

GM, Aave community!

Aave Labs has continued to make steady progress on V4 development in line with our service provider scope. Below is a summary of what has been done over the past month, as well as what is coming in the next 30 days.

November update:

- Continued Aave V4 development.
- Supported CCIP v1.5 upgrade.
- Presented Security means with modularity - with Aave V4
- Deployed Gnosis & Lido Paraswap Adapter.
- Reenabled GHO as a Fee Token
- Supported Ongoing Integrations.

## Aave V4 Updates

Development on Aave V4 has been progressing steadily for the past five months with the main focus on implementing a Hub - Spokes design (previously referred to as Liquidity Layer and Borrow Modules) and the Liquidity Premiums. Below you will find the details of the advancements made in November.

### Spokes

Significant progress has been made on the Spokes architecture and its interaction patterns with Liquidity Providers and Borrowers, as well as its connection with the Liquidity Hub. This new design will reduce logic complexity while enabling better modularity and simplifying integration with different markets. This is primarily because each spoke is independent. Its flexibility facilitates the creation of a variety of features that are currently part of the V3 core logic built in a monolithic way, such as eMode and siloed borrowing.

### Liquidity Premiums

Work has progressed on the Liquidity Premium specification and the resulting dynamic interest rate model, wherein borrowing costs are determined by the quality of users' collateral assets. This last month, the development has been focused on making steady progress on the associated math libraries.

### What else are we working on?

### CCIP v1.5 Upgrade

The Chainlink Cross-Chain Interoperability Protocol (CCIP) was upgraded to version 1.5, introducing several new features and enhancements. Aave Labs has provided technical support to maintain the GHO CCIP Token Pools functional, secure, and aligned with the latest updates. Currently, GHO Token Pools are using an adapted version of CCIP v1.4 while further activities to migrate existing Pools in Ethereum and Arbitrum to CCIP v1.5 are planned to be executed before the end of year.

### Security means with modularity - with Aave V4

At the Decentralized Security Summit (DSS), [Aave Labs presented](#) an analysis of the Aave Protocol V3 architecture, highlighting areas for improvement such as risk pricing inefficiencies and limitations in permissionless innovation implementations. The presentation introduced V4 Hub-Spoke design and its security benefits through modularity. The architectural changes aim for simplicity, reducing the number of source lines of code (nSLOC) from V3, effectively decreasing the potential attack surface. Another key point was the exploration of safe accounts integration as a mechanism to support different user needs, such as collateral segregation.

### Interface

#### Gnosis & Lido Paraswap Adapter

Aave Labs integrated the Paraswap adapter contracts into the Aave Interface for the Gnosis market. The integration enables collateral swaps, debt swaps, and repayment with collateral functionality on the Gnosis market. Additionally, debt swap functionality was activated on the Lido market.

## **GHO as a Fee Token Reenabled**

After the Chainlink's upgrade of CCIP to v1.5, GHO was reenabled as a Fee Token in the Ethereum and Arbitrum networks. GHO can be used again for CCIP fee payments to cover estimated gas costs for destination chain transactions and CCIP service provider premiums.

## **Ongoing Integrations**

Updates on the Aave Interface related to tokens and community incentive programs, such as addition of the PYUSD Merit campaign, resolution of general bug fixes, and implementation of minor feature enhancements.

## **What's coming next?**

Our main focus for the coming month will be

- Progressing the development of V4 with focus on the Spokes, the Liquidity Hub, and the Liquidity Premiums.
- Migrating existing Ethereum and Arbitrum Pools to be CCIP 1.5.1 compliant.
- Integrating Umbrella (new version of the Aave Safety Module) into the Aave Interface.

Stay tuned for next month's update.

Aave Labs