Hello Lido community,

Lido DAO has introduced plans to bring the Lido liquid staking protocol

to the interchain of Cosmos ecosystem blockchains. But so far there has not been an initiative to bring Lido's existing stTokens

to the rapidly growing ecosystem of interchain defi apps.

I think this could be an opportunity to significantly grow adoption of stTokens at comparably low cost, and potentially have additional benefit of increasing brand recognition among Cosmos ecosystem users in the lead up to the launch of Lido protocol's interchain native liquid staking tokens.

Overview

I envision a 3 step process to integrating Lido stTokens across the interchain defi ecosystem:

- Integrate LDO and Lido protocol liquid staking tokens with Cosmos bridge protocol(s)
- Offer modest liquidity incentives for Cosmos DEX protocols to bootstrap minimum viable liquidity
- Pursue collateral integrations integration to Cosmos based lending and stablecoin projects

Integrate LDO and stTokens with Bridge Protocol(s)

Axelar is the most natural choice for bridge integration partner for a few reasons:

- They serve not only Ethereum, but also other relevant chains including Moonbeam (for wstDOT) and Polygon (for stMATIC)
- They are preferred/canonical bridge for many Cosmos chains including Osmosis, Juno, Umee, Kujira, and Comdex, and have non-exclusive integration with additional chains including Crescent and Agoric (the only chain to date to exclusively integrate Gravity Bridge is Canto)
- For lending and stablecoin protocols in particular, Axelar is much more broadly integrated and these protocols may prefer to limit their bridge risk to a single provider

Gravity Bridge is a very good alternative protocol, with the benefit of greater decentralization vs Axelar (no multisig, Ethereum bridge contract is immutable). But currently they only serve Ethereum and have less integrations, which limits integration potential somewhat.

Because integration of LDO and stTokens could drive significant bridging volume to Axelar, I assume they would be happy to integrate Lido's tokens on request.

Offer Incentives to Achieve Minimum Viable DEX Liquidity

Lido protocol stTokens are already highly liquid on their host chains via DEX liquidity pools and redemption (where available). But, this is likely not sufficient to support broad adoption and high value collateral integrations in the interchain, due to cost and time bridging through Axelar (particularly bridging to or from Ethereum L1).

To improve liquidity and usability of stTokens in the interchain ecosystem, Lido DAO could offer limited liquidity incentives to achieve "minimum viable liquidity." I define this as the minimum required amount of liquidity needed to support (1) typical retail size trading volumes and (2) efficient arbitrage between the interchain and stToken host chains.

(1) is somewhat subjective but I think targeting market impact of <1% on trade sizes of $10,000 is probably good enough. Alternatively, targeting lower impact on smaller size (eg <0.5% trade cost on $1,000 size) could be considered as well.

(2) can be determined based on a few factors including fixed bridging costs (primarily Axelar fees, which mirror source and destination gas costs) and trading costs on the relevant interchain DEX. Basically, we'd want to support enough liquidity to ensure that arbers can scoop up enough size to cover the fixed costs of bridging, while keeping prices closely aligned between interchain and host chain DEXes.

As long as these conditions are met, retail end users and collateral integrations should have enough liquidity they need to function, with any overflow needs supported via arbitrage to the much deeper liquidity sources available on respective host chains.

I believe that Crescent Network currently offers the most suitable DEX for achieving goal (1) of minimum viable liquidity via their range / concentrated liquidity pools. This could allow retail users to trade decent size with relatively lower market impact. Osmosis xyk (standard) pools could be suitable for achieving goal (2), as this would allow price to diverge a bit more giving arbers enough of a discount to cover their fixed bridging costs. Alternatively, both concentrated and broad range pools could be offered on Crescent to keep liquidity centralized to a single platform. Osmosis also offers stableswap liquidity

pools (based on xy^3+x^3y=k solidly invariant) but these are not well suited to stTokens because they expect a constant 1:1 price ratio.

Pursue Collateral Integrations

The Cosmos defi space has recently begun to accelerate with the launch of several lending and stablecoin projects. These are likely to be the core value anchor for stTokens within the interchain ecosystem.

Notable protocols include:

- Umee:

A P2Pool lending market similar to Compound

- Mars:

P2Pool lending, currently deployed on Osmosis chain

- Comdex:

Defi appchain featuring an AMM DEX, CDP stablecoin protocol, and pairwise lending protocol similar to Silo

- Kujira:

Defi appchain with CLOB DEX and CDP stablecoin protocol

- Agoric:

Cosmos L1 hosting CDP stablecoin protocol (CDPs yet to launch)

Among these protocols, Umee, Comdex, and Kujira are currently in the most advanced state of development, with lending capabilities live across a variety of collateral assets. Umee has $150k of borrowable ETH liquidity and growing, and would potentially be usable for levered staking strategies as capacity grows. Kujira has both ETH and DOT accepted as collateral, indicating potential openness to integrating wstETH/wstDOT as additional assets. Comdex also integrates ETH and MATIC and could similarly be interested in integrating staked versions of these assets.

Mars and Agoric are promising future targets for integration, but currently have either limited functionality or guarded launch caps which preclude immediate onboarding of stTokens.

Cost vs. Benefit

Costs of this initiative include LDO incentives required for minimum viable DEX liquidity, along with any contributor efforts required to land bridge, DEX, and collateral integrations. We can expect partner protocols to be helpful and receptive to integration considering potential benefits of hosting stTokens on their platform, so the most significant cost is likely to be DEX liquidity incentives.

Assuming a target LP return of 2x base staking yield on $100k of liquidity (ballpark estimate of TVL required for minimum viable liquidity) for each of wstETH, wstDOT, and stMATIC, this would amount to roughly ~$43,000 in total annualized liquidity incentive costs (~15,000 LDO per year, or 1,250 LDO per month).

Calculations:

Incentives cost = 1.5 * [(0.051 * 100,000) + (0.063 * 100,000) + (0.171*100,000)] = 42,750

Note that total incentives to be issued are 1.5x base staking rewards of the assets, as together with staking return earned on 50% of LP assets this would sum up to LPs earning 2x base staking yield.

How much in additional TVL would this initiative need to drive to be positive on an earnings basis? Considering Lido DAO takes 4-5% of staking yield depending on the asset, we can conservatively estimate a minimum required interchain TVL to reach breakeven:

- wstETH ~= $3 million
- wstDOT ~= $3.8 million
- stMATIC ~= $3.8 million

Note that these figures assume above incentive targeting on $100k of DEX TVL per stToken. It may be appropriate to target higher DEX TVL for ETH and lower TVL for DOT/MATIC, considering higher fixed bridge/arbitrage costs for Ethereum vs Matic or Moonbeam (which have fairly low gas costs and Axelar bridge fees).

The above analysis doesn’t account for potential benefits of user brand recognition and building relationships with interchain

defi protocols, which could become more valuable as Lido for the Interchain launches.

Conclusion

I believe that integrating and distributing existing stTokens across as many chains as possible will help cement Lido protocol as the leader in liquid staking. With the interchain defi ecosystem beginning to take off, and Lido DAO's own foray into native interchain LSTs around the corner, I think pushing integrations here offers an attractive r/r and should be strongly considered for contributor BD efforts as well as funding from the reWARDs committee.

Appreciate any feedback on this proposal!