Filecoin Liquid Staking

STFIL

Protocol Whitepaper V1.6

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December 2023

Abstract: STFIL is a trust-free liquidity protocol on FVM. It's community-owned, decentralized, and allows users earn block rewards without locking assets or managing Storage Provider infrastructure.

1 Introduce

STFIL is a FEVM-based trustless liquidity protocol that is community-owned, decentralized, and allows users to earn block rewards without locking up assets or managing storage provider infrastructure.

In the Filecoin network, pledging can improve the service quality of the entire network. It is the cornerstone of creating a robust, stable, and well-experienced distributed storage network. Only then can it challenge the centralized storage market, and at the same time, it can well compensate for user losses. Compared with Bitcoin and other networks, Filecoin's PoSt consensus mechanism is also the key to providing storage stability, requiring Storage Providers to have more professional hardware equipment, more professional computer room sites, more professional operation and maintenance engineers, more stable power equipment, and more expensive Initial investment. This creates a high threshold for Filecoin Storage Provider, and only companies or teams with large amounts of funds and resources can participate.

The STFIL liquid pledge protocol is a Filecoin liquid pledge protocol that addresses these shortcomings. Users (Assets) can deposit their FIL into the STFIL smart contract and obtain a token stFIL Token (abbreviated as stFIL) that pledges FIL, which is used to obtain rewards from the Filecoin Storage Provider. Storage Providers can pledge their nodes to obtain the liquidity of the pledged FIL in the node, obtain the qualification to loan FIL to STFIL, and use more infrastructure and operation and maintenance in exchange for greater mining revenue. A smart contract controlled by the DAO then stakes the tokens with a storage provider chosen by the DAO. Funds deposited by users are controlled by smart contracts, and storage providers never have direct access to users' assets.

STFIL is a more flexible solution than existing ones, it allows users to provide an unlimited amount of FIL, and small deposits can also be rewarded. STFIL only charges part of the node revenue as a fee to support community governance. The number of FIL staked by STFIL and stFIL issuance is completely open, transparent and auditable. STFIL is managed by the DAO governance contract and is not controlled by any unilateral party. It is a completely decentralized Filecoin liquidity staking solution.

In the current crypto and DeFi industry, although Lido and Rocket Pool are telling the same story, they only serve the web3 world outside of Filecoin. On the eve of the release of the Filecoin Virtual Machine (FVM), STFIL Protocol was fully prepared, and has no competitors. Our business is also an indispensable part of the Filecoin ecosystem and will receive widespread attention.

2 Working Mechanism

2.1 Protocol overview

STFIL is a liquid staking protocol built on Filecoin, designed to be community-owned, decentralized, trustless, and compatible with staking in Filecoin. STFIL allows users to earn block rewards without locking assets or maintaining Storage Provider infrastructure. Allow

anyone to become a part of the Filecoin storage provider without trust, and share their own benefits smoothly.

STFIL will be directly managed by STFIL DAO, and all upgrades and new functions will not be controlled by any single team. STFIL strives to play the core spirit of decentralized DeFi, and has been exploring on the road of decentralization and trustlessness.

The implementation of STFIL Protocol is as follows:
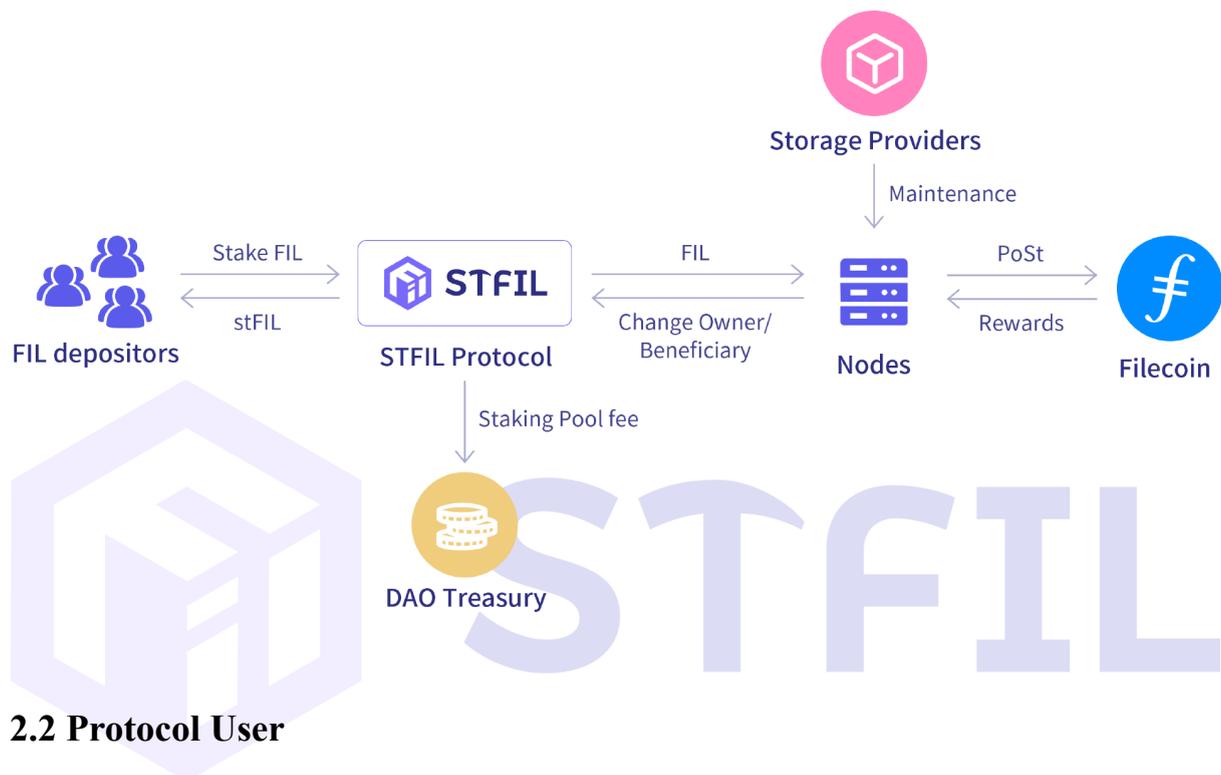
2.2 Protocol User

STFIL transforms the centralized P2P lending strategy (direct lending relationship between lenders and borrowers) in the Filecoin network into a decentralized funding pool strategy. The STFIL protocol mainly attracts two types of user groups:

b. **Investors(Stakers)**：Token holders who want to earn income without directly participating in pledging via running a storage provider operation;

c. **Storage Providers**：Teams with high-quality hardware and operation and maintenance resources hope to access FIL for pledge collateral for onboarding data and capacity to the Filecoin Network；

2.3 The basic formula of time

- T，Current timestamp,It is determined by **block.timestamp** in the blockchain

- T_l, The timestamp of the last update. Update whenever deposit, withdrawal, borrowing, repayment, liquidation event occur.

- ΔT, Time difference

$$\Delta T = T - T_l$$

- T_{year}, Seconds in a year.

$$T_{year} = 31536000$$

$$\Delta T_{year} = \frac{\Delta T}{T_{year}}$$

2.4 Stake Tokenization

The STFIL Protocol will mint stFIL tokens, which are derivative tokens representing stake FIL; it allows holders (assets) to stake their FIL assets into smart contracts to mint a 1:1 stake token stFIL, This is a derivative token based on EIP-2612 (an extension of ERC-20). It represents the right to claim staked FIL. And stFIL does not need to be locked! After users hold stFIL, no matter where they are obtained from, stFIL will accumulate staking rewards.

In order to realize the above tokenization strategy, STFIL Protocol introduces the following concepts:

- U_t, Capital Utilization

- $\overline{R}_t$, The current overall average interest rate, more information can be obtained in 2.6.

- LR_t, The current liquidity rate. Function from aggregate loan rate and utilization:

$$LR_t = \overline{R}_t \times U_t$$

- LI_t, Liquid interest-bearing index. Indicates the accrued interest of the reserve fund durin ΔT time interval, and is updated whenever deposits, withdrawals, borrowing, repayments, and liquidation events occur.

$$LI_t = (LR_t \times \Delta T_{year} + 1)LI_{t-1}$$
$$LI_0 = 1 \times 10^{27} = 1\ ray$$

- NI_t, Standardized interest-bearing index. At time , the reserve accumulated interest index:

$$NI_t = (LR_t \times \Delta T_{year} + 1)LI_{t-1}$$

At any moment, stFIL balance $B_t(x)$ can be written as:

$$B_t(x) = SF_t(x) \times NI_t$$

Among them, $SF_t(x)$ represents the scaled factor of the user's share of the reserve pool. When users stake and unstake, it will lead to increase and decrease, which will lead to the minting and burning of SF_t:

- **Stake**: When a user stakes an amount in the protocol, the scaled factor is updated as follows:

$$SF_t(x) = SF_{t-1}(x) + \frac{m}{NI_t}$$

- **Unstake**: When a user unstakes in the protocol, his scaling factor is updated as follows:

$$SF_t(x) = SF_{t-1}(x) - \frac{m}{NI_t}$$

Users can exchange stFIL for FIL at any time as long as there is sufficient liquidity to cover the swap. In the case of market risks caused by the limited liquidity of FIL, stFIL's price in the secondary market can still provide sufficient confidence to holders due to fluctuations in supply and demand.

stFIL can be used and traded like other ERC-20 tokens. Users can do anything they want with it, including holding, selling, trading, and lending. This provides users with higher

capital efficiency and utility, as it allows holders to earn staking rewards while also being able to use stFIL in DeFi.

The STFIL protocol lends the FIL in the staking pool to the storage provider's miner as sector collateral. Stakers receive interest as a reward. STFIL brings together the penalties and losses that occur in the entire network, and the priority will be borne by the storage provider's guarantee amount, followed by the risk reserve of the STFIL protocol, thereby minimizing the impact on stakers.Currently, STFIL protocol is designed to accept a minimum of 1.00 FIL tokens for staking, with no maximum limit.

2.5 Lending Pool

Lending Pool is designed to cater to lending users with different needs. The STFIL protocol will build different types of Lending Pools to meet different pledge scenarios in the Filecoin network, such as storage, subnets, retrieval, etc.

2.5.1 Storage Providers Lending Pool

Storage provider Lending Pool is one type of Lending Pool. It is mainly oriented to the demand scenario where storage providers borrow FIL by mortgaging miner's assets. The protocol allows multiple miners with different owners to build a storage provider lending pool (for example: pool-1). The assets of miner nodes in the same Lending Pool can guarantee each other while retaining the independence of the nodes.

2.6 Miner Actor Onboarding

STFIL Protocol encourage storage providers with more professional hardware, specialized data center facilities, expert operation and maintenance engineers, and stable power equipment to actively participate to improve the overall network service quality, and jointly create a robust, stable, and user-friendly distributed storage network. Protocol allows anyone to join the decentralized liquidity staking network of storage providers and obtain a higher investment return rate compared to outside the protocol.

Before a storage provider onboards a Miner node, a storage provider lending pool needs to be created. The storage provider enrolls the newly created/existing Miner nodes into the designated lending pool, and uses the assets of the Miner nodes as collateral to obtain loan qualifications and maximum loan leverage from the protocol.

They choose different types of storage lending pools to obtain different maximum loan leverages (different lending pools have different requirements). As long as the debt ratio is within a certain range, borrowers can freely withdraw cash to cover the cost of maintaining computer rooms and node operations.

In order to implement the above strategy, the STFIL protocol introduces the following concepts:

- L_{max}, Maximum loan leverage. Each node has a default maximum loan leverage

  based on their chosen role as Owner or Beneficiary to delegate, with a minimum value

  of 1, which represents a loan amount of 0.

- D_t, Total debt of Storage Provider at time t.

- DR_t, debt-to-equity ratio at time t.

$$DR_t = \frac{D_t}{PV_t}, \ PV_t \text{ represents the total assets of the node at time } t$$

- DR_{max}, Maximum debt-to-asset ratio.

$$DR_{max} = \frac{L_{max} - 1}{L_{max}}$$

When $DR_t \geq DR_{max}$, storage providers' withdrawals will be restricted, and the generated earnings must first be used to repay the loan and interest. Withdrawals will only be permitted until $DR_t < DR_{max}$.

At any moment, the maximum loanable amount of a storage provider is:

$$BA_t = (PV_t - D_t)(L_{max} - 1)$$

In order to ensure that all loans obtained by storage providers are used for sector pledges, a safety buffer index SB is introduced. If the node of the storage provider has fixed assets PV_{fixed} (excluding the available balance), when the node obtains a loan amount of :

$$SB_t = MAX(\frac{D_t}{L_{max} - 1} + D_t , \ PV_{fixed} + m , \ SB_{t-1} + m)$$

When $PV_t \leq SB$,storage providers' withdrawals will be restricted, and the generated earnings must first be used to repay the loan and interest. Withdrawals will only be permitted until $PV_t > SB$.

When a loan is obtained, the storage provider is obliged to maintain the stability of the node, so the storage provider should bear the penalties and losses of the node. However, once a major accident occurs (such as the accidental loss of node storage) and the node debt ratio exceeds the liquidation threshold, liquidation will be investigated. Protocol introduction:

- DR_{LT}, Liquidation threshold of asset-liability ratio. Anytime :

$$DR_{LT} > DR_{nax}$$

The protocol wants to liquidate storage providers of $DR_t > DR_{LT}$ and the STFIL protocol allows anyone to become a liquidator. The existence of liquidators helps promote the stability of the STFIL protocol because they can ensure that liquidated borrowings are properly handled while reducing the protocol's risk exposure. Users can increase their participation by becoming liquidators.

The node's loss bearing is divided into two stages:

- Phase 1, all borne by the storage provider, covering a small amount of loss in the

  maintenance process of the node:

$$PV_{max\,loss} = PV_t - \frac{D_t}{DR_{LT}}$$

- Phase 2,At this time, the ratio of the total debt of the storage provider's nodes to the total assets of the nodes is greater than: DR_{LT}. The nodes under the lending pool that triggered the liquidation will be given the permission to modify the worker wallet offline. The DAO will use the worker address of the node under the lending pool to terminate the sectors of some/all nodes and repay the debt to ensure the safety of the pledged users' funds.。

The storage provider can only redeem the pledged nodes and regain full ownership of the nodes after all debts have been repaid.

Currently, the STFIL protocol is designed to accept loans of at least 10 FIL tokens, with no upper limit.

2.7 Debt Tokenization

In the STFIL protocol, variable-rate debt and stable-rate debt are designed to meet the different needs of storage providers.
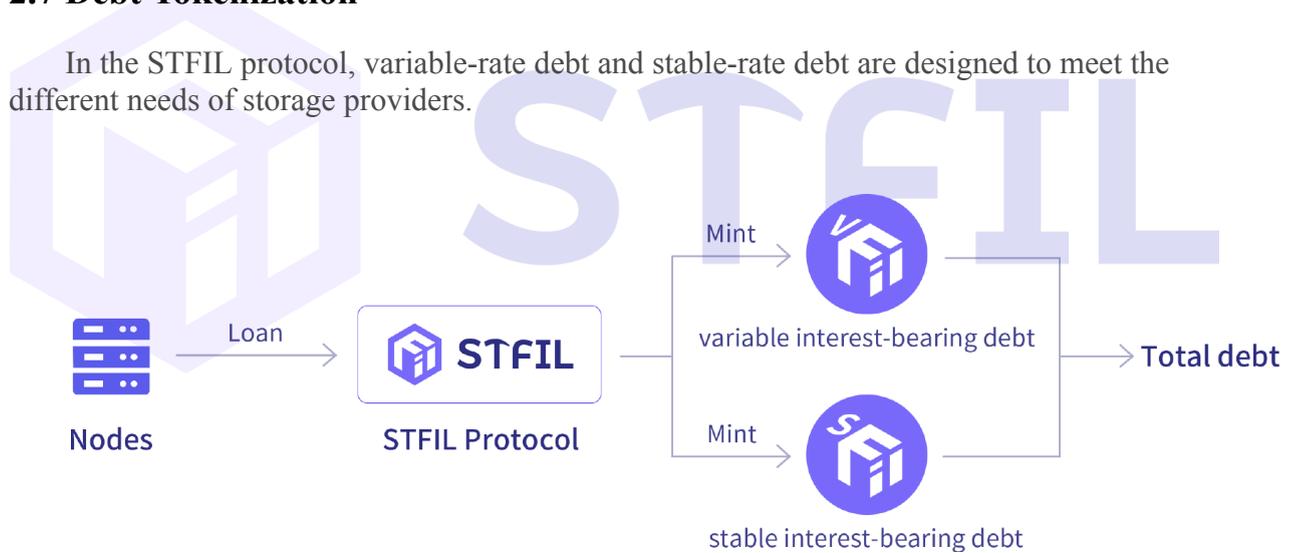
The storage provider's debt is represented in a tokenized manner, and the total debt of the storage provider at time t is defined as :

$$D_t = SD_t + VD_t,$$

SD is the total debt of the stable-rate debt and
,VD is the total debt of the variable-rate debt.

The total supply of debt tokens, including the accruing debt per second, is defined as follows:

$$dS_t = \sum_{i \in users} SF_t(i),\ SF_t(i) \text{ represents the amount of loan taken by each user } i.$$

The overall average interest rate $\overline{R}_t$ is calculated as the weighted average of the variable loan rate VD_t and the stable loan rate SD_t:

$$\overline{R}_t = \frac{VD_t \times VR_t + SD_t \times \overline{SR_t}}{D_t}, \ if \ D_t > 0$$

2.7.1 Variable-Interest-Rate Debt

The variable-rate model of STFIL can provide a more fair and transparent market pricing mechanism, enabling market participants to manage their funds more flexibly and gain greater profits from market fluctuations.

To implement this strategy, the following concepts have been introduced into the variable-rate debt of the STFIL protocol:

- VI_t , Interest-bearing index for cumulative variable-rate loan.

The interest accumulated on the variable-rate debt VR borrowed at rate VD within time ΔT is updated whenever there is a borrowing, depositing, repayment, redemption, swap, or liquidation event.

$$VI_t = \left(1 + \frac{VR_t}{T_{year}}\right)^{\Delta T} VI_{t-1}$$

- $VI(x)$, Interest-bearing index for a user's variable-rate loan.

The variable-rate loan index for a specific storage provider x, stored at the time of opening a variable loan position.

$$VI(x) = VI_t(x)$$

- VN_t , Standardized variable-rate (accruing) debt.

$$VN_t = \left(1 + \frac{VR_t}{T_{year}}\right)^{\Delta T} VI_{t-1}$$

$S_t(x)$ is the scaling factor for user x at time t , m is the transaction amount, and VN_t is the standardized variable-rate debt:
- Brorrow: When storage provider x borrows an amount m from the protocol , the scaling factor will be updated.

$$SF_t(x) = SF_{t-1}(x) + \frac{m}{VN_t}$$

- Repayment/Bad Debt: When storage provider x repays or defaults on an amount m , the scaling factor will be updated.

$$SF_t(x) = SF_{t-1}(x) - \frac{m}{VN_t}$$

At any given moment, the total variable-rate debt balance for storage provider can be expressed as:

$$VD(x) = S(x) \times VD_t$$

2.7.2 Stable-Interest-Rate Debt

STFIL also offers a stable-interest-rate model. The interest rate in this model remains fixed over a fixed borrowing period and is not affected by market supply and demand. The stable-interest-rate model is usually suitable for storage providers who want to obtain predictable returns over a specific period of time. For example, storage providers who want to pay fixed costs over a certain period of time.

It should be noted that since the stable-interest-rate does not change with market fluctuations during the fixed borrowing period, the fixed interest rate is always higher than the variable-interest-rate at any time. Additionally, the stable-interest-rate may cause market imbalance because it cannot be adjusted according to market supply and demand.

Overall, STFIL's stable-interest-rate model can provide more stable returns, but may limit market flexibility in some cases. Storage providers should choose the appropriate interest rate model according to their own needs.

For the stable-interest-rate model, the following concepts are introduced:

- $SB(x)$, The total amount of storage providers' stable rate loan.

The total amount of i stable rate loans for the same storage provider x:

$$SB(x) = \sum_i SB_i(x)$$

- $\overline{SR(x)}$, Weighted average of storage provider 's stable-interest-rate.

The total amount of i stable loans and rates for the same storage provider x is calculated as:

$$\overline{SR(x)} = \sum_i \frac{SR_i(x)SD_i(x)}{SD_i(x)}$$

At any time, the total stable interest rate debt balance for storage provider x can be written as:

$$SD(x) = SB(x) \times (1 + \frac{\overline{SR(x)}}{T_{year}})^{\Delta T}$$

Overall stable-interest-rate $\overline{SR}_t$:

- Brorrow: When initiating a stable loan with a loan amount of SB_{new} at an interest rate of SR_t:

$$\overline{SR}_t = \frac{SD_t \times \overline{SR_{t-1}} + SB_{new} SR_t}{SD_t + SB_{new}}$$

- Repayment/Bad Debt: When the storage provider x repays a stable loan with an amount of $SR_i(x)$ (with interest rate of $SB_i(x)$):

$$\overline{SR}_t = \frac{SD_t \times \overline{SR_{t-1}} + SB(x)SR(x)}{SD_t - SB_x} \ , \ if \ SD_t - SB(x) > 0$$

2.7.3 Interest Rate Strategy

In the STFIL ,the interest rate model can make STFIL users' stake/loan interest change with market supply and demand. When the demand for loans increases, the stake interest rate and loan interest will rise to encourage new users to participate in the stake; when the demand for loans decreases , the stake interest rate and loan interest will encourage Storage Providers actively borrowing for pledge.

The crucial indicator determining changes in interest rates is the utilization rate . When the utilization rate reaches a predetermined optimal utilization rate, the loan interest rates will begin to rise exponentially when borrowing again. High interest rates will attract more users to stake and storage providers to repay loans, which effectively avoiding liquidity problems that could lead to situations where users are unable to redeem FIL in a timely manner.

In the interest model of the protocol, we introduce the following concept:

- R_{max}^{APY} , Maximum Loan rate. It is also the rate when $U_t = 1$. At this time,the total block rewards storage providers obtain are used solely to pay off loan interest, which means storage providers never experience negative yields at any point. This value is determined by the current block rewards distributed by Filecoin and the overall network collateral:

$$R_{max}^{APR} = \frac{M_t \times N \times 2880 \times 365}{TotalPledgeCollateral}$$

M_t represent the block rewards at time t , N represents the average number of per block.

$$R_{max}^{AP} = T_{year}(\sqrt[T_{year}]{1 + R_{max}^{APR}} - 1)$$

- $U_{optimal}$,Optimum utilization of funds.Utilization targeted at asset reserves. When utilization exceeds that, the loan interest rate will go up dramatically.

- RR , exit the reserve ratio. When the liquidity is insufficient RR , there will be no more external loans.

- $U_{reserve}$, Exit reserve ratio. Indicates the capital utilization rate when $U_t = 1 - RR$.

- $R_{optimal}$,Optimum loan interest rate。 It is the interest rate when $U_t = U_{optimal}$.

- $R_{reserve}$,Indicates the fund utilization rate when $U_t = U_{reserve}$.

- R_{base} ,Base loan interest rate. Indicates the loan interest rate when $U_t = 0$.

- VR_t, variable loan interest rate at time t .

When $U_t < U_{optimal}$:

$$VR_t = R_{base} + \frac{R_{optimal} - R_{base}}{U_{optimal}} \times U_t$$

When $U_{optimal} \leq U_t \leq U_{reserve}$:

$$VR_t = R_{reserve} + \frac{R_{reserve} - R_{optimal}}{U_{reserve} - U_{optimal}} (x - U_{reserve})$$

When $U_{reserve} \leq U_t \leq 100\%$:

$$VR_t = R_{max} + \frac{R_{max} - R_{reserve}}{100\% - U_{reserve}} (x - 1)$$

When $U_t < U_{optimal}$, the changes of interest rate is determined by $U_{optimal}$、$R_{optimal}$、R_{base}. At this time, the slope of the interest rate is low and the growth rate is relatively slow. When $U_{optimal} \leq U_t$, At this time, the slope of the interest rate is very high, which will make the interest rate quickly approach R_{max}^{APY} .

- SR_t ,Stable loan interest rate.The one-time maximum loan amount is 20% of the current available liquidity. The stable rate is a Bezier curve with 4 control points. When the utilization rate is low, the stable interest rate is close to $R_{optimal}$ which can attract SP loans faster and reduce the interest rate depreciation of the utilization rate to the stakers.

$$SR_t = R_{optimal}(1 - U_t)^3 + 3R_{optimal}(1 - U_t)^2 U_t + 3R_{optimal}(1 - U_t)\ U_t^2 + R_{max}^{APR}\ U_t^3$$
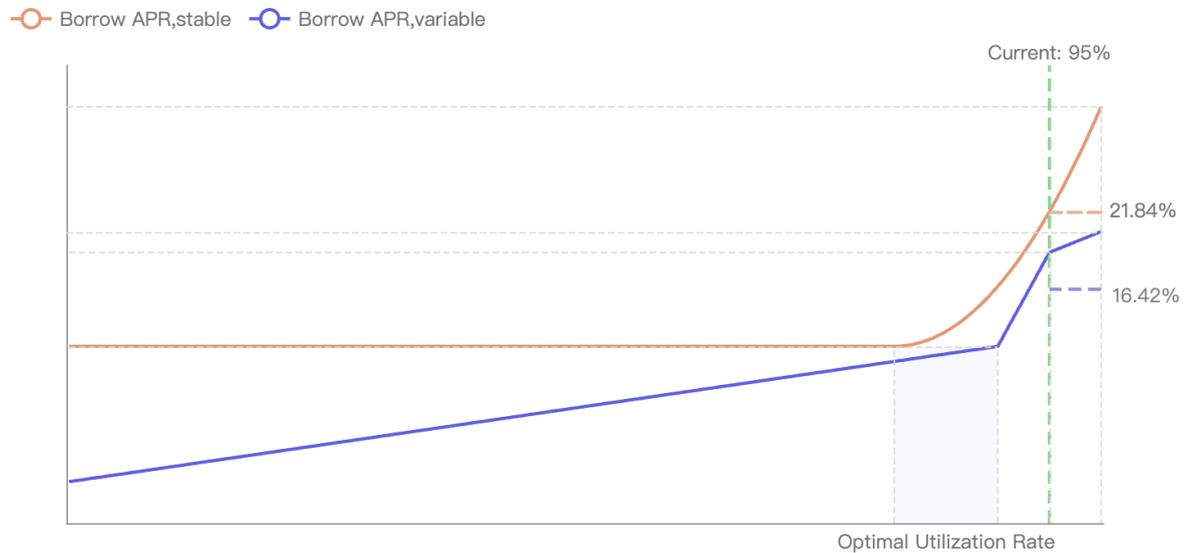
2.7.4 Risk reserve fund

A safety module (Safety Module) is set up in the STFIL protocol as a risk reserve fund to solve potential risk problems. For example, bad debts incurred by storage providers, rewards from bounty programs, "black swan" events, etc.

Risk reserves address: 0xff0000000000000000000000000000000000000063

Functions and guarantees of STFIL Risk Reserves:

- n Risk management function:
- Risk reserves can be used to deal with unpredictable events or borrower defaults. This helps to ensure the controllability of the overall risk of the liquidity staking pool and reduce the risks faced by investors.
- n Priority to bear asset losses:
- When stFIL holders in the STFIL pool face asset losses, the risk fund can give priority to bearing these losses, avoiding situations of runs.
- n Enhance investor confidence:
- By setting up Risk Reserves accounts, the STFIL protocol can provide investors with a safer and more reliable investment environment and enhance their confidence.

In general, risk reserve fund plays an important role in the STFIL protocol. It provides an important risk management tool that can help protect investors' funds, reduce the possibility of risk problems, and enhance investor confidence.

2.8 Trust-less

Smart contracts are responsible for holding and transferring funds (including all staking and withdrawals). No one user can take user funds directly from the pool. The smart contracts will be completely open source for the public eye to analyze and be fully audited by the best audit teams in the industry.

We will disclose all borrowing and lending activities of storage providers, as well as the maintenance status of storage provider nodes for everyone to monitor.

We will also disclose information such as the supply, circulation, and user holdings of stFIL for everyone to supervise.

3 Target

- To be a community-owned, decentralized, and trustless liquidity collateralization protocol for Filecoin network；
- Allows users to earn staking rewards without fully locking up FIL and accommodates small token holders；
- Provides FIL support for high-quality storage providers, thereby maintaining a more stable and robust Filecoin network；
- Offers stFIL tokens as building blocks for other applications and protocols(such as payment channels for paid storage or retrieval)；
- Provides new impetus for Filecoin DeFi ecosystem；
- Offers decentralized protocols for joint mining, semi-custodial mining, and full-asset mining；
- Reduces the risk of asset loss for each user due to software malfunctions or malicious software；

4 DeFi

With the release of FVM and the improvement of the ecosystem tools, more and more DeFi applications will be launched in the Filecoin ecosystem. DeFi will bring more financial usability to Filecoin, promote the development of a decentralized market for Filecoin, attract more investors, and create a new market fervor.

stFIL is a collateralized token backed by fixed assets, with rare relative stability compared to FIL. It can be used as a collateralized token throughout the entire DeFi ecosystem without any lock-up requirements. If an application is compatible with stFIL, it can not only be compatible with and promote each other's ecosystem fervor but also receive mining rewards from the non-liquid portion.

Holders of stFIL can send it to decentralized exchanges, and participate in trading pools, and receive transaction fees and DAO incentives.

5 Risk

5.1 Smart Contract Security

The security of the STFIL DAO has the highest priority in the STFIL Protocol. Users should investigate all the risks involved in the STFIL protocol before using the STFIL . It is undeniable that any project carries risks, including the potential for vulnerabilities or data security issues that could result in the complete failure of STFIL and its components.

5.2 DAO Private Key Management Risk

All STFIL DAO tokens are held in a distributed management account supported by multi-sign address. The threshold scheme is more secure than a single key controlled by a custodian. However, there is still a non-zero probability of failure. If at least (n-m+1) signers lose their key shares or are hacked, the funds may be locked. If m or more keys are compromised, the funds may be stolen (after transfer unlocking).

5.3 Bug Bounty Program

The security of the STFIL DAO system is paramount to the STFIL protocol. However, even with rigorous auditing, there is still a possibility of vulnerabilities given the constantly evolving ecosystem. That is why we have implemented a bounty program to identify errors and vulnerabilities in the protocol infrastructure and smart contracts. We will reward any organization or individual who helps us make the system as robust as possible.

5.3.1 Problem Severity Classification and Associated Rewards

To be eligible for a reward, submitted issues must meet the minimum severity criteria as described below. Approved submissions will be rewarded with stFIL tokens based on the severity category of the issue:

- **Low**

Up to $500 - issues that may cause user dissatisfaction or minor technical malfunctions.

- **Medium**

  Up to $2,500 - issues that may result in minor losses of less than 0.1% of the protocol's funds, disrupt the protocol's state, or cause significant user dissatisfaction or moderate technical malfunctions.

- **High**

  Up to $5,000 - issues that may result in immediate losses of 0.1% < X <10% of the protocol's funds or seriously disrupt the protocol's state.

- **Critical**

  Up to $10,000 - issues that may result in immediate losses of 10% or more of the protocol's funds or permanently damage the protocol's state.

5.3.2 Rule

The reward will vary depending on the severity of the issue. Additionally, you can increase the reward by providing high-quality information in the following areas: problem description, instructions for reproducing the issue, and a solution (optional).

- If you want to add more information about the reported issue, you can create a new submission that references the initial one.
- Repeated reports of known issues will not be eligible for rewards. The first submission will receive the reward, so please report the issue promptly.
- The specifics of the reward for each event will be determined by STFIL DAO. The terms and conditions of the bug bounty program are at the sole discretion of STFIL Finance.
- The terms and conditions of the bug bounty program may change over time.
- Any interference with the protocol or client/platform services while an issue is still active, whether accidental or not, will invalidate the submission and disqualify it from receiving a reward.
- Public disclosure of the bug will result in the disqualification of the submission. Please read and adhere to the responsible disclosure policy below, or your report may not be eligible for a reward.

5.3.3 Disclosure policy

If you discover a vulnerability, please make sure to follow all of the following steps:

- Write a detailed and accurate problem report as soon as possible, then send it to: security@stfil.io.
- Do not disclose any information about the issue to anyone outside the team.
- Do not exploit the issue for personal gain.
- Do not attack our system or protocol.

Once we receive your report, we promise to do the following:

- Respond to your report as quickly as possible.
- Keep your report strictly confidential.
- Provide you with the latest status of your submission and the solution to the reported problem.
- Unless you have other preferences, you will be named the successful bounty hunter of the issue.
- Provide you with rewards to thank you for helping us make STFIL as secure as possible!

6. Disclaimer

The information in this white paper may be adjusted accordingly as the project progresses. STFIL Dao will release updated content to the public by posting an announcement on the website or releasing a new version of the white paper. Participants should obtain the latest version of the white paper in a timely manner and adjust decisions based on the updated content. This white paper is only used as a document introducing the project, not as investment guidance. STFIL Dao is not responsible for the losses caused to users due to the content of this white paper. STFIL Dao clearly describes the risks that users may face. Once the user participates, he confirms that he understands and accepts the terms and conditions in this white paper, accepts the potential risks of the platform, and assumes the risks by himself.