Abstract

This proposal seeks a grant for an economic security audit led by Ethena Labs, in collaboration with Chaos Labs, targeting a rigorous assessment of USDe's economic robustness. Given that stETH is an integral component of USDe, this project will benefit Lido DAO by critically evaluating the suitability of stETH, alongside other liquid staking tokens, as collateral on both DeFi protocols and CEX's.

Authors

Ethena Labs Research in collaboration with Chaos Labs.

Objective

Ethena Labs is improving its economic security and needs a detailed economic and financial audit to ensure maximum product robustness for users. This audit is significant for checking the stability and risks of USDe. Doing this helps us ensure the protocol is safe and functions through market conditions, which is of the highest importance in the volatile environment of DeFi.

Ethena Labs has already paid for this audit, but we seek support to cover half the costs, equating to $50k DAI. We intend for this request to demonstrate Ethena's commitment to transparency and security. By supporting this grant, the Lido community can help Ethena unlock stETH and other LSTs as more useful collateral for new financial use cases across DeFi and CEXes.

Background

Ethena is a synthetic dollar protocol on Ethereum that offers a crypto-native solution for money independent of traditional banking systems. It also introduces the 'Internet Bond,' a globally accessible dollar-denominated savings instrument.

The synthetic dollar, USDe, is the first censorship-resistant, scalable, and stable crypto-native currency achieved by delta-hedging staked Ethereum collateral. It's fully backed and transparently maintained on-chain, allowing for free composition throughout DeFi. Its peg stability comes from delta hedging derivatives positions against protocol-held collateral, supplemented by a mint and redeem arbitrage mechanism.

The 'Internet Bond' combines yield from staked Ethereum and the funding & basis spread from perpetual and futures markets. This creates the first on-chain crypto-native 'bond,' a dollar-denominated savings tool for users in permitted jurisdictions. It operates without reliance on traditional banking, as trustless collateral is held within the crypto-system, with USDe always fully backed by user deposits.

Users can acquire USDe in permissionless external liquidity pools. Additionally, users can engage in cross-market arbitrage by minting & redeeming USDe with Ethena and trading in external markets like Binance or Curve pools to exploit price dislocations.

LSTs like stETH allow users to maintain liquidity and engage in DeFi activities while their assets are staked, which helps to enable new and exciting financial use cases using this asset as a money lego in other applications. They contribute to establishing a reference rate in the system by offering predictable returns from Ethereum staking, acting as a benchmark for yield in the DeFi space. This reference rate will be crucial for pricing other assets and derivatives in the ecosystem, helping assess relative risk and return.

To evaluate the impact of Ethereum network upgrades on the staking rewards and the overall market perception of stETH, to understand the complex dynamics of its liquidity and its valuation fluctuations, but also to mitigate various risks related to futures basis and funding, liquidation, custody, collateral as well as exchange failure, we must carry out this economic analysis.

Proposal Details

Partnering with Chaos Labs, a trusted authority in DeFi risk management, Ethena Labs endeavors to bolster its mechanism design and architect a risk framework that would elevate USDe's economic security.

Chaos Labs Overview

Renowned for its holistic risk management solutions, Chaos Labs is adept at ensuring the resilience of DeFi protocols against unpredictable market fluctuations, black swan events, and potential liquidity challenges. Our proposed collaboration with Ethena aspires to methodically optimize USDe's parameters, leveraging our extensive suite of services.

Scope of Engagement

Our collaborative endeavor with Chaos Labs is methodically structured to ensure a comprehensive enhancement of our protocol. We've divided our approach into two distinct phases, each meticulously crafted to address the diverse risk landscapes and fortification needs of the Ethena protocol:

Phase 1

- LST Redemption Risk: A detailed analysis of LST vs ETH basis price risks, encompassing factor analysis of stETH and other liquid staking token redemptions and historic on-chain patterns. This will include an updated analysis to capture the impact of Shapella and the resultant effect this would have on potential price deviations in stETH and other LSTs vs the price of ETH.
- Liquidity Risks for ETH perpetual: We will gauge the market liquidity for short ETH perpetual contracts to support a stETH-backed synthetic dollar, simulating diverse market scenarios.
- Liquidity Risks for USDe: We aim to understand stETH and USDe's market liquidity nuances on-chain and off-chain to understand minimum liquidity requirements, emphasizing on-chain AMMs and resting liquidity on centralized orderbooks.

Phase 2

- Risk Parameter Optimization: Customized simulations tailored to our unique ecosystem to assess the viability of stETH as collateral under various market conditions.
- Real-time Monitoring: Comprehensive interfaces for real-time protocol health assessment, including liquidity conditions of stETH on both CEXes and within DeFi.
- Risk Alerting Infrastructure: A state-of-the-art platform for on-the-spot risk alerts.

Duration

Eight weeks

Cost

50k DAI for Phase 1 deliverables

Benefits

Our collaboration promises to provide actionable insights that can shape the future of decentralized finance:

- Liquidity Insights: Our deep dive into LST liquidity promises to offer a more transparent lens on stETH's potential roles in money markets and as collateral, helping us collaboratively refine and expand the DeFi ecosystem's tools. In addition, this analysis will further help support the use of stETH on decentralized exchange venues as margin collateral [eg, Synthetix Q1'24 release].
- Further, the analysis will support a data-driven framework for using stETH as collateral within centralized exchange orderbooks. While Lido has successfully expanded throughout DeFi, this is the next key growth opportunity to further the adoption and utility of stETH into centralized liquidity venues.
- The Ethena design captures dollar flows from other stablecoins into USDe, which forces net new flows into stETH to collateralize our synthetic dollar. While other "LSTfi" projects often recycle existing stETH into new protocols, Ethena uniquely directs dollar and stablecoin flows into additional net new demand for stETH.
- Risk Management: The insights gained can be pivotal for other DeFi projects, setting a benchmark for managing risks tied to liquidity and market volatility. Our findings might pave the way for more innovative uses of liquid staking tokens and perpetual contracts in DeFi.
- Stablecoin Stability: By understanding the nuances of USDe's market liquidity and stability mechanisms, we aim to provide a model that can inspire and inform the creation of more resilient stablecoins in the DeFi space.

Our endeavors resonate with a collective vision: a more interconnected, resilient, and innovative DeFi landscape building upon staked Ethereum as the Internet Bond.

Multisig address for payment: 0xa2af0b03aaf167cfc9624c6ef587581b6fcced92

Your support brings us closer to this reality.