Title: [TEMP CHECK] Aave V3 Deployment on Linea Testnet

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Date: 06-23-2023

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Simple Summary

This Temperature Check seeks the community's input on the opportunity to deploy Aave V3 on Linea Testnet and move to Mainnet right after all pre-conditions and dependencies are met on Linea Mainnet. Linea seeks to support Aave's multichain future while establishing Aave as a leading market on a promising zkEVM with a robust distribution network.

Background

About Linea

Linea is a scalable L2 on top of Ethereum powered by a zkEVM tech stack incubated by Consensys, resulting from over 20 months of R&D from Consensys's research team. This team has a track record of successful projects in the zk space, including the GNARK library and active involvement in the Merge. Moreover, Linea is well-connected with developers in the broader ecosystem through existing relationships with MetaMask, Infura, and Truffle. The tech stack that powers Linea aims to support a wide ecosystem extending Ethereum Mainnet capabilities. It intends to align its onboarding and distribution with these products to serve developers, protocols, and builders better.

Linea aims to become a Type 2 zkEVM and achieve EVM-equivalence, processing native EVM bytecode for proving and verification. This approach allows for the execution of Solidity smart contracts without needing modifications or re-audit and compatibility at the RPC level with widely adopted middleware and toolsets, providing developers with a familiar environment to build using well-established tools and infrastructure. Linea's technical value proposition includes the following:

1. EVM Equivalence
2. The network avoids transpilers or custom compilers on bytecode, meaning the Ethereum L1 solidity code requires no modification. This significantly reduces deployment costs (no need to re-audit the code) and the risk of bugs and hacks by taking the compiled bytecode directly from Solidity.
3. Commitment to Decentralization
4. The Linea team has publicly discussed their intent to decentralize the network within the first 12 months of operation. This includes a state-of-the-art decentralized prover and sequencer structure. Research into these topics is currently underway at Consensys.
5. Continual strive for innovation
6. Our priority is pushing the boundaries of the Web3 space while maintaining the highest security and full EVM compatibility. Notably, Linea fully supports EIP-4337 (Account Abstraction), and, in collaboration with key stakeholders, the network already utilizes a single-entry-point contract and hosts top-tier bundlers and paymasters services. Much effort will also be provided to foster human-driven activity by incentivizing projects that leverage attestations and identity ownership.

Linea's testnet has handled over 2 million transactions under private beta and over 33 million transactions under public beta. Many of these transactions are users of the ongoing Voyage quest, a crucial initiative designed to help stress-test the network. The network has also shown unprecedented developer activity, with over 4.3 M unique addresses that have deployed more than 1.8M contracts, showcasing a vibrant and engaged developer community.

More than 100 global partners and protocols are committed to launching on Linea mainnet.

Vortex - Lattice-Based SNARKs

Linea's exciting feature is its ability to consolidate transactions and submit proofs to the Ethereum main net using a novel prover mechanism with impressive performance and efficiency. This process increases throughput and reduces transaction fees while maintaining the inherent security of the Ethereum network.

Vortex, a cryptographic primitive developed at Consensys, is designed to boost Linea's performance. It employs a new type of zkProof known as a recursive aggregation proof based on Ring-SIS, a fundamental concept in lattice-based cryptography.

This proofing system enables transaction batching, which enhances the network's throughput and reduces fees. Linea also uses zk circuits for computations, which aids in secure and efficient calculations.

Motivation

Market Adoption

Linea allows Aave to leverage the Consensys product suite distribution instantly. Linea prioritizes User Experience (UX), aiming to eliminate barriers for MetaMask's impressive community of 30M MAUs. By securing native support in the default MetaMask network dropdown list, Linea enhances user convenience and fully supports all MetaMask curated experiences. These include On/Off Ramp, MetaBridge, MetaMask Swaps, the Portfolio dApp, and the MetaMask SDK, presenting numerous opportunities for incorporating the Aave protocol.

The symbiotic relationship between Linea and Consensys products, specifically MetaMask, presents clear benefits. MetaMask is pivotal to bootstrapping Linea's activity through simple onboarding, while Linea plays a significant role in supporting MetaMask's future evolution.

Key Aave Benefits

Some key benefits to Aave regarding the testnet and mainnet deployments include:

1. Establishment of Aave markets and $GHO on Linea
2. Linea's integration with the ConsenSys product suite provides Aave access to a vast and well-established user base that will facilitate distribution and onboarding for the Linea network. This enables smoother distribution and adoption of Aave markets and $GHO. The strategic alignment bolsters Aave's market reach and stimulates fresh opportunities for user engagement, ultimately contributing to Aave's growth and visibility.
3. Being a Linea Launch Partner
4. Consensys is organizing a significant promotion for the Linea mainnet expected in July. This includes marketing initiatives, partner highlights, IRL, and online presence. Aave benefits from these efforts through its testnet deployment and subsequent mainnet approval.

Aave <> Linea Values Alignment

AAVE and Linea are committed to advancing decentralized systems and fostering innovation in the DeFi space. Both products prioritize growth and development of next-generation applications, with AAVE encouraging innovation in DeFi, and Linea enabling developers and enterprises worldwide to build modern financial infrastructure. Moreover, AAVE's focus on community engagement and investment in startups that add value to the ecosystem echoes Linea and ConsenSys' mission to serve millions of users and support a robust developer community.

Existing Collaboration Efforts

The Linea Team successfully conducted a "First Class Linea Citizen" campaign, seamlessly incorporating sybil protection into quest activities. This initiative resulted from a collaborative effort between Linea, Aave, and the Lens team to integrate the Lens tech stack into the Linea network.

Creating Lineaster (Lens stack) on the testnet yielded impressive results, with over 257K Lens handles established, accompanied by more than 192K posts, 130K follow actions, and 10K comments. While not directly related to Aave, these results showcase the successful collaborative efforts between Aave-related entities and the Linea team.

Bridge Security

The Linea team operates and maintains a canonical Open Messaging Service (OMS), allowing messages to pass to and from Ethereum & Linea. The Ethereum network verifies smart contracts on the L1 that enforce a valid state on Linea. The canonical OMS leverages our zk prover to maintain verifiability.

Moreover, the design implements a trustless relayer and leverages the rollup to maintain state/security. There are plans to secure the bridge (relayer) through decentralization; however, the priority remains on decentralizing the prover and sequencer.

For a technical walk-through of the cross-chain messaging functionality, please seeLinea Documentation.

Specification [Technical Considerations]

This proposal presents Aave governance with the opportunity to deploy Aave V3 on the Linea testnet before its mainnet launch.

Oracles

- While the network is not currently integrated with Chainlink, the integration is expected to be completed shortly after the mainnet. In the meantime, for the testnet phase, Linea will collaborate with Aave to find suitable alternatives. It's important to note that Linea already operates with several Oracle providers, including Redstone and Umbrella.

Implementation

- The authors of this proposal are committed to working closely with the relevant parties to determine the most suitable asset and market factors for the mainnet proposal. Given that this pertains to a testnet deployment, the asset and market factors will be managed directly through Linea, ensuring an organized and effective execution.

Governance

- This proposal represents a collaborative effort between the Aave community (specifically Flipside) and Consensys/Linea. This proposal was not sponsored in any way. This ensures transparent, fair, and comprehensive governance procedures that align with the interests of all involved parties.

Disclaimer

Linea nor Consensys has not compensated Flipside to create this proposal and Flipside is doing this because we believe that the deployment would be in the best interest of the Aave.

All information provided above is from public sources or from the Linea team directly.

This TEMP CHECK has been prepared solely to facilitate community discussion.

Next Steps

Following a standard 7-day discussion period, Flipside will work with the community to trigger a Snapshot for a vote for testnet deployment. The Linea team will handle all technical deployment activities. Linea will also engage with necessary parties to complete all required work.

From here, we will openly communicate progress with the community and the intended progression when all technical dependencies are met. These activities ensure that Aave can be a Linea launch partner in July.

References

- Linea Website
- Linea Block Explorer
- Linea Docs
- Introduction into zkEVMs
- Linea Mirror
- Consensys: R&D
- Consensys R&D Gnark Library
- Vortex: Building a Lattice-based SNARK scheme…
- Ethresearch.ch - A ZK-EVM specification
- Vitalik - A rollup-centric Ethereum roadmap