Introduction for Tapio

Liquidity is crucial within DeFi. After the Ethereum Shanghai upgrade, we can see that the liquidity of ETH staking has not decreased but has actually increased, according to DeFi Llama. Additionally, more and more protocols are entering the space to solve different problems, such as centralization and liquidity unlocking.

However, this new wave of protocols also brings a suite of brand-new issues and inconveniences. For example, there is now a proliferation of brand-new assets with unclear value propositions, and token models and yield management are becoming increasingly complex. Furthermore, the regular use case is that you deposit the LST into a pool partnered with native ETH and receive the LP token. There isn't much you can do with it and the "liquid" staking journey ends abruptly. So it will result in the adoption limitation.

Tapio Finance is a synthetic asset protocol that serves as the middle layer between LST liquidity and downstream DeFi applications, while still providing the utility of native ETH or LSTs, and maximizing security and stability.

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Introduction for tapETH

We are launching our first product, tapETH, the first utility-driven LP token for the LST ecosystem, serving as a liquidity aggregator, and a hub for arbitrages. Fundamentally, it's an LP token representing various stable pools (which exist within Tapio Finance) between LSTs and ETH such as stETH-ETH, rETH-ETH, etc. It is designed to standardize the countless ETH LSTs into a single asset, increasing utility, yield, and capital efficiency.

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Holders can hold tapETH just like they would hold an LST and enjoy a high APR on their ETH, which constitutes entirely real yield

. This yield comes from:

- Staking Rewards:

These are generated from the underlying LSTs (like stETH) within the tapETH pools and shared among tapETH holders.

- Swap Fees:

tapETH's pools enable low slippage swaps not only between LST and ETH, but also between LSTs. The fees generated by swaps are collected by Tapio and distributed to tapETH holders.

- Redemption Fees:

There are fees for users who redeem tapETH back into ETH/LST. The fees are collected by Tapio and distributed to tapETH holders.

All of the yields above will be converted into tapETH and distributed to holders. It also has other potential rewards such as revenue sharing or token incentives.

In summary, the value propositions are as follows:

1. Security - Each of the individual LST pools is siloed while making a portion of the overall tapETH pool. It means that the underlying assets are not directly exposed to one another.
2. Reward Handling - tapETH unifies the yield into an easy claim interface, where users can simply claim their rewards paid out in additional tapETH.
3. Stability - Our dynamic collateralization mechanism ensures that the total value of assets in the pool always sufficiently backs the total supply of tapETH in circulation. It automatically adjusts to ensure that tapETH's value stays stable relative to ETH, even when the market conditions change.

4. DeFi Integration - DeFi builders only need to integrate with one asset without worrying about adoption. Moreover, long-tail LSTs can use tapETH's TVL instead of bootstrapping ETH/LST liquidity in-house and focus on their business.

Most of us care about price stability, so it's important to explain why tapETH won't experience the depegged situation.

Scenario 1 - Composition LST is pegged with ETH

The pool becomes imbalanced due to a cascade of large amount withdrawals. That generates a premium for the undersupplied asset in the pool, and a discount for the oversupplied asset in the pool. Let's say ETH is undersupplied and stETH is oversupplied:

1. Users can mint additional tapETH using ETH
2. Users can redeem tapETH for additional stETH
3. Users can swap ETH for more stETH

Scenario 2 - Composition LST is depegged with ETH

Assuming ETH is priced at $10, and there are 100 ETH and 100 stETH in the pool, which generates 200 tapETH (valued at $2,000). In a sudden accident, stETH is depegged with ETH, and ETH is drawn from the pool. Let's say this happens with 40 ETH and 160 stETH remaining in the pool.

Due to our mechanism, the pool is able to dynamically adjust pricing in real-time to encourage user behavior one way or another. So it applies a larger premium on ETH (the undersupplied asset), and a smaller discount on stETH (the oversupplied asset):

- ETH = $15
- stETH = $9

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Each tapETH will be redeemable for $15 worth of stETH during this temporary period of imbalance in the composition. This pricing will only be active during this time, and manifesting this premium/discount will decrease it accordingly as the composition becomes more balanced.

For more details about our tapETH or our architecture, please read ourdocumentation.

Primary collaboration opportunities for Tapio and Spark

Spark Lend is designed to become a promising lending platform that enables a liquidity market for supplying and borrowing scalable crypto assets with variable and fixed rates to improve Maker's strength. Additionally, the Endgame plan aims to bootstrap EtherDAI, which seeks to capture the market share in the rapidly growing LST market.

Therefore, we can collaborate in the following ways:

- As the LST market grows, it is not a good strategy for Spark to filter and adopt different types of LSD by yourself. Instead, tapETH can help solve this issue, because tapETH is compatible with the leading LSTs on the market but also with emerging ones. And one of the core value propositions is price stability, which is good for the CDP. Therefore, it would be beneficial to add tapETH as collateral to mint DAI on Spark. With this collaboration, we can increase the TVL of Spark and Tapio, the usability of DAI, and expand the LST ecosystem.
- Another one is we can integrate tapETH with EtherDAI. Since there is not much information about EtherDAI currently, we can discuss it further when it is ready.

Thanks