We present a framework for deploying Lido as a custom implementation designed to serve the liquid staking needs of the entire IBC ecosystem.

This proposal seeks to initiate a conversation around the proposed design.

For those unfamiliar with the Interchain's lexicon, a short glossary is included at the end of this proposal.

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Motivation

High inflation rates and staking APRs across the Cosmos ecosystem have made staking lucrative, but also placed a high bar on yield and stifled the growth of the DeFi sector. As a result, a significant portion of each zone's supply is bonded and illiquid. Deploying our liquid staking solution will lower the competition on yield for new protocol and release significant amounts of capital that can be recirculated within the ecosystem, bolstering its growth.

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Liquid staking, coupled with the right incentives, has the potential to trigger a positive feedback loop for the whole Cosmos DeFi ecosystem.

Given the high APR and staking ratios, we expect liquid staking tokens to rapidly gain popularity among the Cosmos community.

The Interchain has the potential to become one of the largest ecosystems after Ethereum: deploying a well designed implementation would support the growth of the ecosystem, provide the DAO with exposure to Cosmos' success and a diversified stream of revenue.

The liquid staking sector of the Interchain is rapidly becoming more competitive:Persistence, Quicksilver, StaFi, Stride and Supernova have all announced Interchain Liquid Staking products.

About Cosmos

Mission

Cosmos is a network of blockchains powered by Tendermint's BFT consensus engine and built with the Cosmos SDK. It offers an alternative to the vertical scaling paradigm associated with monolithic blockchains such as Bitcoin and Ethereum. Instead, Cosmos envisions a network of interoperable, deeply integrated and sovereign blockchains ("zones"), optimized for specific purposes.

Context

While DeFi activity has remained somewhat tame compared to other L1 environments, underlying technologies and fundamentals have been improving rapidly. In this regard, the fall of Terra has a silver lining: hundreds of devs and protocols are migrating to their own app-chain or to other Cosmos smart-contract platforms. Together with Interchain Security, Accounts and Queries, and modular blockchains primitives such as Celestia, the Cosmos ecosystem seems primed for sustained growth.

Currently, liquid staking is not available to most of the Interchain. This can be explained by the limitations of traditional LS architecture, which often relies on the deployment of smart-contracts on each new network. In the context of the Interchain, such design is often either impractical or impossible to deploy, as appchains can opt-out of smart-contract support in favor of baking code directly into modularized binary.

Within the Interchain, Lido's main competitor is probably Quicksilver. The protocol is currently on testnet and enjoys a fairly positive reputation across the Cosmos community. Slated to launch on the 7th of September, Quicksilver is planning to transition to Interchain Security upon the feature's release, early 2023.

Metrics

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The Interchain comprises ~40+ interconnected zones. Mintscan provides a good overview of the various chains, their capitalizations, staking ratios and activity.

The Cosmos Hub is the Interchain's central and most economically secure zone. It does not support smart contracts but aims to become the main Interchain Service Provider (routing IBC transactions, providing security,…). Its token, ATOM, has a circulating supply of roughly 290M, no maximum supply, and a market cap of roughly $3.6bn, according to CoinMarketCap. Roughly 66% of the circulating supply is currently bonded, according to Mintscan, which can be explained by the high staking APR (~18.89%), and the Hub's focus on staking and security. ATOM can be provided to various liquidity pools on Osmosis and other DEX, as collateral on Umee, etc.

Revenue simulation

All data was sourced from Mintscan on the 22nd of June 2022, when prices were severely suppressed. As a result, the simulation below are likely to be very conservative.

First, we'll focus on the Cosmos Hub, which is likely to be the first zone to be onboarded and should make up the most of the protocol's initial revenue.

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Cosmos Hub Simulation: Protocol Revenue = Total Stake * Market Share * Staking APY * Protocol Fee * Atom Price DAO Revenue = Total Stake * Market Share * Staking APY * DAO Fee * Atom Price

Simulating revenue for an Interchain Liquid Staking Protocol is more complex. Each network comes with its own set of variables, zones may not be wish to be onboarded, and the order and speed at which interested zones will be onboarded is unknown, and Lido's market share across zones is unlikely to be homogenous.

Yet, this protocol is designed to work across multiple networks. Disregarding this data altogether would provide a reductive representation of the protocol's potential.

So, for the sake of illustration, here is a simulation of revenue based on broad assumptions: all 28 zones for which Mintscan has Market Cap data are onboarded, and market share is homogenous across all onboarded zones.

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Interchain Simulation: Protocol Revenue = Market Cap * Bonded Ratio * Staking APY * Market Share * Protocol Fee DAO Revenue = Market Cap * Bonded Ratio * Staking APY * Market Share * DAO Fee

Solution design

Interchain Liquid Staking

Using Interchain Accounts (ICA), IBC and Interchain Queries (ICQ), a solution capable of onboarding any ICA-enabled blockchain with as little as one relayer and a single transaction can be built:

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Interchain stAssets

To the user, Interchain Liquid Staking functions the same way as a native liquid staking solution. It receives and stakes native token (e.g. ABC tokens) directly from the user's zone and mints liquid staking tokens that accrue staking-yield (e.g. stABC).

Thanks to Iqlusion's liquidity staking module, users have the option to deposit tokenized delegations instead of liquid tokens. With this method, users can obtain liquid staking tokens against existing delegations, without having to wait an entire unbonding period.

The protocol regularly claims staking rewards and re-stakes them: stAssets don't rebase, they auto-compound. This makes them perfectly suitable to liquidity pools, Interchain transfers and other DeFi uses. Over time, the value of stAssets increases relative to native assets.

Semi Permissioned Validator Set

A novel validator set and stake distribution model can be implemented on Cosmos. Instead of a single list of approved validators, we recommend implementing a permissioned

and a permission-less

list

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- The permissioned

list

is evaluated and formed by the LNOSG and ratified by the Lido DAO. Delegations are distributed among whitelisted validators according to weights assigned by an algorithm using on-chain and off-chain parameters. This data can include existing delegations, overall performance, infrastructure decentralization, commission rate, community service (e.g. running IBC relayers), etc…

- The permission-less list

can be joined by any validator that satisfies a set of basic performance criteria that can be checked on-chain. These criteria can include existing delegations, commission rate, etc. Delegations are distributed among the permission-less set according to weights calculated automatically using on-chain data. The amount of delegations received by a validator on the permission-less list is capped to a fraction of the protocol's delegation.

The share of delegations allocated to each list is set by the DAO. After launch, validators from the permission-less list demonstrating outstanding performance can be selected to join the permissioned set.

Underlying Zone

To be suitable for the release of the protocol, a zone has to meet the following requirements:

- High Economic Security:

e.g. Interchain Secured by the Cosmos Hub,

- Interchain-Interoperable Smart-Contracts:

CosmWasm, IBC, ICA & ICQ enabled with smart-contract support.

We propose to launch Lido for the Interchain onNeutron, a permission-less CosmWasm smart-contract platform which features all of the above.

Neutron is incubated by P2P, a core contributor to Lido with deep knowledge of the Cosmos tech stack. Neutron is slated to be one of the first Interchain Secured zones, for which it has received support and funding from the Cosmos Hub.

See Proposal / Bringing Liquid Staking and DeFi to the Cosmos Hub with Interchain Security

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Neutron will have its own token and is looking to incorporate veTokenomics and gauge-voting to distribute liquidity mining incentives and grants.

This could prove beneficial to Lido, as Neutron incentives could help bridge the incentive gap between Lido and other Liquid Staking protocols launching as appchains. Such LS appchains benefit from a total control over their token's initial distribution and are able to dedicate significant portions of their supply to subsidizing yield or growing their userbase.

On the flipside, launching on a smart-contract platform rather than an appchain should allow Lido to integrate with other DeFi primitives faster, and synchronously (which is not possible over IBC). This comes with a wide range of benefits, including a better control over stAsset liquidity, better utility and composability, making Lido's liquid staking tokens more attractive to Interchain users.

References

- Proposal / Bringing Liquid Staking and DeFi to the Cosmos Hub with Interchain Security
- https://linktr.ee/neutron.org / All Neutron related resources

Glossary

- Tendermint:

A Byzantine-Fault-Tolerant consensus engine used by Cosmos zone.

- Cosmos SDK:

A modular framework for building interoperable, public Proof-of-Stake (and permissioned Proof-of-Authority) blockchains that can be customized using modules.

- CosmWasm:

A WebAssembly-like smart-contracting module for the Cosmos SDK. It can be plugged into any Cosmos SDK blockchain to allow the development of smart contracts in various languages, such as Rust and AssemblyScript.

- IBC (Inter-Blockchain Communication):

A communication protocol that lets blockchains exchange data packets to enable the transfer of assets, messages and transactions.

- ICA (Interchain Accounts):

An interchain standard which enables one blockchain to securely control an account on another blockchain over IBC.

- ICQ (Interchain Queries):

An upcoming Cosmos SDK module which will allow one blockchain to securely retrieve data from another in a permission-less fashion over IBC.

- Interchain Security:

A technology that allows one blockchain to rely on the consensus layer of another for security. With Interchain Security, validators from a Provider-Chain securely produce blocks for a Consumer-Chain.

- Relayers:

Validator-like entities which maintain nodes on both sides of an IBC channel to securely pass data packets from one blockchain to another.