

Simple Summary

Over the last several months, Gauntlet has been expanding its simulation platform to provide continuous market risk management for Aave's V3 markets. Gauntlet will first launch risk coverage for V3 AVAX and then will fast follow with V3 ETH (pending the V2 → V3 upgrade). Here, we update the community on our integration progress and timelines.

Context

Risk management follows where protocol development takes it. As part of [Dynamic Risk Parameters](#), Gauntlet manages market risk for the V2 Ethereum market. We have since received community demand to manage market risk for other [markets](#) and have expanded Dynamic Risk Parameters coverage to [Aave Arc](#) to drive institutional comfort for the protocol.

As mentioned on the [forums](#), community calls, and other channels, after Aave Arc integration Gauntlet has been prioritizing V3 AVAX integration over the last several months. While we recognize the importance of covering all Aave markets, we are focusing on the largest markets first to drive the most impact. The Aave AVAX V3 market currently has ~\$1.4B supplied, ~\$770M borrowed, and generates significant [fees](#) for the protocol. We are leveraging our experience in managing risk for money markets protocols in the Avalanche ecosystem to build robust data, modeling, and simulation infrastructure for Aave V3.

Specification

Risk Modeling

Aave V3 introduces new mechanisms that pose opportunities and challenges as they relate to managing market risk and optimizing capital efficiency. Building robust agents and models require mathematical research including statistical analysis on areas such as user elasticity (e.g., how will parameter changes impact user collateralization) and liquidator behavior (e.g., how do we predict which assets a liquidator chooses to liquidate, the slippage of the liquidation, and the price impact of the liquidation). These factors are already incorporated in our V2 simulations and below are several areas Gauntlet has been building infrastructure to support for V3 specifically. Our experience working with Aave during special situations including [xSUSHI](#), [stETH](#), and the [ETH Merge](#) helped guide our design and optimization architecture.

At a high level, Gauntlet will manage risk across chains, modeling different token and market metrics and analyzing their implications on user behavior and protocol impact. Given the upgraded market structure (e-mode, isolation mode, etc) user positions on V3 may look markedly different from V2. Our simulations ingest user positions and cross-chain data so that capital efficiency can be optimized through a robust understanding of market risk.

Efficiency mode

: when supplied and borrowed assets are correlated in price, this feature allows users to extract greater borrowing power.

- Gauntlet support: although e-mode enables greater capital efficiency, it may over-incentivize certain markets (e.g., stETH/ETH recursive positions). This may add outsized risk to the protocol in the event of "[drawdown from par](#)" scenarios. Thus, it is especially important to balance capital efficiency with risk in e-mode.

New risk parameters

: parameters including borrow and supply caps.

- Gauntlet support: optimize caps to maximize capital efficiency while minimizing insolvency risk, which our platform has done so before on Avalanche.

Isolation mode

: borrowers can only supply one isolated asset as collateral for the main purpose of exposure management.

- Gauntlet support: as liquidity and usage grow for isolated assets, Gauntlet's simulations to quantify market risk help the community make better decisions as to whether those assets have become safe enough to be promoted out of isolation mode.

Portal

: allows assets to seamlessly flow between Aave V3 markets on different networks.

- Gauntlet support: modeling liquidations across chains will be essential in predicting the risk of bad debt.

Siloed borrowing:

allow assets to be listed on Aave as a single borrowable asset.

- Gauntlet support: depending on the nature of the asset, the drivers of risk for the siloed markets can differ significantly (stablecoin vs. volatile assets, etc.). Gauntlet's simulations ingest the composition of user positions to tease out the scenarios that present the greatest market risk.

New governance controls:

for example, updating parameters without impacting existing user positions.

- Gauntlet support: these new controls give the protocol more flexibility which Gauntlet can add to our existing processes including [risk-off framework](#) and [asset listing framework](#).

Risk Admin role

: provide entities the ability to alter certain risk parameters without requiring a governance vote

- Gauntlet support: with the Risk Admin role, risk can be managed more efficiently to changing market conditions.

Gauntlet's platform upgrades for V2 will be integrated into V3 as well. Including:

- [Covariance matrix adaptation evolution strategy \(CMA-ES\)](#) assisted search for optimal risk parameters
- Enhanced coverage of liquidity venues
- [Drawdown-from-par analysis](#) for staking derivatives
- Upgraded [user dashboards](#) for key market statistics

Integration Timelines

Integrating with a new market to robustly model market risk takes more than a click of a button. We provide this document [here](#) to help the community track our progress. At a high level, we are targeting our first set of parameter recommendations for V3 AVAX by early October. Below is a summary of the major integration milestones (workstreams may be parallelized):

- Smart Contract Integration [DONE]

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- Extract, Transform, and Load Pipelines [2 weeks]
- Models are only as accurate as the data they ingest. Gauntlet builds ETL pipelines to ingest market data including asset volatility, DEX / CEX liquidity, trading volume, in addition to user data from Aave V3.
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- Model Development [3 weeks]
- Building rational agents including Borrower, Supplier, and Liquidator with the proper economic logic under different market scenarios. Modeling out e-mode, portal, and isolation mode and their effects on capital efficiency and risk.
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- Dashboard Development [2 weeks]
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- Model QA [1 week]

In addition, Gauntlet is concurrently working on V3 Ethereum integration and expects to complete it soon after the upgrade.

Next Steps

- Gauntlet will keep the community posted on our progress and V3 launch
- Welcome any thoughts and questions from the community

Quick Links:

- [Integration Progress for V3 Avalanche](#)
- [Aave Analytics Dashboard](#) for key market stats