HLFX

HLFX WHITE PAPER

Decentralized Financial Asset Management Platform

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summaries

2020-2021 is the timeframe when DeFi will see revolutionary growth. Data shows that the current lockup of DeFi on Ether alone tops out at $45 billion, a maximum increase of more than 8,000% in one year compared to $550 million in March 2020 at the same time.

DeFi is short for Decentralized Finance (also known as Open Finance). It actually refers to the decentralized protocols used to create an open financial system designed to enable anyone in the world to conduct financial activities anytime, anywhere. In the existing financial system, financial services such as deposits, withdrawals, loans, derivatives, etc. are mainly controlled and regulated by centralized organizations.DeFi seeks to create a transparent and accessible peer-to-peer financial system through distributed open source protocols to minimize trust risk and make financial services more accessible and convenient for participants.

DeFi is a more general concept that includes: currency issuance, transactions and settlements, lending, trading, investment and financing, and so on.

DeFi has three major advantages over the traditional centralized financial system:

A.Individuals can build new trust in computers and code without having to trust any intermediaries;

B.Anyone can create DeFi applications and anyone can use them. Unlike centralized finances, DeFi has no guards or lengthy accounts. Users can interact directly with smart contracts through cryptocurrency wallets. Everyone has the right to participate.

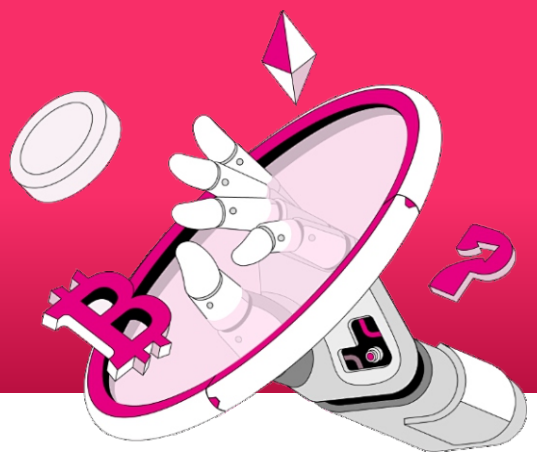
C. All protocols are open source, so anyone can collaborate on them to develop new financial applications and accelerate financial innovation through network effects.

The market for DeFi is very promising, but there are still very clear drawbacks. The first is the hardware DeFi infrastructure problem. Before, the vast majority of DeFi projects were deployed on the Ether public chain, however, the congestion of Ether has long been criticized. At the same time, as the price of ETH rises, the handling fee on the chain is also greatly increased, increasing the cost of user participation in DeFi and reducing the user experience. The second is the problem of DeFi user perception on software. When there are more and more liquidity mining projects on the market, users, faced with a mixed bag of projects, need to evaluate a project on their own in terms of the mining model, the revenue mechanism, the impermanent loss, the security wind control, and the capital utilization rate, etc. This process also greatly hinders the participation of a large number of potential users. Lowering DeFi's participation threshold and improving user experience have become DeFi's top priority and future trend.

Hlf is a DeFi intelligent matching and mining platform deployed in multi-chain ecosystem (BSC, Heco, OKEx Chain and Ether and other public chains), through smart contracts and intelligent algorithms to automatically find safe, stable and high-yield DeFi liquidity mining pools on the chain for the funds on the platform, and the platform users only need to pledge a single coin to enjoy the liquidity mining income. Through the Hlf ecosystem, everyone can participate in financial derivatives trading without thresholds and enjoy artificial intelligence investment advisory services without discrimination. Visualized and intelligent AI services will be more widely used in financial scenarios.

Hlf was created to build a "smart funding platform"! We want to provide the global blockchain and digital technology industry with a secure, innovative, and valuable trading platform that gives everyone free and equal access to open financial services.

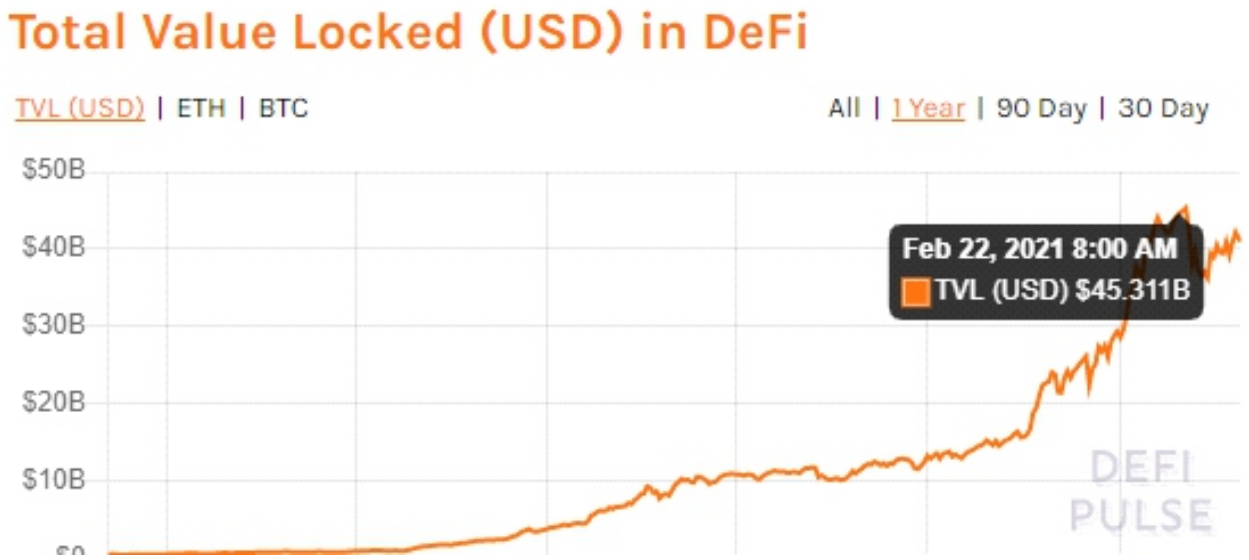
01
Project Background



1.1 Status of DeFi

With the birth of cryptocurrencies, crypto applications along with an increasingly wide range of practical application needs to change essentially from the past Internet technology to today's transition to the financial industry. the concept of DeFi, so that the crypto field of the asset architecture has been transformed from the past a single asset to the present day composite assets.

Currently, the global market capitalization of crypto-digital currencies is around $200 billion, while it peaked at $830 billion. However, this is just a drop in the ocean compared to off-chain assets. The pass-through of off-chain digital and physical assets is an important direction in the development of blockchain technology. We believe that as more and more assets are transferred to the blockchain, decentralized financial services (DeFi) will become the mainstream of the future.



Currently, drawing on traditional finance, there are some new attempts in the DeFi field, such as exchanges, lending, bonds, financial derivatives, and quantitative investment. However, these cases generally suffer from problems such as smaller markets, poorer experience, and difficulty in development. In the face of complex blockchain technology, many potential participants are deterred.

DeFi is a broader concept that includes: cryptocurrency issuance, cryptocurrency trading, lending, asset trading, investment and financing. We see the birth of BTC and other cryptocurrencies as the first stage of DeFi. However decentralizing the issuance and storage of cryptocurrency only provides a solution for peer-to-peer settlement, which is not enough to support rich financial business. hlf will have the opportunity to further open up the financial system in the blockchain world and bring DeFi into the second phase.

1.2 DeFi Industry Dilemma

The development trend of DeFi makes the market see the huge potential of decentralized finance, but decentralized finance is still in the 1.0 era, which brings convenience and also introduces many hidden costs, including cognitive costs, risks, system errors and so on. User threshold and experience is a common problem of decentralized products, and DeFi is no exception, "difficult to use" is the problem of most DeFi products. The threshold for users is to manage their own wallets, private keys, and understand contract interactions. These are the requirements for financial and blockchain knowledge.

At the same time, the current cross-chain technology is not mature enough, resulting in a lack of user experience in cross-chain transactions; assets on different chains cannot be interoperable, and users will face many cumbersome operations in the transaction process, which will lead to many crisis hazards. In addition, the lack of performance of Ether will lead to network congestion, which makes the DEX on Ether unable to process transactions well. For users, this also creates an obstacle to the experience. The high fees are also a reason why many people shy away from DeFi apps. However, as the market develops further, simply lowering fees is not the core of competition in the public chain ecosystem. No matter how attractive the on-chain Gas fee is, new elements need to be injected, and the emergence of new protocols can improve the market infrastructure and increase the ease of use, further stimulate the market vitality of DeFi, so that DeFi can accommodate more funds and be more friendly to users, and reach the real out of the circle.

So, as the DeFi market enters its second half, there is a lot of attention paid to the emergence of new protocols, such as the oft-mentioned concepts including fixed rate, synthetic assets, on-chain derivatives protocols and other market segments. However, those who truly understand and frequently use DeFi know that this is far from being the case, and the most easily overlooked point is - DeFi has not yet achieved true popularity, which is not only reflected in the difficulty for novices to participate in DeFi, but also in the fact that even skilled DeFi users cannot explore 100% of DeFi's potential. For newcomers, frequent operations between different DeFi protocols can lead to "losing" themselves, while for experienced DeFi users, the overload of new concepts can lead to over-interpretation of information and ultimately to cognitive dissonance.

With the emergence of concepts such as liquidity mining, more and more similar concepts continue to be derived. Market users are unable to find a stable, safe and efficient mining channel in the short term and often end up stepping out of the market. How to solve many of these problems in the current DeFi concept will directly determine the height of the future development of DeFi.

Hlf's emergence is to establish a "decentralized aggregated financial assets platform", through smart contracts and smart algorithms to automatically find safe, stable and high-yield DeFi liquidity mining pools on the chain for the funds on the platform, and the platform users only need to pledge a single coin to enjoy the liquidity mining revenue.

02
Introduction to Hlf

2.1 Introduction to Hlf

Hlf is a global open source blockchain project initiated by the Royal Dubai Foundation with the goal of creating a "smart funding platform"! We want to provide the global blockchain and digital technology industry with a secure, innovative, and valuable trading platform that gives everyone free and equal access to open financial services. The Royal Dubai Foundation is headquartered in Dubai and is founded by Prince Ahmad bin Mohammed bin Mohammed of Dubai. Bin . Rashid . Al. Maktoum, HRH Prince Charles, Crown Prince of the Commonwealth, House of Bolkiah, the Royal Family of Brunei, and others. And there are the United States, Britain, France, Singapore, Japan's multinational funds and consortiums involved in the project investment and operation, the scope of business involves more than 100 countries around the world, in the world resources market has nearly 30 years of successful experience with the local government's strong and powerful policy support.

2.2 Hlf Design Philosophy

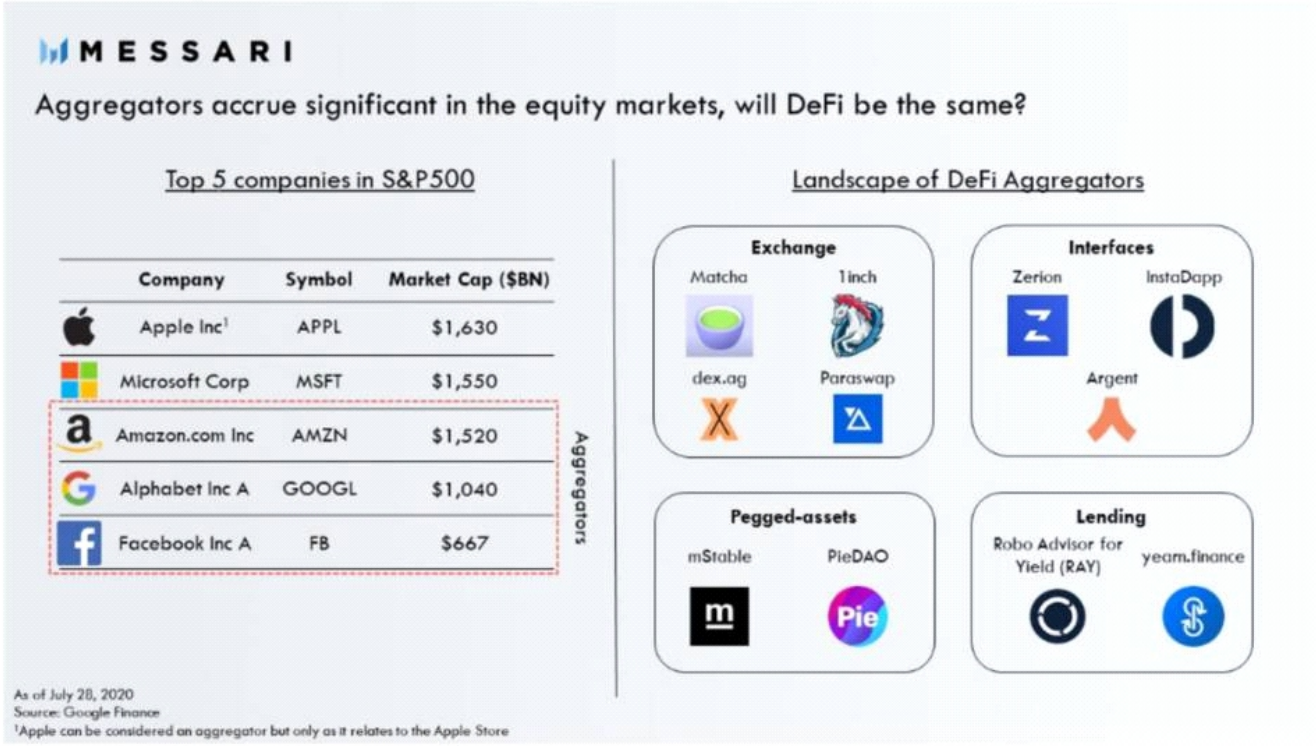
In the age of the Internet, aggregators capture most of the use value. For example, Google aggregates content from various websites, Facebook aggregates content from social media associations, Amazon aggregates products and sales, and Airbnb aggregates hotel rooms. These Internet giants have disrupted traditional industries and established a near monopoly of influence. As more and more customers, content and products are collected, their marginal cost approaches zero, and a network effect is created on top of that. It is clear that some DeFi protocols have begun to explore the path of "aggregation". Although it is still in its early stages, we can already see that some DeFi aggregators are already being used in many market segments, for example:

A. Yield Optimizer. It automatically balances user deposit revenue based on the interest rates of different DeFi platforms;

B. Smart Order Router. It provides traders with the best price execution based on different DEX;

C. Meta-Asset. It attempts to integrate other assets (e.g. USD stablecoins) to reduce unsystematic risk for any independent entity;

D. Interface. It packages all DeFi products into more user-friendly applications so that they can access higher-end features or portfolio management tools. Most importantly, these programs can aggregate user requirements and then filter them through different DeFi protocols.



But at the same time the DeFi ecosystem is currently facing a

Many different questions such as: Which lending platform will allow you to get the most out of it? Which DEX can offer the lowest slippage? Which stable cryptocurrencies ensure long-term security?

Hlf hopes to solve a series of existing problems in the DeFi ecosystem and help users to realize the value of their assets in a more convenient way. Hlf will become a one-stop service platform, where users can complete a series of DeFi behaviors, such as depositing, borrowing, leveraged mining, and cross-chain mining, etc. Hlf will be a one-stop service platform.

Simply put, Hlf is like a smart mining machine pool, through smart contracts as well as smart algorithms to automatically find safe, stable and high-yield DeFi liquidity mining pools on the chain for the funds on the platform, while the platform users only need to pledge a single coin to enjoy the liquidity mining revenue.

Hlf's operation mechanism, that is, user A and user B pledged their own single coin in the platform, the platform through the contract will user A pledged single coin and user B pledged single coin pairing, and then injected into the corresponding strategy pool (third-party liquidity mining pool) composed of LP for liquidity mining to obtain income.

When user A wants to withdraw the principal, the contract is triggered, and the contract then automatically removes the funds from the strategy pool, then disassembles the LP and extracts the revenue, and returns A's principal and the corresponding proportion of the revenue to the user, which is a complete access to the mining process on the Hlf platform.

Hlf will take the principal, dismantle the LP, take the proceeds of a series of contractual interactions in a block to complete the packaging, all transactions and funds are executed through smart contracts, in addition to the user, the platform or any other person can not directly contact the user's funds and proceeds, to fully protect the user's capital security. It is easy to operate with one key to ensure the user's silky experience.

For users, there are several main advantages of participating in mining through Hlf:

1. Simple operation: users only need to pledge a single coin to get the higher yield liquidity mining income in the whole network;

2. Flexibility in depositing and withdrawing funds: there is no lock-up period for funds and they can be deposited and withdrawn as and when they are needed;

3. Low participation cost: Users only need to bear the Gas fee for pledging and withdrawing, and do not need to spend a huge amount of time and energy to screen mining projects;

4. Uncommon loss: users pledge a single coin, the platform pairs funds to participate in liquidity mining, and set up a unique risk hedging mechanism to resist uncommon loss, users do not have to bear the uncommon loss brought about by mining;

5. High capital utilization rate: Because of the unique wind control mechanism, the capital utilization rate of Hlf platform will be close to 100%, striving to bring users safe, stable and higher returns.

Hlf has lowered the threshold for users to participate in DeFi, but has not lowered its own pursuit of users' asset safety and income security. Behind the simple operation page is the Hlf team's long-term professional research on the market and superior technical strength, which protects users' assets and earnings by deploying smart contracts such as business contracts and vault contracts.

Hlf has designed four pivot strategies: contract pivot, revenue pivot, wind control pivot, and cross-chain pivot, utilizing CH tokens to carry the function of Hlf community governance rights, running through the application of different eco-products, and endeavoring to provide users with a new world of globalized DeFi finance in the future that has a low threshold of participation, convenient operation, stable revenue, openness and fairness, and open-source security.

2.2.1 Contract Hub

The open contract docking center provides a standardized docking solution that can quickly dock with the public chain infrastructure to achieve data cascading and transaction cascading among the basic settings, so that Hlf has the greatest scalability and can continue to enhance its competitiveness in the subsequent development.

- **Hlf pool**

  Hlf will set up a pool of funds in the top lending programs in the public chain for users to mine, and depositing users only need to deposit their assets into the Hlf pool to get mining revenue. The Hlf pool will share its depth with a number of top lending platforms to maximize the satisfaction of users' deposit and borrowing needs.

- **Hlf Mining Pool Pool**

  Hlf will dock with the mining pools of popular projects to carry out reinvestment mining, project screening must meet (open source code, contract fully verified, well-known organizations audit, depth of the pool), Hlf will also dock with more types of mining pools to screen high-quality pools, such as third-party machine gun pools, aggregated asset platforms and so on. In order to ensure the flexibility and scale of mining, Hlf will also cooperate with third-party machine gun pools, and quickly layout through the existing mining pools of machine gun pools.

- **Hlf Data Center**

  Hlf data center will dock more DEX to get the trading price and trade to meet the trading demand of different coins and seek favorable price. At the same time, it will combine all data platforms to obtain current data information of different projects, DEX, lending and borrowing, and optimize trading based on the data to achieve the optimal trading, improve returns and reduce risks for users.

2.2.2 Returns pivot

- **leveraged mining**

  Leveraged mining that is, the user needs to mortgage the margin to obtain the right to match, through the leverage and automatic reinvestment function users can get higher APY mining revenue, Hlf support up to 10 times leverage. Users have a high yield at the same time also need to bear the corresponding risk, if the order margin can not meet the platform fees and funding rates, will trigger the wind control conditions, the order into the wind control center for liquidation.

- **revenue aggregator**

  Hlf's design concept is an open platform, through the contract pivot docking upstream and downstream partners, connecting more valuable partners to achieve a win-win situation. Through the capital pool deposit borrowing process can get lending platform coins and Hlf platform coin subsidies, funding leverage mining process can get Hlf platform coins, docking mining pool mining can get mining pool tokens, if docking machine gun pool project can get machine gun pool tokens and project tokens.

- **compound interest aggregator**

  Hlf has a long term compounding allotment in its economic model compared to other liquidity mining in the market. Adopting automatic contract settings, every five minutes automatically scanning the entire network pool mining returns. According to the characteristics of meritocracy, the most substantial returns and the highest annualized pool of funds are selected for liquidity mining. Put the funds of the machine gun pool into the target pool according to a certain ratio, and in the next scan the principal and the profits earned will be put into other high-yield pools for liquidity mining again, realizing long-term superimposed compound interest.

- **Automated pooling liquidity additions**

  Hlf has adopted a unique automatic pool liquidity rationing program to ensure the thickness of the pool. That is, the profits earned from user liquidity mining will automatically flow into the Hlf funding pool, automatically adding liquidity. Ensure that the depth of the capital pool is sufficient will not be artificially controlled thus leading to poor trading depth. Users can raise their earnings at any time, just click on the release of the pledge to take out the principal and earnings together.

2.2.3 Risk Control Hub

When the market fluctuations, the user's margin can not pay platform fees + deposit user interest sum (1 + N) %, will trigger repayment of the position, the hunter will help wear position user repayment, and access to the margin of aN% as a revenue, the remaining (1-a)N% will be put into the risk margin pool.

- **clearing center**

  When the user's margin maintenance ratio is insufficient to support the platform's consolidated handling fee, the order will enter the liquidation center in the Risk Control Hub and wait for the hunter to trigger the liquidation. While the hunter helps the order to repay the loan and the platform's handling fee, the leveraged user's order will be forced to close the position, and aN% of the remaining margin will be given to the hunter in the form of a reward.

- **risk margin**

  Risk margin is used to cover the losses of deposit users in case of excessive position penetration in case of severe fluctuations in the market. That is to say, when an order has excessive through the position, the user retained margin can not pay the principal amount of the loan, Hlf risk control center will be through the contract from the risk of margin funds to protect the rights and interests of the deposit users.

2.2.4 Cross-chain hubs

Hlf will take a multi-chain deployment approach to realize cross-chain leveraged mining, break the barriers of public chains, and realize cross-chain mining of assets, through the integration with each public chain's lending, project mining pools, and DEX, which can allow users to easily realize cross-chain mining.

2.3 Lossless Mining Mechanism

2.3.1 Single-coin mining

In order to solve the cumbersome operation of most users on DeFi application and realize more convenient mining concept, Hlf real-time single-coin mining mechanism, i.e., users can deposit a single coin, and Hlf automatically combines assets between different users into different pools for liquidity mining according to the smart contract. According to the threshold set by the smart contract, when within the control range users are always in a profitable state. When there is a large-scale decline in the market, the smart contract automatically triggers the defense mechanism to remove the funds in advance to ensure that the user will not have any losses.

2.3.2 LP Pledge Mining

Users can pledge two types of coins at the same time to generate LP tokens according to the ratio, and at the same time pledge the tokens into the Hlf pool for lossless mining, and at any time when you want to put forward the principal and profits, you can click on the release of the pledge and take it out, to ensure that a stable compound interest to achieve long-term considerable profits and at the same time to achieve the convenience of the one-button operation to optimize the operation of the DeFi.

2.4 Technical team

Hlf by Dubai's famous crypto Atlas Capital original architect, the United States famous laboratory Lawrence Berkeley National Laboratory and other core technical staff jointly developed with the European famous financial group Aristeus Financial Services Ltd digital currency quantitative trading research, and through the Cyprus regulatory regulatory number 324/17 adopts extremely simplified trading operations and intelligent risk warning mechanism to provide users with VIP concierge service and convenient trading operations. And through the Cyprus regulation Regulation No.: 324/17 adopts the extremely simplified trading operation, intelligent risk warning mechanism, to provide users with VIP butler service and convenient trading operation.

03

Hlf Tokens and Applications

3.1 Hlf Token

The total number of CHs issued is constant at 1,000,000,000 (one billion pieces) and will never be increased.

The first issuance is based on the BSC standard issuance of Token, the subsequent Hlf main network will be synchronized with the mapping of the main network assets.

3.1.1 Token types

CH is an extremely important pass token in Hlf platform and ecology, applied to the overall platform and ecological operation, is the core subject matter to realize the VHA/AI asset valorization, self-running, decentralization, CH plays its key role in three major parts: ecological use, application use, and technical use.

CH itself is issued based on Hlf technology, with the attributes of non-tampering, incremental, real, privacy-heavy, security, etc., which can make all kinds of behaviors of depositing, trading and circulation in Hlf platform and ecosystem more convenient and transparent, and realize the functions of redemption, trading, value assessment, etc. with the characteristics of unlimited slice and dice, free and flexible, and chain-wide circulation, and can realize intelligent supervision and execution through Hlf smart contract group, so as to Achieve decentralization and ensure fairness and impartiality.

In the above business model, Hlf's overall business/business ecosystem will involve multiple types of players, all of which will collaborate with each other and the core modules to obtain incentives and fulfillment needs by holding/using/pledging CH (Hlf Network Pass).

3.2 Token Issuance Distribution Ratio

The Token distribution ratio is as follows:

-First Angel 6.785% for the allocation of 1,000 NFT decks, each pledging the equivalent of 50,000 U of CH.

-10% for equity manager mineral tax distributions

-The remaining 83.215% is used for mining output, with an initial provision to release 27,000 CH per day

3.3 NFT Cards

H Card is Hlf's first community NFT asset, as the Hlf community's premium membership card, H Card is limited to 1000 pieces with a unique number, which can be used as a proof of rights and interests such as proxy mining, pooled investment, proxy voting, proxy casting, proxy market maker and profit sharing.

H Card Advantage:

1. Standardization

The H Card has a number of standardized features, including ownership and transfer rights, with exclusive rights to vest interests.

2. Generalization

The H Card is universal, which means that any application that wants to use the H Card can use it. the H Card can be used as a unique traveling pass on Hlf, and the holder can exercise all the rights and benefits granted to the owner of the H Card on Hlf.

3. Mobility

H Cards are highly liquid as they can be easily exchanged for CH when the owner wants to liquidate them.

4. Invariance

Blockchain is known for its immutability.H Card is implemented through smart contracts. This makes the H Card immutable, i.e. the user cannot change it to another NFT token.The ownership of the H Card is permanently recorded in the blockchain unless the user decides to transfer it to another user or destroy it on his/her own.

5. Programmable

H Card is implemented through smart contracts, which can be enhanced and include other complex features.

Limited Edition: The H Card is limited to only 1,000 pieces.

Exclusive number: Each H Card is uniquely numbered and cannot be counterfeited.

Eternal numbering: the number of the H Card held by the user remains the same throughout the upgrade of the H Card deck contract.

Dividend Privilege: All DeFi projects in Hlf ecosystem will inject their profits into the H Card equity pool for H Card holders to receive as long as they generate profits, including: lending spreads, fees, service fees, etc. The weight of dividends varies according to the number of CH tokens pledged by the H Card. Depending on the number of CH tokens pledged by H Card, the weight of dividends will be different.

3.4 Hlf equity managers

Hlf adopts three angel round allocations to select 1000 equity managers who meet the requirements based on different ratios in each phase to jointly govern the Hlf ecological community, and the equity managers will obtain unique H Card tokens to prove the allocation of equity based on the angel round pledge of a specified proportion of CH, details of which are as follows:

season (sports)	Number of token assignments	CH Price	Number of Chs pledged for a single token	Total number of CH pledges	Total amount pledged
first tranche	300	0.5 USDT	100,000	30 million	15 million USDT
second phase	300	0.8 USDT	62,500	18.75 million	15 million USDT
third phase	400	1 USDT	50,000	20 million	20 million USDT

Hlf equity manager advantage:

1. Based on all revenue generated by the Hlf ecology, receive a share of the profits based on the number of pledged CHs per equity manager as a percentage of the total angel rounds;
2. When an equity manager wants to be released from equity manager status, he or she can exchange the exclusive H Card for a CH and cash out at any point;
3. Equity managers who refer nodes to participate in Hlf mining are rewarded with 10% of the revenue generated by the mining of their nodes;
4. When an equity manager completes 1,000,000 full network arithmetic, he or she can always equally share 10% of the daily output of 27,000 CHs as a reward from that moment onwards based on the chronological order of the nodes. For example

For example, if A is the first to complete 1 million CH, then A can enjoy 10% of the daily CH reward, i.e. 2,700 CH. If B is the next to complete 1 million CH, then A and B will share the 2,700 CH equally from that moment onwards, and so on.

Note:If the equity manager withdraws from the equity manager status during the angel round, 5% of the CH tokens will be burned and 95% of the pledged CH tokens will be returned according to the burning mechanism. Destroyed NFT cards can be re-minted after the angel round is over, and the CH tokens will be minted at the equivalent market price of 100,000 USDT at that time.

3.5 Inflationary mechanisms

Hlf equity managers will spontaneously organize an equity managers' conference once a year to choose 1%-100% inflation of the total number of CH fixedly generated by the block every day, based on the market's current volume of development and judgment of future economic trends. Let the market price get reasonable control, at the same time help Hlf benign development.

For example, if equity managers jointly vote to propose 10% inflation, the original fixed output of 27,000 CH per day now becomes 27,000 * 110% = 29,700, and so on.

3.6 Combustion mechanisms

Each user holding CH will forcibly burn 5% every time they trade CH, which is used to force deflation to control the gradual growth of the market price.

For example, if a user holds 100 CH, after the transaction the user can get 95 CH worth of other tokens equal to the market price.

3.7 Application ecology

Hlf equity managers will spontaneously organize an equity managers' conference once a year to choose 1%-100% inflation of the total number of CH fixedly generated by the block every day, based on the market's current volume of development and judgment of future economic trends. Let the market price get reasonable control, at the same time help Hlf benign development.

For example, if equity managers jointly vote to propose 10% inflation, the original fixed output of 27,000 CH per day now becomes 27,000 * 110% = 29,700, and so on.

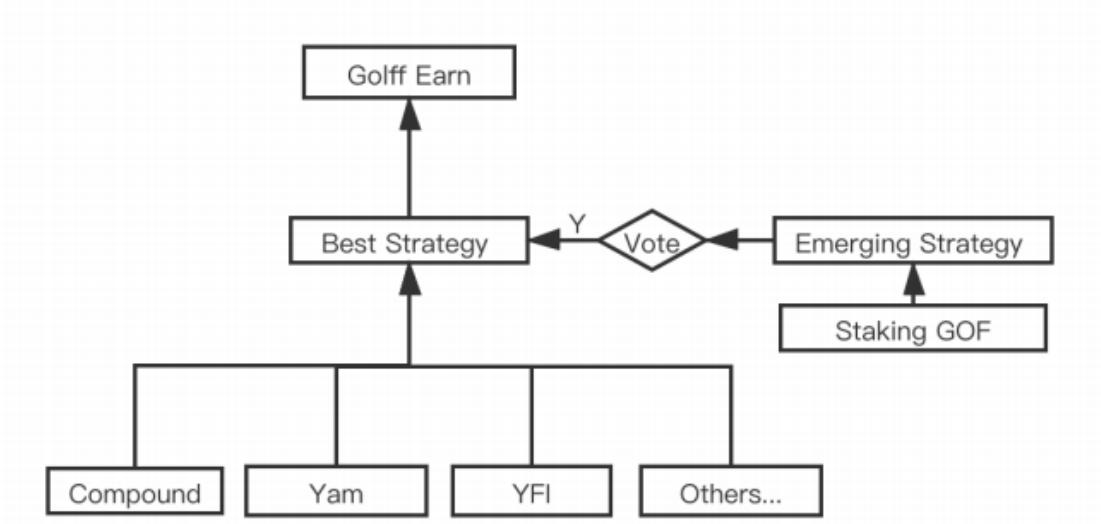
3.7.1 Fantastic Farm liquidity mining

In the first phase, Hlf will generate the initial governance token CH through liquidity mining to attract a large number of "miners" and "farmers" to participate. Liquidity mining is a fairer and more transparent way of generating initial governance tokens, and it can quickly help Hlf acquire initial users. When Hlf's subsequent products are launched, they will include various forms of mining token incentives.

Hlf's liquidity mining will be divided into multiple phases, in order to get a high return on mining and at the same time have a stronger sense of game experience and fun, incentivizing users to participate more and more consistently. The specific rules of liquidity mining will be introduced in a special document later.

3.7.2 Earn Collection Earnings Aggregator

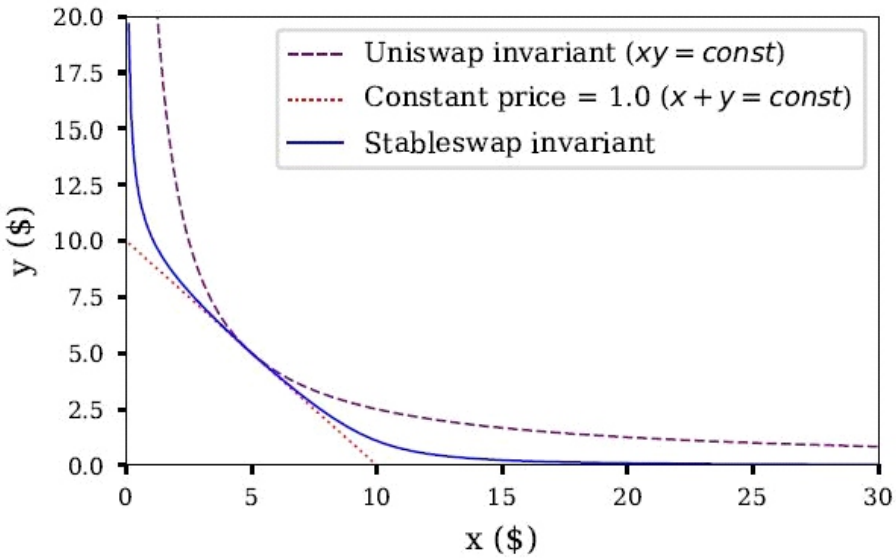
Hlf Earn Collection is an income aggregator that automatically selects the highest yielding, siphoning value from DeFi products with the goal of maximizing returns on holdings in a non-destructive manner.Hlf Earn Collection automatically provides a list of income strategies deemed optimal for the current market based on programmatic filters, as well as identifying cross-protocol arbitrage opportunities. The Hlf Earn Collection automatically provides a list of income strategies that are considered optimal for the current market based on programmatic screening and also identifies cross-protocol arbitrage opportunities, in effect aggregating the various DeFi products in the current market. In addition, Hlf Earn allows users to propose their own strategies (with a certain amount of CH), which are voted by the community to become optional income strategies, and then the strategy proposers can share the income from the pool.



Revenue Aggregator Process Revenue Aggregator Process

3.7.3 AMM Automated Market Makers

Hlf uses an Automated Market Maker Mechanism, or AMM. you can think of the AMM as a primitive, robotic market maker, based on a simple pricing algorithm, which quotes two assets at the same time, and the number of units of each asset it owns multiplied together always equals a constant. For example, Hlf owns some x tokens and some y tokens, and it prices each transaction so that the final number of x's it owns, and the final number of y's it owns, multiplied together, will equal a constant k. This creates a constant product equation: x * y = k.



If the Hlf pool has 50 A's and 50 B's invested in it, anyone can trade A's for B's or B's for A's. Assuming that the exchange rate between A's and B's in the primary market is exactly 1:1, since there are 50 A's and 50 B's in the pool, A* B = 2500 by the rules of the equation for the constant product described above. For any transaction, Hlf needs to ensure that the multiplication of the number of A's and B's in stock in the pool equals 2500.

If the user buys away an A, we are left with 49 A's in the pool, and 49* B still needs to equal 2500. the total number of B's is then equal to 51.02. Since there were 50 B's in the pool before, we still need 1.02 B's, and so the offer this customer would get for buying an A would be: 1.02 B / A.

04
Hlf Technical Details

Hlf's design concept is centered on advanced high-reliability and high-performance technologies, together with mature economic systems and community governance mechanisms accumulated through long-term practice, as well as user-experience-oriented supporting applications and development tools, in an attempt to create a global efficient, reliable, easy-to-use digital asset platform that can meet a full range of application scenarios.

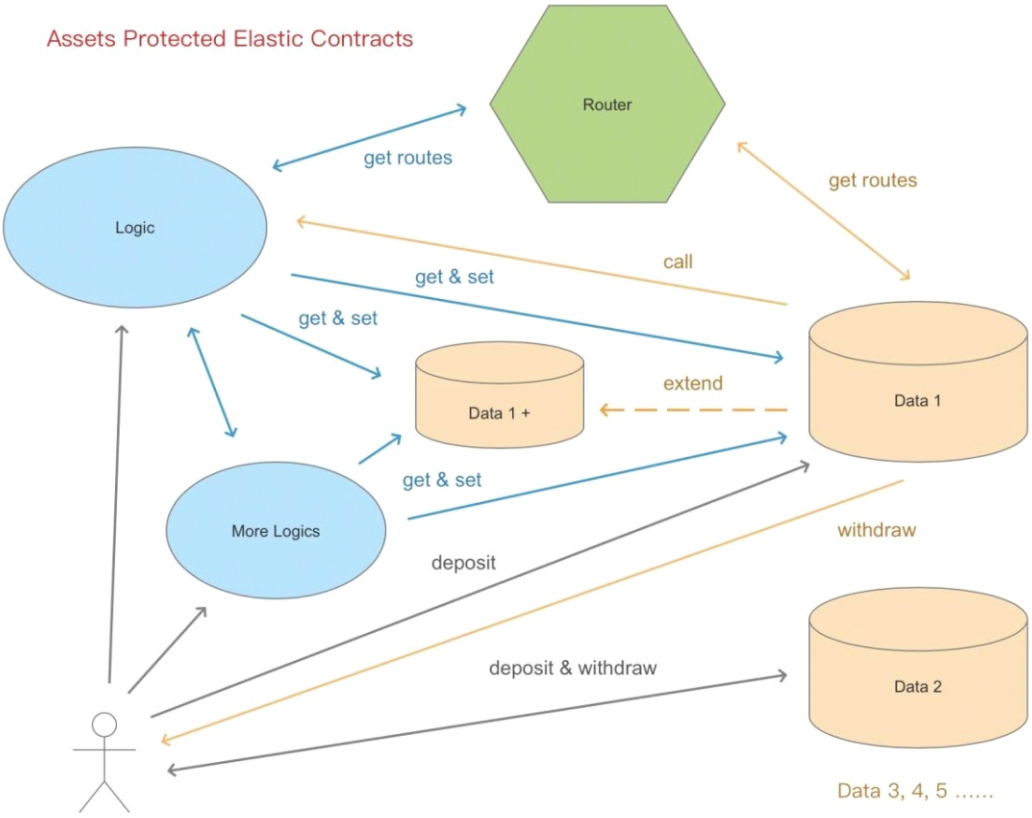
4.1 Economic systems

Hlf is a DeFi intelligent matching and mining platform deployed in multi-chain ecosystem (BSC, Heco, OKEx Chain and public chains such as Ether), which automatically searches for safe, stable and high-yield DeFi liquidity mining pools on the chain for the funds on the platform through smart contracts and intelligent algorithms, and the platform users only need to pledge single coins to enjoy the liquidity mining income. Through the Hlf ecosystem, everyone can participate in financial derivatives trading without threshold and enjoy artificial intelligence investment advisory services without discrimination. Visualized and intelligent artificial intelligence services will be more widely used in financial scenarios.

Hlf will first deploy eco-strategy on BSC in the early stage, real-time Hlf 1.0 strategy model. After accumulating a certain ecological framework, Hlf will shift its strategic goal to Heco to implement the 2.0 traction strategy. When the foundation of 2.0 traction strategy is solidified, it will carry out 3.0 leap strategy in real time on the traditional DeFi ecosystem led by Ether public chain, at that time, it will complete the carpet scale deployment of all DEX ecosystems on the whole network, and realize the cross-chain full circulation. We will establish a natural DeFi ecological economic model and accelerate the application of DeFi ecosystem.

After successive deployments, Hlf will implement cross-chain docking. In cross-chaining, the relationship between chains is peer-to-peer. Users can "transfer" bitcoins through "two-way anchoring". At the same time, the cross-chain can also realize the transfer and exchange of functional states such as exchange rates and smart contract interactions.

Let's look at an example. Say I want to transfer my bitcoins to Ether, I first have to transfer the bitcoins on the bitcoin blockchain to a specific locked address. And attach my address on Ether to the transaction. After this transaction is finalized by the miners, they send an SPV verification to the anchored smart contract (Peg Contract) in Ether. Upon validation, my address in Ether is extracted. Finally, when the transaction is successfully validated and meets the final certainty requirements, the anchored smart contract automatically transfers the equivalent asset from the locked address to my Ether address. This cross-chain model will also be used in Hlf to transfer information from chain to chain to each other, enabling more convenient cross-chain information hookups.



Hlf Technical Architecture Diagram

4.2 Technical framework

Hlf can be divided into 3 main modules in its entirety:

1) Multi-chain parallelism: Hlf adopts parallel main chain architecture, which can flexibly choose the consensus mechanism according to the characteristics of the business main chain, and the consensus mechanism of the business main chain only affects this business, which is independent of the other main chains and forms its own independent logical space.

2) Parallel Sidechain: For part of the functional main chain or business main chain, the transaction records in its blocks can lead to the sidechain on demand.

3) Flexible cross-chain: Hlf adopts a set of flexible cross-chain mechanism to build a universal cross-chain framework to realize cross-chain transactions of multiple digital assets.

4) Sub-domain slicing: Hlf slicing technique realizes network, transaction, computation, and state slicing.

- **multichain parallelism**

Hlf adopts parallel main chain architecture, which allows flexible selection of consensus mechanism according to the characteristics of the business main chain, and the consensus mechanism of the business main chain only affects its own business and is independent of other main chains, forming its own independent logical space. The consensus mechanism of the business main chain supports the component plug-and-play mode, which can be flexibly replaced according to the business needs and continue to run after a smooth transition to meet the needs of different business models. Requirements for continuous development.

Parallel multi-master chain design, breaks through the traditional design of Genesis Block and expands into Genesis Sphere. The Genesis Sphere can lead to multiple master chains Each master chain is responsible for specialized business areas, which are independent and interrelated. There is less coupling between the main chains, which can take advantage of parallel processing, introduce a sealing strategy for process blocks, and archive the history of overdue data to improve the system processing efficiency.

- **There are three Hlf global master chains:**

account master chain is characterized by account consistency, long-term existence and no unlimited growth. The independent design of account chain can isolate the impact of the continuous growth of the main chain's trading book on the account itself, and at the same time, value-added services can be set up for the account chain, such as public well-known accounts, black and white list management, and so on.

The ledger main chain, on the other hand, focuses on recording transactions between accounts, embodying time-based transaction snapshots that are sealed according to historical time (e.g., 5 years as a sealing cycle), and historical records can be queried in order to substantially improve the efficiency of blockchain operation and effectively solve the problem of rapid expansion of blockchain volume.

smart transaction chain is designed for the characteristics of smart contracts and collaborative smart contracts, supports multi-step and multi-stage execution of functional operations, and has the process characteristics of supporting multi-party collaborative participation and multi-role participation, which is in line with the business reality and meets the needs of complex business models.

flexible business expansion mechanism. Genesis Ball can lead to business main chains on demand, such as decentralized financial (DeFi) blockchain, game (NFT) blockchain, medical (Alliance) blockchain and so on. The flexible business expansion mechanism can lower the application threshold of blockchain technology, so that Hlf blockchain technology can be rapidly applied to various industries and accelerate the development and popularization of blockchain technology. Users can pledge a certain amount of Hlf Token (CH) to induce a main/side chain.

comprehensive blockchain synergy advantages. The parallel main chain can realize the organic integration of public chain, alliance chain and private chain, and flexibly support different industry applications. The business chain can flexibly choose the consensus mechanism, limit the influence scope, and even restrict the access rights, and the DAPP can be deployed based on the logical space of a certain chain only, so as to realize the parallelism of the whole business.

- **parallel side chain**

  For some functional master chains or business master chains, the transaction records in their blocks can be led to side chains as needed. The main chain grows according to the blockchain rules, and the changes in the records in the main chain blocks are recorded by the side chains, realizing the organic combination of the fixed part and the changes in the block information.

  The side chain records the subsidiary data of the main block transaction, which does not affect other transaction information, and each side chain can be operated in parallel, and the transaction records of the side chain can be confirmed by the signatures of the smart contract or relevant stakeholders (the scope of consensus is limited to the stakeholders).

  The consensus mechanism of the business main chain supports the component plug-and-play mode, which can be flexibly replaced according to business needs and continue to operate after a smooth transition to meet the requirements of the continuous development of business models.

- **Flexible cross-chaining**

  HIf has designed a set of flexible cross-chain mechanism and constructed a universal cross-chain framework to realize cross-chain transactions of various digital assets, which will gradually realize seamless connection with BTC (Bitcoin) system, ETH (Ether) system, DOT (Boca) system, XRP (Ripple) system, EOS (EOS) system, IPFS (Distributed Storage) system and other blockchain systems and effectively break the communication barriers between different blockchains. It effectively breaks the communication barriers between different blockchains, realizes diversified management of users' digital assets, free and safe operation of multiple types of assets, and interoperability with other chains.

(Schematic diagram of cross-chain asset matching)

- **domain slicing**

Hlf slicing technology implements network, transaction, compute, and state slicing.

Since the sharding mechanism makes it difficult to back out and has high requirements on the speed of transaction verification, the sharding mechanism can be easily combined with consensus algorithms such as Hlf +VRF+DKG, etc., to assign the transactions to different shards for parallel processing and improve the throughput (TPS). The shards are divided into two layers: the bottom layer is a group of minor shards, each of which handles specific transactions, packages and signatures; the shards run in parallel with each other; the top layer is a commit committee, which only verifies the legitimacy of packages and their signatures sent by the minor shards, and doesn't care about the specific transactions (which reduces the burden of the committee and improves the speed), and finally verifies the legitimacy of packages sent by the minor shards and their signatures. The upper layer is a commit committee that only verifies the legitimacy of the packets and their signatures sent by each minor shard, and does not care about specific transactions (which reduces the burden on the committee and improves speed). At the same time, the committee is also responsible for shard and committee generation based on the platform's consensus algorithm (which can be adjusted and modified according to customer needs), including which shard each node belongs to and which transactions each shard is responsible for.

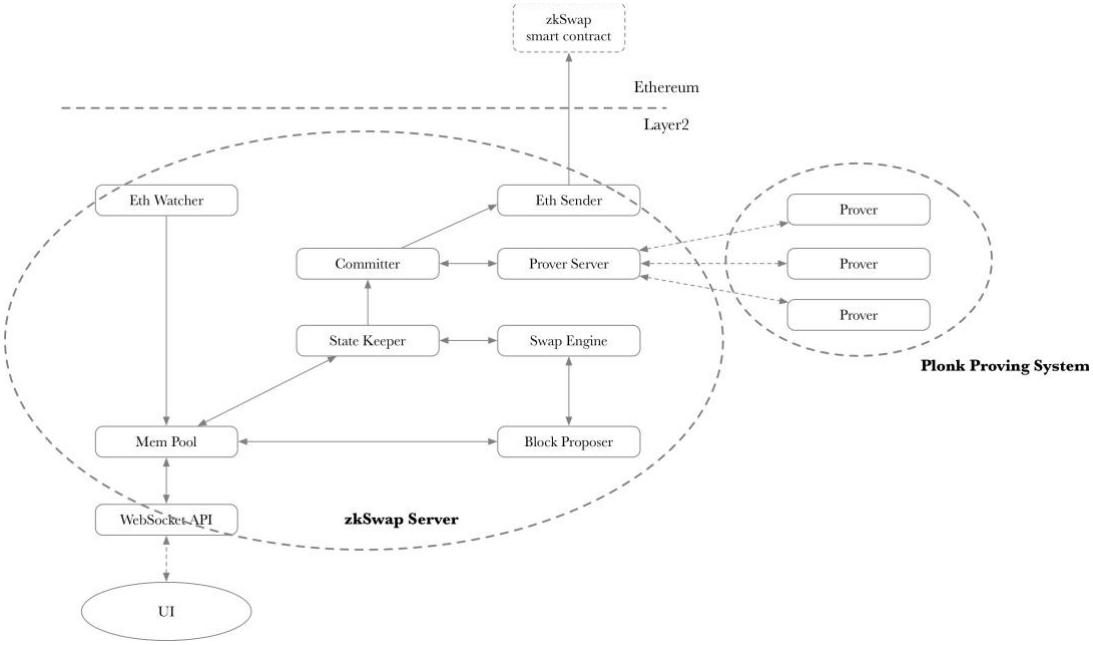
The throughput (or transactions per second) of the entire slice is n*m/sec, where n is the number of shards and m is the average number of valid transactions submitted by each shard per unit time. Therefore, throughput can be increased either by the number of n's or by speeding up shard processing (i.e., by increasing the value of m).

Hlf on the basis of slicing also implements the function of sub-domain (multi-chain, each main chain is a domain), the logical space of each domain is independent, and each domain is equipped with slicing technology.

4. 3 Hlf Decentralized Swap Protocol

This project implements CH-Swap, a Layer-2 AMM decentralized trading protocol based on Hlf technology, which implements all the functions of uniswap on Layer-2, and realizes real-time trading while guaranteeing the core value of decentralized trading, which raises the TPS of uniswap (the number of trades that can be processed per second) by many orders of magnitude, and at the same time, the trading process almost does not consume any Gas cost. The process of transaction does not consume any Gas cost.

The Hlf system consists of an on-chain smart contract, an off-chain Hlf Server, a zero-knowledge proof system, and a front-end user interface.



(CHSwap system framework)

Hlf Smart Contracts Hlf will deploy a series of smart contracts on the ethereum blockchain to store the tokens deposited by users, as well as the need to record and validate Layer-2's status updates and associated proofs, and is a key hub connecting on and off the chain.

CHSwap Layer-2 Serverside The Hlf server side is the module that actually handles all the transactions down the chain.The ZKSwap server side can interact with the user through the WebSocket interface and also listen to transactions on the ethereum blockchain. All legitimate transaction requests will be placed into the Hlf memory pool.

The Swap Engine is ultimately responsible for the processing. The transaction types in the memory pool are the same as all the operation types of Uniswap in the previous section.Block proposer rollups the transaction, generates a new block, and State Keeper updates the state of all the tokens in Layer-2.State Keeper sends the state to Commiter, which communicates with Prove server to get the proof of the corresponding transaction, and finally sends the state and the corresponding SNARK proof to the Hlf smart contract on the chain through Ethererum sender. State Keeper sends the state to Commiter, who is responsible for communicating with Prove server to get the proof of the corresponding transaction, and finally sends the state and the corresponding SNARK proof to the Hlf smart contract on the chain through Ethererum sender.

Plonk Zero-Knowledge Proof System Hlf's zero-knowledge proof system adopts a distributed architecture and uses the latest zero-knowledge proof algorithm PLONK[to generate proofs.The Prove server supports multiple provers.Multiple provers actively query the proof tasks in the Prove server, generate proofs, and then send them back to the Prove server.The global trust setup of PLONK only needs to be generated once and can be reused in applications with a certain range of circuit sizes. The global trust setup of PLONK only needs to be generated once, and can be reused for applications with a certain range of circuit sizes, which greatly reduces the threshold of zero-knowledge proofs.

4.4 Security of assets

If logical contracts are scalable and data contracts are extensible, the question that arises is whether the user's data ownership and asset security can be guaranteed.

It is well known that for traditional DeFi applications, all of the user's assets are locked in a contract. Smart contracts, especially open-source contracts, guarantee to the user through code disclosure that no other person or program can get their hands on the user's assets locked in the contract except the user himself. Further, the immutability of the contract makes the contract immune to code changes once it is deployed.

Hlf has adopted a segregation of duties approach to address the security of contract assets in a scalable architecture.

While business contracts are modifiable and upgradable, data contracts follow the concept of classic contracts and are not modifiable or upgradable. During initialization, an initial data contract is automatically generated for each data collection, and this contract cannot be modified once it is deployed on the chain.

- The data contract maintains an internal mapping table of user addresses and asset details. This mapping table provides only two interfaces, incoming and outgoing, for the user's assets within the data contract, and no other interfaces are authorized to write and update this asset table.
- The user credits the transaction and sends it directly to the data contract address, calling its crediting interface. After the user's assets are locked into the contract, the user's address and their asset details are recorded in the asset mapping table. The logical contract is then invoked to process and record the business logic.
- The user is still directly calling the outgoing interface on the data contract during the outgoing transaction. The contract will check whether the user's address exists in the asset mapping table, then call the logical contract to calculate the outgoing amount, and finally transfer the asset directly to the user's requested address.
- Any address that is not in the asset mapping table will not be responded to by the outgoing interface. This logically ensures that any outgoing asset belongs to the original address where it was originally invested into the account, ensuring that the
- The user's ownership of the invested assets and the security of the user's assets is guaranteed. Even the operations team itself cannot tamper with or fraudulently claim any of the user's locked assets.

  Through the strict ownership constraints of data contracts, the ownership and security of user assets are guaranteed, making APEC's security philosophy adhere to the consistent concept of smart contracts: beyond "Don't Be Evil" (Don't Be Evil), to realize "Can't Be Evil" (Can't Be Evil). Can't Be Evil".

  Plonk Zero-Knowledge Proof System Hlf's zero-knowledge proof system adopts a distributed architecture and uses the latest zero-knowledge proof algorithm PLONK[to generate proofs.The Prove server supports multiple provers.Multiple provers actively query the proof tasks in the Prove server, generate proofs, and then send them back to the Prove server.The global trust setup of PLONK only needs to be generated once and can be reused in applications with a certain range of circuit sizes. The global trust setup of PLONK only needs to be generated once, and can be reused for applications with a certain range of circuit sizes, which greatly reduces the threshold of zero-knowledge proofs.

4.5 Data storage

The distributed ledger of blockchain is limited to storing simple transaction data, and cannot store large documents, such as transaction history, historical data and other complicated data streams need special storage space, especially unstructured documents, which can not be directly stored on the blockchain, while unstructured documents, such as electronic file backup of contracts and depository images, are closely associated with the data on the blockchain in the business. In order to support the correlation of on-chain data and related unstructured documents, and to realize rapid storage and query of data, we introduced a traditional distributed file system to correlate with the blockchain system, forming a "scalable" and "decentralized" open storage protocol. We have introduced a traditional distributed file system associated with the blockchain system to form a "scalable" and "decentralized" open storage protocol.

For a transaction on a blockchain, if an associated document exists for the transaction, the MD5 Hash value of the document is placed in the record of that transaction and stored in a specialized field.

When reading the record, first read the data on the chain, and then according to the Hash value in the transaction record to locate the distributed file system, read the content of the document, check the consistency of the document while reading, and in the case of ensuring that the Hash value matches, it means that the document is the correct document, and is itself safe and reliable.

Using a distributed file system is the first step, and the second step can also go further by storing the files in decentralized file storage projects such as IPFS as well as services provided by projects such as Lambda.

05
Risk Control and Disclaimer

Crypto assets are a relatively new asset class and carry considerable investment risks. Potential investors need to fully understand these risks and invest according to their respective risk tolerance levels.

a) Risk of incomplete disclosure

As of the date of this White Paper, Hlf is still in the development stage and its philosophy, consensus mechanisms, algorithms, code and other technical specifications and parameters may be updated and changed from time to time and on an ongoing basis. Although this White Paper contains certain information about Hlf, it is not absolutely complete and Seller may adjust and update such information from time to time for specific purposes. Seller cannot, and is not obligated to, keep Participants informed of every detail of the development of Hlf (including its progress and anticipated milestones, whether delayed or not), and therefore will not necessarily keep Participants informed in a timely and adequate manner of information generated from time to time in the development of Hlf. Inadequate disclosure of information is inevitable and reasonable.

b) Risks of accelerated cryptography

Cryptography is constantly evolving and cannot guarantee absolute security at all times. Advances in cryptography (e.g., password cracking) or in technology (e.g., the invention/improvement of quantum computers) may pose a risk to cryptography-based systems, including Hlf. This may result in the theft, pilferage, disappearance, destruction or devaluation of Hlf held by any person. To the extent reasonably possible, the Project Parties will be self-prepared to take preventive or remedial measures to upgrade Hlf's underlying protocols to cope with any advances in cryptography, as well as to incorporate new reasonable security measures where appropriate. The future of cryptography and security innovation is unforeseeable, and the Project Parties, along with other members of the Hlf community, will attempt to adapt to the ever-changing field of cryptography and security.

c) Source code vulnerability risk

No one can guarantee that Hlf's source code is completely free of defects. The code may contain certain flaws, errors, defects, and vulnerabilities that may prevent users from using certain features, expose users' information, or create other problems. If such defects do exist, they will jeopardize the usability, stability, and security of Hlf and, as a result, negatively affect the value of Hlf. Open source is rooted in transparency to facilitate community-sourced validation and problem solving of code.

d) Source code upgrade risk

Hlf's source code is open source and may be upgraded, modified, revised or altered from time to time by any member of the Hlf community. No one can predict or guarantee the exact outcome of an upgrade, revision, modification or change. As a result, any upgrades, corrections, modifications or changes may result in unforeseen or unintended consequences that could have a material adverse effect on the operation of Hlf or the value of Hlf.

e) "Distributed Denial of Service" Attacks

Hlf is designed to be a public and permissionless ledger. As a result, Hlf may from time to time be subject to "distributed denial-of-service" cyberattacks. Such attacks will adversely affect, stall or paralyze the Hlf system and, as a result, transactions on it will be delayed in being written or credited to blocks on the Hlf blockchain, or may even be temporarily unenforceable.

f) Risk of insufficient node processing capacity

The rapid growth of Hlf will be accompanied by a steep increase in the volume of transactions and demand for processing power. If the demand for processing power exceeds the load that the nodes within the Hlf blockchain network can provide at that time, the Hlf network may be crippled or stagnant, and fraudulent or fraudulent transactions, such as "double-spending", may be generated. In the worst case scenario, any Hlf held by anyone could be lost and a rollback or even a hard fork of the Hlf blockchain could be triggered. The consequences of these events would jeopardize the availability, stability and security of Hlf and the value of Hlf.

g) Hlf wallet private key loss risk

If the private key necessary to access Hlf is lost or destroyed, this may be irreversible. Hlf can only be manipulated by taking possession of the relevant unique public and private keys through a local or online Hlf wallet, and each purchaser shall keep the private keys of his/her Hlf wallet in safe custody. Neither Seller nor any other person can assist a purchaser in accessing or retrieving the relevant Hlf if such private key of the Hlf purchaser is lost, misplaced, disclosed, destroyed or compromised.

h) Risks of platform consolidation

From a technical perspective, Hlf may, under certain circumstances, merge with other blockchain projects in order to realize synergies or based on other valuable consideration. This form of merger may result in the Hlf blockchain being abandoned or deprecated in exchange for a certain number of crypto tokens on the newly created other blockchain. Such new crypto tokens will be distributed and distributed to pre-merger Hlf holders at a certain exchange rate. Hlf holders may be under-compensated in such mergers under certain valuation models.

(l) Platform migration risk

Hlf will initially have a separate underlying blockchain as its own ledger. The Hlf may then migrate to one or more other distributed platforms in the future, to the extent that such platforms are more efficient, valuable or suitable for the transactions executed on the Hlf. In the event of such migration, all Hlf then in existence will be able to be converted into new built-in crypto tokens on the migrated Hlf, and its original blockchain with similar or equivalent technical specifications and functionality used by the Hlf prior to the migration will therefore fade away.