This series of posts highlights initiatives supported by the dYdX Ecosystem Development Program (DEP). Each post delves into an initiative, exploring the grants funded, grantees involved, and the impact these efforts have – or will have – on the dYdX protocol.

In this post, we take a look at the integration of Skip Connect, a new oracle solution added to the dYdX Chain, and subsequent grants to support new price feeds. We explore the benefits of Skip Connect, the role of price feeds in supporting new markets, and share our vision for how this shapes the future of dYdX. Let's dive in!

Introduction

Oracles are used to deliver data to protocols from external sources, whether that is off-chain venues (like a centralized exchange) or other protocols (like an AMM on a different blockchain). Protocols use this data to track variables that change outside of its own view, like changes in asset prices that trade elsewhere. On dYdX, oracles are used to supply index prices for each market, supporting new market listings and measuring funding rates to keep the perpetual market price aligned with the underlying asset price.

When dYdX v4 first launched, it used an in-protocol oracle mechanism that had each validator query external sources directly and propose changes in asset prices as part of a new block. This mechanism removed any reliance on a trusted third party oracle, and allowed for more accurate pricing by querying popular venues directly (instead of relying on data publishers updating their feeds). However, including price updates in the consensus process also introduced undesirable latency and load to the block production process.

Enter Skip Connect

Skip, a repeat contributor to dYdX (MEV Dashboard, Vote Extensions), launched a new oracle solution – Skip Connect – that uses Cosmos-native technology (ABCI++) to update prices through a 'sidecar' service – meaning it runs separately from the protocol's core node infrastructure. More information on Skip's oracle design can be found here.

Recognizing an opportunity to improve its existing oracle mechanism, the dYdX Trading team worked alongside Skip to integrate Connect into the protocol. The DEP funded Skip's contributions to integrate the new oracle into the core protocol, supporting the protocol upgrade and allowing for dedicated resources from the Skip team to maximize success.

This integration improved "stability and speed of oracle price updates by removing oracle price updates from the consensus process and by bringing block-by-block oracle updates with lower latency prices than before" (v5.0 announcement).

New Price Feeds

In addition to improving latency and stability, the Skip Connect integration has also allowed for dYdX to access new types of price feeds. Previously, dYdX was limited to centralized exchange venues via API-based price updates. Now, the Skip Connect sidecar allows for RPC-based price updates originating from DeFi applications on different blockchains. By expanding the price feeds available, dYdX can list a broader set of perpetual markets, including assets not supported by centralized exchanges (e.g. long-tail memecoins).

To support this expansion, the DEP funded a set of validators and providers (Polkachu, RHINO, Lavender Five, Kingnodes, and Helius) to run additional RPC nodes, which serve as endpoints for the dYdX oracle to query when updating prices. Today, dYdX can list assets from DeFi applications on Solana and Base (Ethereum L2), with support for more possible with additional funding.

Thanks to these price feeds, dYdX was the first to launch perpetual markets for popular memecoins like MOTHER, BODEN, and TREMP. We hope to see more blockchains supported and markets launched thanks to the work being done by all these teams.

Conclusion

By funding the integration of Skip Connect, a powerful upgrade to dYdX's previous oracle mechanism, and supporting the expansion to new price feeds, we are allowing dYdX to expand into new asset categories. We hope to make dYdX the top venue for listing new perpetual markets, attracting more traders and volume to the protocol.