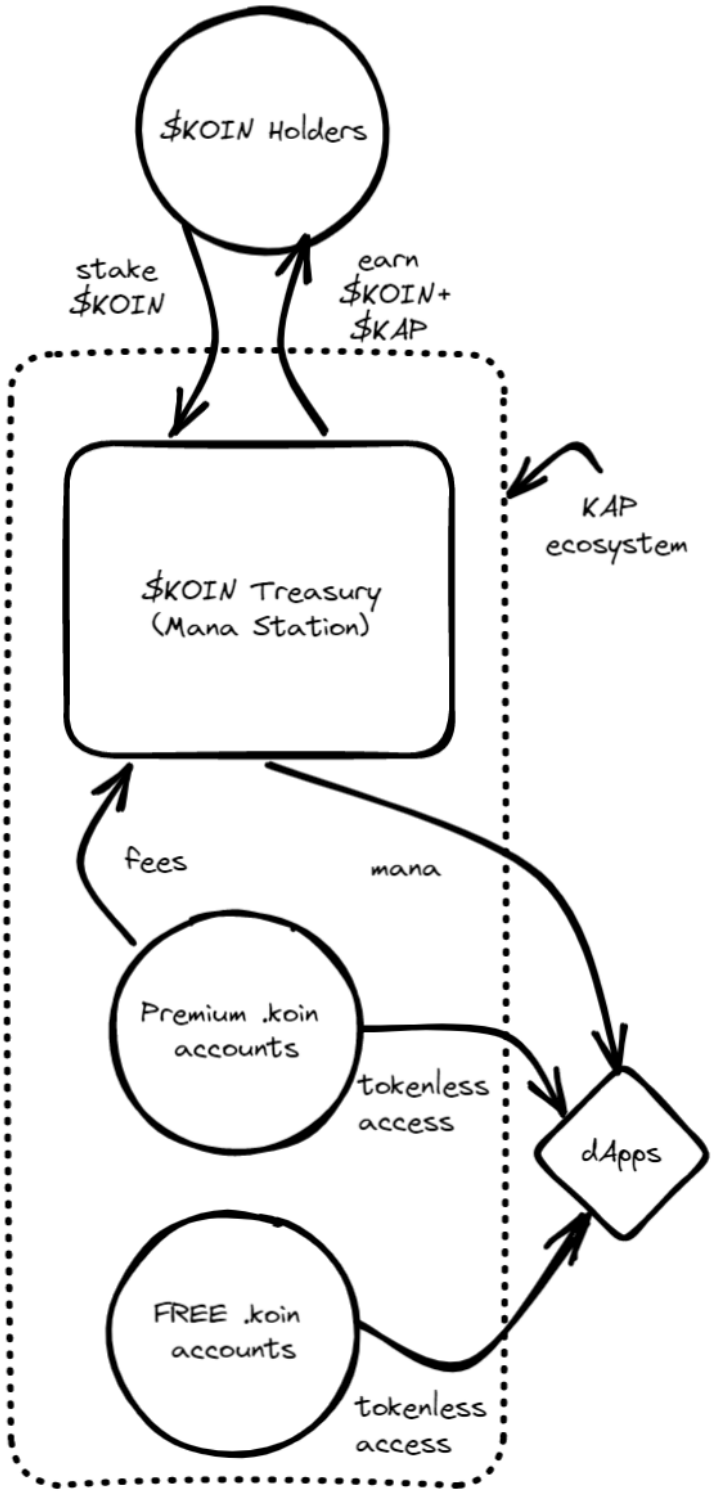
KAP is an infrastructure level protocol that is designed to benefit all users within the Koinos ecosystem equally. In addition to named accounts, KAP is uniquely positioned to provide tokenless access for KAP account holders.

This means dApps can focus on creating a user experience with the knowledge that anyone can simply acquire a KAP account and try their dApp without holding $KOIN, pay a transaction fee, or go through the complicated process of acquiring tokens through a CEX.

KAP is able to achieve this by leveraging registration and renewal fees as incentives for the creation of Mana Stations. $KOIN holders simply need to stake $KOIN for a specific time period and earn a fixed yield in $KOIN and $KAP.

For $KOIN holders, the largest benefit is the flexibility of choosing the staking period that best matches their needs in comparison to proof of burn mining.

Note: The KAP DAO will monitor user access to free Mana and adjust Mana Station parameters to ensure depositor rewards incentivize enough $KOIN deposits to cover user needs.



ACCOUNT ABSTRACTION

While there have been many attempts to improve wallet functionality, most designs have failed to deliver the experience that the average user expects: simple usage and ease of understanding.

Previous attempts were simply too technical to implement since legacy blockchain designs did not allow user wallets to support smart contracts. Even if they could, simple account abstraction features would require a gas fee to execute.

Next generation blockchains such as Koinos allow all wallets to support smart contracts by default. This allows users to upgrade their wallet to match their needs or with improvements in account abstraction.

The result is anyone can configure and upload a smart contract to enhance the functionality of their wallet.

KAP takes advantage of this by treating wallets as a blank canvas that can be customized to meet the needs of the user, allowing users to manage multiple accounts through the KAP dashboard and implement specific features when they are ready without code.

Ultimately, one of the three main objectives of KAP is to use the concept of account abstraction to dramatically improve the user experience when dealing with the self-custody of crypto assets, allowing blockchain to scale it's user base at a global scale.

EXAMPLES

#1
A basic user might simply want to deploy a social recovery contract so they don't have to worry about facing certain doom if they lose their private keys. Simply enter the selected guardian's wallet address and let KAP setup and manage this feature.

#2
Everyday users might want to share their Mana within their circle of friends or set up a "risk free" wallet that can access the KAP Mana Stations but hold zero tokens of value. The user can simply configure any address that they want to share their Mana with and KAP can setup and allow them to easily manage this feature.

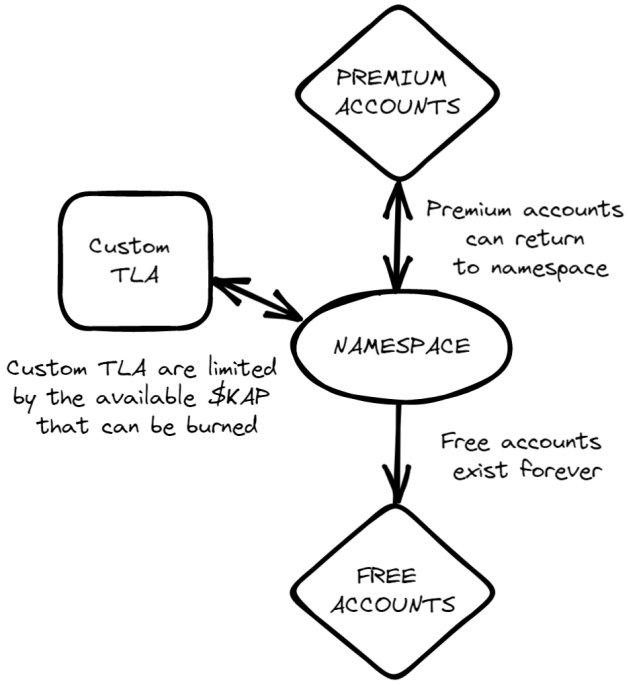
#3
Advanced users might want to implement multisig logic on a specific wallet that contains high value tokens. They might also want to automate the transfer of all funds from one wallet to another after a certain period of time, in case the keys to one wallet are lost.

Again, the user simply inputs their specific information and KAP will setup and allow them to easily manage this feature.

These examples are just some of the basic features that existing wallets lack but can be provided through account abstraction provided to KAP users.

SUSTAINABILITY

Names are fundamental to how humans interact and KAP is specifically designed to fill this intuitive need in blockchain: allowing users to easily identify each other by owning their user name. KAP can also be easily integrated into dApps and adopt improvements through its governance system. Ultimately, the utility of KAP incorporates self sustainability as a basic design aspect.



FEES

The KAP DAO treasury collects registration and annual renewal fees from premium accounts, which may be used for Mana Stations and funding further development.

AVAILABLE ACCOUNT NAMES

There are trillions upon trillions of names that are available for users to choose from, all available for free with no expiration.

RECLAIMING PREMIUM ACCOUNT NAMES

All premium .koin and TLA accounts have a 60 day grace period after expiration before they are de-registered and reclaimed by the KAP protocol. For .koin accounts, registration and renewal fees are designed to prevent squatting and unfair secondary market practices that do not create value. Users may elect to pre-pay up to 10 years of registration fees in advance if they wish.

For TLA, the bid based fee method is used to prevent squatting and griefing practices.

Possible Combination of Names using A-Z and 0-9

Letters	Possible # of Names
1	36
2	666
3	8,436
4	82,251
5	658,008
6	4,496,388
7	26,978,328
8	145,008,513
9	708,930,508
10	3,190,187,286
11+	Unlimited

Note: Support for international and non-ASCII characters will be available in the future.

DAO GOVERNANCE

The KAP DAO will be solely comprised of $KAP token holders who will be in charge of managing the KAP protocol.

The DAO will also have the responsibility to steward the evolution of the KAP protocol through improvement proposals that operate in the following manner:

SUBMIT PROPOSAL
Submitting a proposal requires 100 $KAP to be burned as a spam mitigation fee. After the proposal is submitted, a 1 week grace period is provided for DAO members to review. If the fee cannot be paid by a developer, they may request the DAO cover the cost of the fee through a grant.

VOTING
After the review period, the proposal undergoes a 2 week voting period where each $KAP token holder casts a simple 1 token 1 vote. Proposals must achieve a simple majority (50% or greater) with a minimum quorum of 25%. Proposals that directly alter the governance contract itself require a super majority (66% or greater) vote to pass. Tokens held by the DAO treasury are not eligible to vote.

IMPLEMENTATION
Proposals that successfully pass will be implemented 1 week after voting to allow for all users to prepare for the proposal implementation. Approved proposals are automatically implemented based on block time.

TREASURY MANAGEMENT
The DAO is ultimately in charge of determining how to best appropriate and distribute their funds.

$KOIN collected from the sale of KAP accounts will be deposited directly into the DAO treasury.

$KAP that is earmarked for airdrops will be minted and distributed by the KAP smart contract, requiring no action from the DAO.

$KAP that is earmarked for bounties and grants must go through a request/approval process that is overseen by DAO members.

TOKENOMICS

The Koinos Account Protocol's native token is named $KAP, which has 2 main functions:

1) Governance actions via KAP DAO.
2) Create TLA by burning.

$KAP has no upper limit and tokens will be minted in several stages with an initial target of 100,000,000 $KAP.

DISTRIBUTION USAGE

- 15M $KAP will be reserved for the development team and released through time locked vaults that correlate with $KAP airdrops. The development team will initially receive 3.75M $KAP, with the remaining 11.25M $KAP distributed over time.
- 25M $KAP will be reserved for the DAO and intended to help the KAP ecosystem grow. The expected usage includes bounties or grants but ultimately, KAP DAO members have the right to vote on how the funds should be used. The treasury's allocation will be available for the DAO to access through a claim method however, it will not be pre-minted.
- 60M $KAP will be reserved for airdrops to premium KAP account holders. The distribution schedule will be released in the future. These tokens will not be pre-minted.

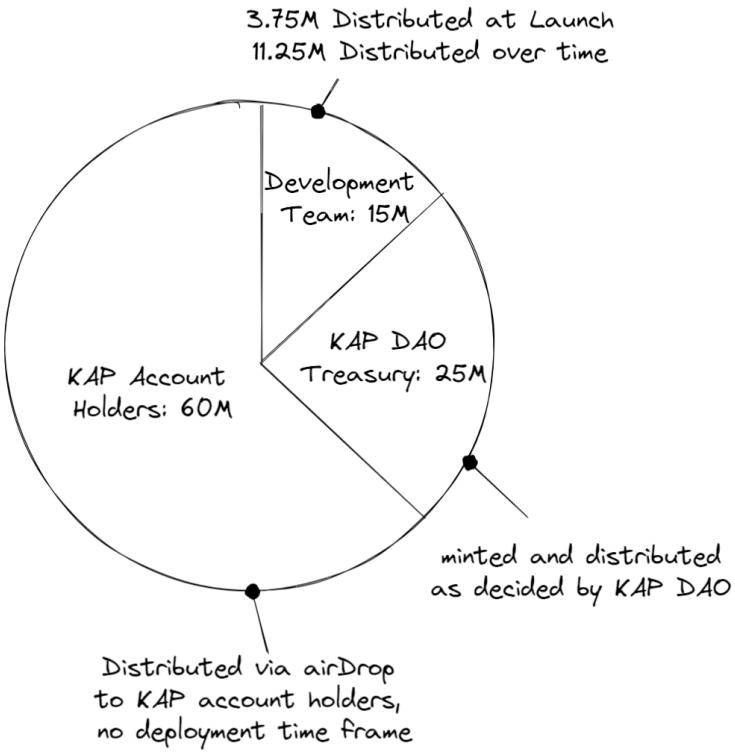
Initial Supply:
100,000,000 $KAP

Token Maximum Supply:
∞

Token Inflation:
0% initially, to be adjusted by the DAO for the purpose of incentivize Mana Station depositors.

Token Utility:
Stake weighted voting, burn to create TLDs.

Token Distribution:



GLOSSARY

KYC	Know Your Customer, a general phrase to represent an organizations legal requirement to collect government issued identity information before allowing users to access the organization's services.
CEX	Centralized Exchange, a marketplace to trade tokens, owned by a specific group or individual that controls all aspects, including ownership of tokens.
PK	Private Key, a cryptographic key used to unlock a wallet. Possessing the PK to a wallet is typically refereed to as "self custody".
Self Custody	A catch-all phrase referring to a user independently being responsible for the management of their funds. Users who exercise self custody do not rely on any one else to manage funds.
TLA	Top Level Account, an account which allows the creation of Second Level Account. TLA can also be owned by burning $KAP.
SLA	Second Level Account, an account issued by a TLA.
Sub-Account	An account issued by either a SLA or TLA.
Free Account	An account that can be acquired without the payment of any sort of fee.
Premium or Paid Account	An account that requires a one time registration fee and annual renewal fee.
KAP DAO	Koinos Account Protocol Decentralized Autonomous Organization.
Tokenless Access	The process of submitting and executing transactions without the need to hold or possess tokens.
Zero Fee	Executing transactions without the loss of tokens.
Mana Stations	A pool of $KOIN that authorizes KAP account holders to use it's Mana for any dApp, also known as Mana pools.