LeverPool Protocol(LEV)

1.Introduction

LeverPool Protocol is a decentralized DeFi aggregate farming protocol that aims to introduce incremental users and incremental assets through leverage. On the basis of community governance and decentralization, LeverPool Protocol helps investors, specially entry-level investors, participate in farming with zero gas fee and obtain considerable return though they invest limited assets. Furthermore, LeverPool Protocol will introduce real-world assets and credits to allocate farming leverage.

At the technical level, LeverPool Protocol adopts Hub-zone and other Layer 2 expansion solutions to provide an efficient, complete, and scalable clearing mechanism; combined with Oracle's intelligent sliding average price mechanism to combat malicious pin insertion and other attacks to ensure the safety of users' funds; the pluggable strategy adaptation interface brings users a flexible allocation plan to maximize potential benefits.

2.Functions

- Aggregate farming with zero gas fees

By using intelligent aggregate farming algorithms, LeverPool saves users hundreds of dollars in gas fees and giving 100% subsidies to the users, thus greatly reducing the threshold for users to reach the DeFi world.

- Leveraged farming

LeverPool adopts leveraged farming structure for two kinds users, Lender and Borrower, which helps the Lender enjoy DeFi's high stable yielding interest with priority protection of fund and meanwhile makes the Borrower amplifies digital assets in farming to obtain excess returns.

For example, facing xxxSwap pool whose APY is 1000% at present, Borrower can use 10,000 USDT and leverage it to 50,000 USDT to participate in farming, and provide Lender Pool with a standard APY of 300% leverage interest. LeverPool controls the flow of farming funds through the smart contract module group, and the return funds are given priority to pay Lender's principal and interest. In this case, assuming that the xxxSwap's APY remains unchanged in a couple of days, Borrower's ROE will increase to 3800%.

- Synthetic asset and credit tracking methods to enhance leverage

To introduce assets and trust from the real world, LeverPool Protocol adopts a synthetic asset mechanism similar to Synthetix, where leverage users can mortgage real assets to the chain and

realize price connection through oracles. Besides, LeverPool will also use blockchain address tracking system and credit cross-chain oracle to introduce credit system into the digital world. With synthetic real-world asset and credit tracking system, LeverPool will helps users to get lower interest rates and higher ratios of leverage to increase credit.

3.Methodology

3.1. Main Design

According to the logic flow, the LeverPool system is composed of five modules: Pool, Vault, Controller, Strategy, and Farm, and their interaction is shown in Figure 1.

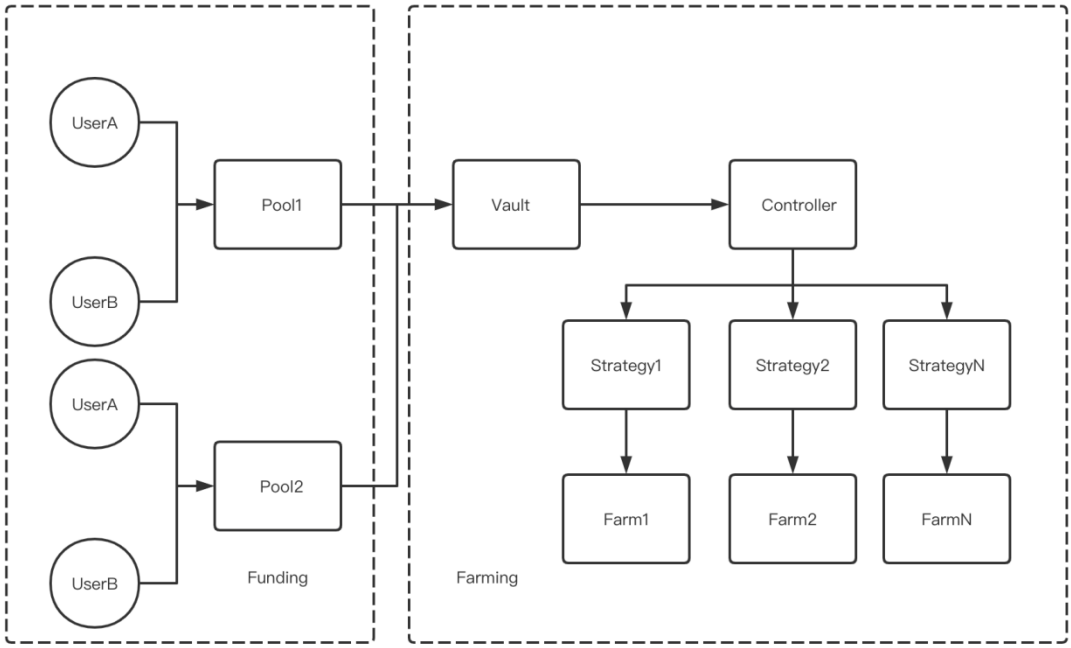

Figure 1: Figure of the relationship between LeverPool modules

The direction of the arrow in Figure 1 represents the direction of the flow of users' funds for farming, and the direction of the flow of funds for the user to obtain income is opposite to the arrow in the figure. Below we introduce the logic function of each module in turn. It is worth noting that all modules are smart contracts on Ethereum, and the flow of funds is function calls between contracts.

The LeverPool system is divided into two modules at the logical level, namely the Funding module for user deposits and allocations; and the intelligent Farming module. The former relies on the latter to run, while the latter is a fully functional sub-module that can operate independently as an independent non-user funded liquidity mining system.

For the Funding module, its purpose is to meet the different needs of two groups of people. The two groups are represented by the leverage user UserA and the leverage provider UserB. For UserA, it is pursuing high-risk and high-yield, such as APY above 100%, but lacks sufficient principal; for UserB, it has sufficient principal, but it is pursuing relatively high stable returns, such as APY 30 %. Specifically, the functions of the Funding module are implemented by a series of smart contract Pools. Each Pool is an independent fund pool and includes the following functions:

a. Fund allocation: For each smart contract pool, it specifies the type of funds to be accepted, such as ETH, the minimum return for UserB, such as APY 30%, and the leverage ratio, such as 300%. Under this value setting, UserA can be funded by Pool in a ratio of 1:3. If UserA obtains more than 100% of APY through liquidity mining through funding, that is, borrowing money from UserB, then UserA needs to distribute 30% of the funding part to UserB. For each pool, UserA will issue a funding requirement, and UserB can store funds in the pool according to demand. Of course, UserB can also store funds in the pool if there is not enough demand for subsequent priority use.

b. Liquidation: In addition to the settlement of income in the above fund allocation process, Pool also needs to maintain operations such as liquidation and liquidation caused by changes in asset value. UserA transfers to the Vaunt contract through the allocation of funds (see below for the introduction of Vaunt). In Vaunt, users may need to convert their assets. For example, the currency with the highest rate of return in Vaunt is YFI, and Pool's funds are ETH, then UserA can first convert ETH to YFI through a one-step conversion and store it in Vaunt. The relative price changes of ETH and YFI will affect UserB's principal security. Pool judges by introducing an oracle of over-the-counter prices, and periodically judges whether to trigger a liquidation operation to protect UserB's fund safety.

For the Farming module, in general, the intelligent and reducible relationship can be summarized as the fund pool Vault collects funds through the controller Controller and uses different strategies to invest funds in different liquidity mining scenarios Farm to earn income. The entrance and exit of its funds is the Vaunt smart contract, which is a series of different assets for intelligent automatic farming, such as an aggregated fund pool of ETH and YFI, which pools funds and settles the proceeds after the end of farming. Overall. As the core feature of the LeverPool system, Vault additionally maintains the user's invitation relationship when users make investments (for example, users can set an address as their own inviter), and then distribute a certain percentage or amount of invitation dividends when the income is settled .

When the user's funds are pooled to a threshold, Vaunt will invest the funds into the specific liquidity mining scenario Farm, which is managed by the controller. Specifically, the Controller first holds the user's funds, and it has a trusted farming strategy Strategy pool. After a period of time, the Controller will use intelligent algorithms and oracle models to select the highest yield in the current market Strategic investment. For example, suppose that the most profitable way to mine YFI liquidity in the market is to invest in Compound DeFi. After updating the node, the Controller will choose to invest YFI in Compound's Strategy to manage YFI investment. From the above statement, we can see that Strategy mainly completes two functions:
a. Specify the farming link of a certain asset.
b. Contracts for liquidity mining scenarios, that is, the docking function of the Farm contract.

Compared with existing DeFi products that can only use on-chain assets and information, LeverPool uses Synthetix's similar mechanism to synthesize assets and introduce incremental users and funds into the DeFi ecosystem. But unlike Synthetix, LeverPool users can choose appropriate credit or assets to mortgage and participate in aggregate farming when releasing assets. For example, suppose a user seeks to release N residential assets, and the number of tokens is M. The credit here can be a digital contract with legal effect, which stipulates that when the user saves M/N tokens, he can exchange for a house. Then, using this as collateral (the specific implementation method is to place this digital contract in a synthetic asset contract), users can release assets without token collateral, and then conduct liquidity mining.

3.2 Expansion plan

As system users and managed funds increase, a single blockchain bottom layer (such as Ethereum) will gradually be unable to carry frequent transactions. For this reason, LeverPool Protocol adopts a layer2 structure expansion plan to optimize the clearing logic.

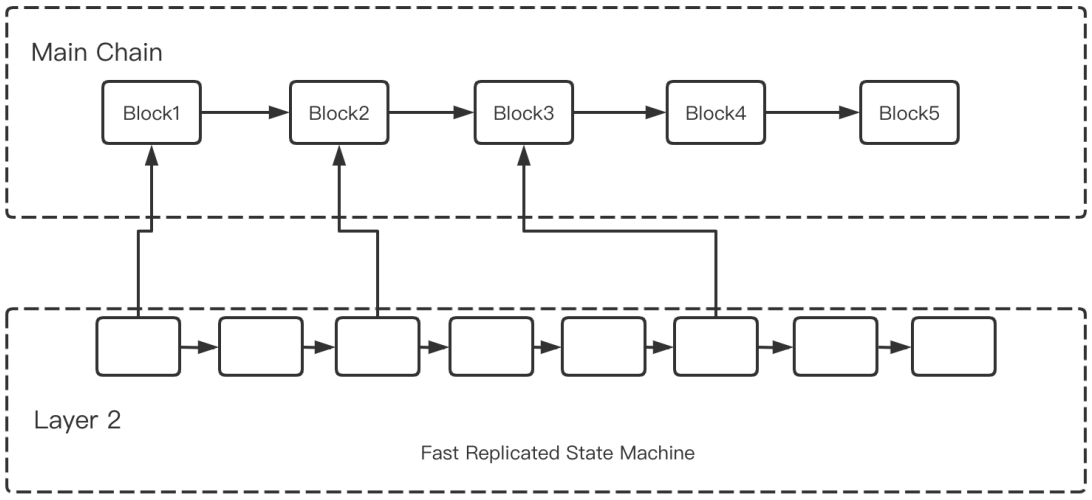

Figure 2. Relation between the main chain and layer2.

Layer2 itself is a complete functional system, which is relatively independent of the main chain (it can be a third party) and is faster. It uses pre-designated communication protocols for information exchange, as shown in Figure 2. Layer2 mainly includes two important modules:

a. Logic calculation module: complete tasks according to different data and processes, abstracted as a function (s, p, h) = f(x), where x is data, which can be provided by the main chain, local storage unit and external instructions ; s is the calculation result (final state); p is the representation of the calculation process (such as the selection of intermediate random numbers, etc.); h is the hash value of the calculation process p, used to verify the calculation process.
b. Storage unit: used to store intermediate results and calculation processes. It provides a verification function g(p, h), where p is the calculation process and h is the unique hash value generated by the calculation process.

layer2 first obtains data x from the main chain, local storage unit and the outside world; then completes the logical calculation (s, p, h) = f(x) and stores the calculation verification process p in the local storage unit; finally, the final result s and calculation Hash h is submitted to the main chain to complete synchronization, thus completing a functional cycle. For the authenticity of the data on the main chain, we can provide the hash value of the main chain data and call the verification module g(p,h) in layer2 to verify.

In the clearing logic of LeverPool Protocol, Layer 2 continuously checks the complex clearing conditions of current position users. For example, when judging whether the user needs to be forced to close the position, Layer 2 performs condition checks based on the data of the main chain and the data of external oracles. If the result of the inspection is that the position needs to be closed, the position closing instruction and calculation verification information are submitted to the main chain for actual operation.

3.3 Robustness enhancement

a. Persistent voted oracle (PVO): LeverPool has extremely high security requirements, especially its liquidation module needs to introduce external Oracle data. In order to enhance the credibility of external data, the project introduces a persistent Orcale voting mechanism PVO , specifically:

PVO can be regarded as a sub-chain of an on-demand POS+PBFT consensus mechanism. Its main function is to record the situation where the main chain calls external information, using the logic of "voting to verify the truth". Specifically, for a smart contract S on the main chain, it calls the external data d_1,...,d_n through the api provided by PVO in turn, then the main chain also submits a call to external data at the same time as the block is generated PVO block of information. For POV blocks, each super node j will verify its data:

For each data d_i, it is required that d_i is a synthesis of data from multiple different Orcales. The PVO sub-chain tries to obtain the data d'_ij in the same calling mode recorded in the PVO block, where j represents a different Orcale data source, if:

I. d_i = d'_ij, then the marked data d_i is reproducible data;
II. d_i ≠ d'_ij, then the marked data d_i is non-reproducible data;

For each d_i, more than 2/3 of the super nodes are marked as reproducible data, then this block is a reproducible block; otherwise, it is a non-reproducible block. In both cases, the data is permanently stored through the consensus mechanism of pbft. As long as the PVO sub-chain marked block is a reproducible block, it means that the data provided by Orcale is credible and can be used for subsequent use. On the one hand, this design ensures that a small amount of dishonest Orcale data or a small amount of dishonest nodes cannot pollute the data.

b. Smart sliding window average quotation: malicious pin-in attacks in the market will cause financial losses to normal users, and the resulting forced liquidation behavior may cause great instability to the system. Therefore, when calculating different tokens The system uses an intelligent sliding window averaging strategy, that is, the current Token price is given by the average price of dt in the past period of time, where dt is determined according to the sharpness of the Token price change. If the Token price changes sharply , Then dt is larger, and vice versa. The functional relationship of dt for different Tokens with the sharpness of price changes is given by DAO.

4.RoadMap

2020 Q1-Q2
Product design and architecture established

2020 Q3
Yield Farming demo

2020 Q4
Leverage Farming and Liquidity Mining

2021 Q1-Q2
Credit tracking mechanism

2021 Q3-Q4
Synthetic asset mechanism

5.Governance

After initial testing and code design, LeverPool Protocol will be promoted online. After the initial developer committee promotes the product and the community cold start, the governance of LeverPool will completely enter the DAO stage. This agreement is subject to LEV constraints, and any improvements will be decided by voting by LEV holders. Some of the powers that can be controlled by the governance system are listed below:

- Set up a new farming pool and choose a suitable farming protocol
- Update the oracle address and the interest rate and ratio of leveraged funds
- Change the proportion and method of the back-end revenue
- Set up a new DAO community

6.Token Distribution

The distribution of LeverPool Token (LEV) will be completely decentralized. A total of 1 million tokens will be automatically distributed based on smart contracts.

- 80% Liquidity Mining
- 10% Private Sale
- 10% Angle Pool