Overview

A focus on security & control

> ⓘ "Backing Custody" refers to where protocol backing assets are held.

To access centralized exchange liquidity, Ethena must provide backing assets to support the delta hedging derivative positions that act as the peg stability mechanism.

Ethena holds all backing assets with "Off-Exchange Settlement" solutions. These providers both custody deposited assets as well as enable Ethena to delegate/undelegate assets to/from centralized exchanges without ever transferring the assets to the exchanges.

"Off-Exchange Settlement" providers enable Ethena to settle the outstanding PnL of Ethena's derivatives positions frequently. This enables Ethena to mitigate potential impact in the event of an exchange failure between settlement cycles.

Most importantly, Ethena depositing backing assets assets with an "Off-Exchange Settlement" provider does not transfer beneficial title over the assets to the provider or exchange partners. In the event of an agreed exchange failure, Ethena should be able to delegate funds to another exchange to support hedging requirements.

"Off-Exchange Settlement" providers such as Copper, Ceffu, and Fireblocks have long been used by institutional participants in the space to ameliorate this exact risk.

Transparency

Ethena strongly believes in users' ability to independently verify the existence and control of the protocol backing as well as the hedging derivatives positions.

- All "Off-Exchange Settlement" providers may enable the provision of onchain wallet addresses so users can validate the existence of the protocol backing assets; however, as some backing assets are held in omnibus accounts with other assets, this might not be feasible.

- Periodic attestations (at least monthly) by custodial partners of backing asset value held within institutional custodial solutions will be published to provide transparency where addresses are not able to be provided.

- Ethena is actively exploring tools to help publicly prove & enable users to independently verify the existence of hedging derivatives positions.

Approach to Decentralization

There are a variety of trade-offs to consider when evaluating the degree to which the protocol relies on maximally decentralized solutions.

The core mission of creating a stablecoin equivalent that is not reliant on banking infrastructure has to date required either:

1. Capital inefficient overcollateralized "loans" onchain.
2. Unstable algorithmic designs.
3. Unscalable delta-neutral designs that are fully reliant on decentralized exchanges.

In order to address the shortcomings of prior delta-neutral peg mechanism designs it is necessary to interact with centralized liquidity venues where open interest and trading volume on derivatives are >25x larger than onchain liquidity venues.

However, doing so introduces new custodial risks with exchanges. **How does Ethena address this?**

The focus is generally on leveraging solutions for the most important qualities of decentralized exchanges, namely:

1. Holding of assets outside opaque centralized servers.
2. Fully auditable and transparent.
3. Permissionless and programmatic withdrawal.

The use of "Off-Exchange Settlement" providers largely addresses these qualities & enables Ethena to create a synthetic dollar that can meaningfully scale without being overly reliant upon a single source of liquidity, a single custodian of funds, etc.

Off-Exchange Settlement in detail

Secured asset custody

Ethena uses multiple "Off-Exchange Settlement" providers such as [Copper](#), [Ceffu](#), and [Fireblocks](#).

These are three separate, non-US based & owned, well-regarded & institutionally focused organizations with the sole focus of holding digital assets in custody.

> (i) Protocol assets are never held in control or beneficially owned by the "Off-Exchange Settlement" provider at any point.

Management of Risks

There are two principal risks that are front of mind when using "Off-Exchange Settlement" providers:

1. *Accessibility and Availability* - Ethena's ability to deposit, withdraw, and delegate to and from exchanges. Any of these abilities being unavailable or degraded would impede the trading workflows & availability of the **mint**/**redeem** *USDe* functionality.
   - It is important to note that if there was a degradation of the availability of this functionality it should NOT affect the value of *USDe's* backing.
   - Ethena actively monitors and engages with partners. The system also uses multiple "Off-Exchange Settlement" providers to mitigate the potential impact of service degradation of one.

2. *Performance of Operational Duties* - In the event of an exchange failure, the protocol is reliant upon the cooperation and legal behavior of our "Off-Exchange Settlement" provider partners to facilitate the expedient transfer of any PnL at risk with an exchange.
   - It is important to note that exchanges typically post collateral with "Off-Exchange Settlement" providers to ensure the "Off-Exchange Settlement" provider is able to settle without delay given the typical rolling 4-hour settlement cycle frequency.

Ethena uses multiple "Off-Exchange Settlement" providers with the same exchange as a further step to help mitigate the aforementioned risks.

Additional Benefits

"Off-Exchange Settlement" providers also enable Ethena to connect to more than just centralized exchanges as pools of liquidity. With our "Off-Exchange Settlement" partners, Ethena is able to connect to decentralized exchanges as well as OTC markets without hassle. This enables Ethena to diversify counterparty risk, among other risks, by holding hedging positions with a greater number of counterparties (CeFi Exchanges, DeFi Exchanges, OTC Counterparties).

"Off-Exchange Settlement" providers also enable Ethena to offer on-demand **mint/redeem** *USDe* workflows in a timely and cost-effective manner. There is no delay or additional cost when delegating/undelegated backing assets to/from exchanges.

Copper Clearloop Case Study

Ethena initially launched using [Copper's Clearloop](#) solution before onboarding additional OES providers. Copper is a UK-based custodian that has been the bedrock of institutional digital asset trading since 2018.

Key Points

1. Copper has never been hacked or lost users' funds in contrast to the $7bn lost in DeFi.

2. Copper users' funds were wholly available within days of Coinflex's (exchange) failure.

3. Copper users' funds are held within a bankruptcy-remote trust, meaning in the event of Copper's failure, users' funds are not expected to be part of Copper's estate.

4. Exchanges are also required to post collateral with Copper as to ensure frictionless settlement with each two or four hour cycle.

5. Ethena retains the ability to dispute erroneous exchange settlement requests.

Here is a deck that provides even more detail about Copper's specific solution for Ethena:

PDF 5MB	Ethena_Copper.pdf pdf