TheStandard

White Paper

A proposal for the ultimate decentralized Lending Protocol backed by rare assets

V4.0 (**OCT 2024)**

Abstract:

The Standard Protocol constitutes a decentralized finance (DeFi) protocol with the objective of revolutionizing the borrowing landscape. It accomplishes this by providing zero-interest loans, trustless yield generation on collateral, and a stablecoin issuance mechanism that can be verifiably demonstrated to be overly backed by rare assets. This represents a substantial departure from traditional fractional reserve banking systems that lack tangible backing. The private keys remain in the possession of the users, eliminating the necessity for reliance on a third party to safeguard their collateral. The whitepaper presents the protocol's architecture, economic model, and governance structure, highlighting its key innovations and advantages over existing DeFi lending platforms. Furthermore, the protocol has undergone auditing, and its source code is both freely accessible and open source.

1. Introduction

Decentralized Finance (DeFi) has emerged as a powerful alternative to traditional financial systems, offering greater accessibility, transparency, and control to users. However, existing DeFi lending protocols often suffer from high interest rates, limited collateral options, and centralization risks. The Standard Protocol addresses these challenges by introducing a novel framework that combines zero-interest borrowing, yield-generating collateral, and a stablecoin mechanism. Currently TheStandard protocol is fully focused on Ethereum's strongest DeFi layer 2 blockchain, Arbitrum .

2. Protocol Overview

2.1 Smart Vaults

At the core of The Standard Protocol are Smart Vaults, which are non-custodial, on-chain wallets that enable users to deposit a variety of crypto assets as collateral and borrow USD-pegged stablecoins (USDs) against them at 0% interest. To ensure system stability, a minimum collateralization ratio of 110% is required, calculated as:

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Unset
Collateralization Ratio = (Total Value of Collateral / Total
Value of Borrowed USDs) * 100
```

The Standard Protocol incentivizes deep liquidity provision through yield generation on collateral, creating a balanced ecosystem for borrowers and liquidity providers.

2.2 USDs: The Standard's USD-Pegged Stablecoin

USDs is an over-collateralized stablecoin designed to maintain a soft peg to the US dollar. Its stability is ensured by the minimum collateralization requirement of the Smart Vaults, which guarantees that the total value of collateral backing USDs is always at least 110% of the outstanding USDs supply.

2.3 Liquidity Management

The Standard Protocol utilizes concentrated liquidity decentralized exchanges (DEXs), primarily Uniswap V3, to maximize capital efficiency and provide optimal liquidity for USDs. Two types of liquidity pools are available:

- **Correlated Stable Pools (e.g., USDs/USDC):** These pools offer consistent yield with minimal impermanent loss, suitable for risk-averse liquidity providers.
- **Volatile Asset Pools (e.g., ETH/USDs):** These pools offer higher potential yields but with increased impermanent loss risk, attracting users with a higher risk appetite.

Borrowers can strategically allocate their collateral between these pools to balance risk and reward, ensuring deep liquidity for USDs and incentivizing users to keep their vaults open.

2.4 Contract addresses and info

TST Contract on Arbitrum:

TST Coingecko Listing: https://www.coingecko.com/en/coins/standard-token
EUROs Coingecko Listing: https://www.coingecko.com/en/coins/the-standard-euro
TST CMC Listing: https://coinmarketcap.com/currencies/thestandard-io/
EUROs CMC Listing: https://coinmarketcap.com/currencies/thestandard-io-/

Mainnet ERC20 Contract Addresses:

TST on ETH: 0xa0b93b9e90ab887e53f9fb8728c009746e989b53
https://etherscan.io/address/0xa0b93b9e90ab887e53f9fb8728c009746e989b53

TST on Arbitrum: 0xf5A27E55C748bCDdBfeA5477CB9Ae924f0f7fd2e
https://arbiscan.io/token/0xf5A27E55C748bCDdBfeA5477CB9Ae924f0f7fd2e

TST on Polygon (POL): 0xe342ebb6a56cd3dbf0fe01a447fe367b9290ecf8
https://polygonscan.com/address/0xe342ebb6a56cd3dbf0fe01a447fe367b9290ecf8

EUROs on ETH: 0xb399511642FE1666c6a07f83483e6E4feAed9A00
https://etherscan.io/address/0xb399511642FE1666c6a07f83483e6E4feAed9A00

EUROs on Arbitrum: 0x643b34980e635719c15a2d4ce69571a258f940e9
https://arbiscan.io/address/0x643b34980e635719c15a2d4ce69571a258f940e9

USDs on ETH: 0xF6307025a79b4A8D1cF9436089894fE3951eeBF1
https://etherscan.io/address/0xF6307025a79b4A8D1cF9436089894fE3951eeBF1

USDs on Arbitrum: 0x2Ea0bE86990E8Dac0D09e4316Bb92086F304622d
https://arbiscan.io/address/0x2Ea0bE86990E8Dac0D09e4316Bb92086F304622d

3. Smart Vault Mechanics

3.1 Collateral Types

The Standard Protocol supports a diverse and expanding range of collateral assets, including ETH, WETH, WBTC, and other major cryptocurrencies. New assets can be added through community governance by TST token holders.

3.2 Borrowing Process

The borrowing process involves the following steps:

1. Connect your wallet to The Standard interface.
2. Deposit your chosen collateral into your Smart Vault.
3. Allocate your collateral between stable and volatile pools.
4. Borrow USDs against your collateral, maintaining the minimum collateralization ratio.

3.3 Yield Generation on Collateral

TheStandard's innovative approach to yield generation sets it apart in the DeFi landscape. Our smart contracts interface directly with Gamma strategies for trustless liquidity management, allowing users to earn real yield on their collateral through V3 concentrated liquidity pools.

Unlike many DeFi protocols that artificially inflate yields by distributing their own governance tokens, TheStandard focuses on generating real yield from actual market activity. This yield comes primarily from two sources:

1. **Trading Fees:** As a liquidity provider, you earn a share of the fees generated from trades executed in UNISWAP V3 concentrated liquidity pools where users collateral can be allocated if a user chooses to.
2. **MERKL Protocol Rewards:** Additional rewards may be available through the MERKL Protocol, where other protocols incentivize liquidity provision for specific trading pairs.
3. **Gamma Strategy Rewards:** Certain protocols offer incentives directly to Gamma strategies. TheStandard's smart contracts automatically collect these rewards on behalf of the user and reinvest them to maximize returns.
4. **Automatic Compounding:** All collected rewards are automatically reinvested. This means that the rewards are added back to the yield pool to generate even more yield.

This approach ensures that the yield generated is sustainable and based on real economic activity rather than token emissions.

When placing collateral into yield pools, users must allocate at least 10% of any particular asset into a correlated stable pool. The user interface provides a slider allowing allocation from 10% to 100% into the USDs/USDC pool. This feature serves two important purposes:

1. It helps build deep liquidity for USDs borrowers, supporting the overall stability of the protocol.
2. It provides users with a lower-risk option to mitigate impermanent loss while still offering consistent yield without significant capital gains or losses.

3.3.1 Volatile yield pools

In TheStandard's V4 pools, yield generation is streamlined through predetermined pairings. For example:

- If you deposit WBTC as collateral, it will generate yield in the WBTC/ETH pool.
- If you deposit ARB, it will be allocated to the ARB/ETH pool.

It's important to understand that while these pools offer yield opportunities, they come with a concept called 'impermanent loss'. Here's a simplified explanation:

Impermanent loss occurs in liquidity pools where assets can change in value relative to each other. Let's use an example:

1. You provide equal values of ARB and ETH to a pool (let's say $1000 worth of each).
2. As traders use the pool, your assets are automatically traded to maintain the pool's balance.
3. If the price of ETH increases while you have more ARB in the pool, you might miss out on some of the gains you would have had by simply holding ETH.

However, this risk is balanced by two factors:

1. Trading fees: You earn fees from all trades in the pool, which can offset potential losses.
2. Law of averages: Over time, price fluctuations tend to balance out, and the fees earned can outweigh temporary losses.

Remember, the term 'impermanent loss' is used because these losses only become permanent if you withdraw your assets when they're imbalanced. If you hold long-term, market movements often correct themselves.

By participating in these yield-generating pools, you're essentially acting as a market maker, earning fees while providing valuable liquidity to the DeFi ecosystem. To mitigate the risk of impermanent loss we offer the user to place some collateral into correlated stable pools, explained in the next section.

3.3.2 Correlated stable pools

TheStandard offers a safer way to earn yields through our correlated stable pools. The user has the option when adding any asset to a yield pool to assign a percentage of that collateral to a correlated stable pool.

Here's how they work:

1. Lower Risk: These pools pair stablecoins that are both pegged to the USD (like USDs and USDC). This significantly reduces the risk of impermanent loss compared to volatile asset pools.
2. Steady Yields: While the yields might be lower than volatile pools, they tend to be more consistent and predictable.
3. Smart Collateral Counting: To maintain the integrity of the protocol, there is a special rule for USDs in these yield pools:

    Example:

    - Let's say you deposit 100 USDs and 100 USDC into a correlated stable pool.
    - Total Value: 200 USD
    - Borrowing Limit: Only the 100 USDC is counted towards your borrowing capacity.

Why? This prevents USDs from essentially backing itself, ensuring the stability of the entire ecosystem.

4. Flexibility: You can always adjust your position or withdraw your assets if you need them.

By offering both volatile and correlated stable pools, TheStandard provides options suitable for various risk appetites. Users can optimize their yield strategy by adjusting their collateral allocation between these pool types.

It's important to understand that while TheStandard's yield generation mechanisms work diligently to earn returns, there are inherent risks in earning real yield through market making on DEXs. The nature of impermanent loss means that there's always a potential for capital loss, especially in volatile markets. However, the combination of trading fees, potential MERKL rewards, and the option to use correlated stable pools provides users with tools to manage this risk effectively.

This approach to yield generation reflects TheStandard's commitment to creating a robust, user-friendly DeFi borrowing platform that offers real, sustainable yields based on actual market activity. It's part of our broader mission to revolutionize decentralized finance by providing transparent, efficient, and genuinely valuable services to our users.

3.4 Risk Management

The Standard Protocol incorporates several risk management mechanisms, including:

- **Over-collateralization:** The minimum 110% collateralization requirement acts as a buffer against price fluctuations.
- **Diversification:** Users can mitigate risk by diversifying their collateral across multiple assets.
- **Active Management:** Users can actively manage their positions by adjusting their collateral allocation and trading locked collateral. For instance if you have LINK and want ARB, you can trade your LINK collateral to ARB even though it is backing a debt.

3.5 Smart Vault Dynamic NFT

Each Smart Vault is represented by a dynamic NFT, which enables:

- **Transferability:** Vaults can be transferred without repaying debts.
- **Composability:** The NFT can be used as collateral in other DeFi protocols.

3.6 Closing a Smart Vault

To close a vault, the user must repay the borrowed USDs and withdraw their collateral.

3.7 Vault Liquidations

Liquidations are an extremely important part of TheStandard protocol. Liquidations ensure that there is always more collateral value locked up in smart vaults than there are stablecoins in circulation. This is what gives the USDs value. If a smart vault falls below its collateralisation to debt ratio of 110% then we must remove the borrowed amount of stablecoins from circulation. This is done by offering people the ability to pay off the debt and pull all collateral out.

For instance the debt might be 100 USDs backed by $110 worth of collateral. Once flagged as liquidatable, a liquidator can pay off the 100USDs and pull out $110 worth of collateral. This ~10% profit is a great incentive for people looking to earn money liquidating smart vaults that have fallen into default (traditionally known as a margin call).

4. Tokenomics and Governance

4.1 TST (The Standard Token)

TST is the governance and utility token of The Standard ecosystem, with the following functions:

- **Governance
- **Governance:** TST holders can actively participate in the decision-making processes of the protocol, influencing its future direction and development.

  Revenues

  - **Fee Sharing:** By working to staking TST, users are rewarded a portion of the fees generated by the protocol. These fees are distributed to the staking pool. If you hold 5% of the staked TST then you will earn 5% off all fees collected.
    i. 1% of all collateral placed into yield bearing pools
    ii. 0.5% - 5% Debt minting fee
    iii. 1% of all collateral that is traded / swapped within the smart vault
    iv. Auto Redemption fee (to be finalized)
  - **Future Liquidation Rights:** TST holders will gain the ability to participate in vault liquidations, contributing to the system's stability while earning rewards. This gives users access to liquidated assets at ~ 10% under market value. This is because smart vaults are liquidated when they cross 110% collateral ratio.

4.2 USDs Mechanics

USDs Debt Minting:

1.

```
Unset
Users deposit collateral into a Smart Vault.
```

2.

```
Unset
USDs are minted against the deposited collateral. Users must not
cross the 110% over-collateralization ratio. (collateral to debt
ratio)

This means that for every 100 USDs borrowed, users need to
provide at least $110 worth of collateral.
```

3.

```
Unset
A variable minting fee (approximately 1%) is applied, with the
proceeds distributed to TST stakers. The fee is taken in USDs and
added to the users debt.
So in the 1% example if a user borrows 100 USDs, they will have a
debt of 101 USDs that needs to be paid back.
```

USDs Debt Burning:

1.

```
Unset
Users repay their USDs debt to the Smart Vault.
```

2.

```
Unset
The repaid USDs are subsequently removed from circulation
(burned).
```

5. Staking Mechanism

5.1 New Standard Staking Contract

The newly implemented staking contract offers several advantages, including reduced gas costs, improved scalability, enhanced security, and greater flexibility in reward distribution.

5.2 TST Staking Rewards

To stake TST a user must simply send TST into a staking contract. There are no lock up periods.

NOTE: Staking has become significantly easier with the release of the V4 smart Vaults.

Users no longer need to stake the stablecoin and are no longer buying the fees. Rather the user simply stakes TST and is rewarded a share of all revenues generated.

5.3 Staked TST and voting

There are currently no receipt tokens for Voting. This means if you are currently staking TST you will need to remove TST from the staking pools, Vote on any protocol changes and place the TST back in the staking pool.

It is planned to create stTST (staked TST) which will be given as a receipt token to stakers and will be used to vote on protocol changes. Receipt tokens are a way for you to stake your TST tokens and get another token that they can use to vote with while they are staking the original governance token.

6. Governance and DAO

6.1 The Standard DAO Structure

The Standard DAO (Decentralized Autonomous Organization) plays a pivotal role in governing the protocol. Its primary objective is to ensure that the protocol's development and evolution align with the best interests of the community. The DAO's responsibilities encompass a wide range of areas, including:

- Protocol upgrades and enhancements
- Treasury management and allocation of funds
- Risk assessment and mitigation strategies
- Formation of strategic partnerships and collaborations

6.2 Voting Mechanisms

The Standard DAO utilizes a token-weighted voting system, where the voting power of each participant is proportional to their holdings of TST tokens. Proposals typically require a quorum of votes to be considered and often need a simple majority to be approved. To enhance security and prevent impulsive decisions, a time-lock mechanism is implemented, which introduces a delay between the approval of a proposal and its execution.

6.3 Proposal System

TST holders have the right to submit proposals for consideration by the DAO. These proposals can cover a wide array of topics, including protocol upgrades, parameter adjustments, and the allocation of treasury funds. The community is encouraged to actively engage in discussions and debates surrounding the proposals, fostering a transparent and collaborative decision-making process.

6.4 Treasury Management

The treasury, which holds a portion of the protocol's generated fees and other assets, will gradually transition to full DAO control as the Total Value Locked (TVL) in the protocol surpasses $10 million. This milestone signifies a sufficient level of community participation and confidence in the DAO's ability to manage the treasury effectively. The funds held within the treasury will be utilized to support various initiatives that benefit the protocol and its ecosystem, such as:

- Funding protocol development and research efforts
- Marketing and promotional activities to increase awareness and adoption
- Providing grants and incentives to community contributors and developers
    a. Establishing strategic partnerships and collaborations to expand the protocol's reach and impact

7. Security and Risk Management

7.1 Smart Contract Audits

The Standard Protocol places a strong emphasis on security, and to that end, has undergone rigorous smart contract audits conducted by reputable third-party security firms, including Code Hawks and Cyfrin. These audits have helped to identify and rectify potential vulnerabilities, ensuring the robustness and reliability of the protocol's underlying codebase.

7.2 Risk Mitigation Strategies

To further enhance security and protect user funds, The Standard Protocol has implemented a multi-faceted risk mitigation strategy that encompasses:

- **Over-collateralization:** The requirement for users to maintain a minimum collateralization ratio of 110% acts as a buffer against potential price fluctuations, reducing the risk of liquidations.
- **Diversified collateral:** By supporting a diverse range of collateral assets, the protocol enables users to spread their risk and minimize exposure to any single asset's volatility.
- **Oracle redundancy:** The protocol relies on multiple independent oracles to provide price feeds, reducing the risk of manipulation or inaccuracies.
- **Rate limiting:** Transaction rate limits are implemented to prevent potential exploits and ensure the orderly functioning of the protocol.
- **Governance time-locks:** A time-lock mechanism is incorporated into the governance process, introducing a delay between the approval of proposals and their execution, providing an opportunity for careful review and preventing impulsive decisions.
- **Bug bounty program:** A bug bounty program incentivizes security researchers to identify and report potential vulnerabilities, contributing to the ongoing security of the protocol.

7.3 Emergency Procedures

In the unlikely event of a critical security incident or unforeseen market conditions, The Standard Protocol has established comprehensive emergency procedures. These procedures include:

- **Emergency shutdown:** The ability to temporarily halt protocol operations to prevent further losses and allow for a thorough investigation and resolution of the issue.
- **Tiered response system:** A clearly defined escalation process to ensure a swift and coordinated response to incidents of varying severity.
- **Rapid response team:** A dedicated team of experts who are on standby to address emergencies and implement corrective measures.

8. Roadmap and Future Developments

The Standard Protocol has a clear roadmap for future development, with a focus on expanding its capabilities, enhancing user experience, and fostering a thriving ecosystem.

Short-term Goals:

- Launch of V4 Smart Vaults with trustless collateral yield generation.
- Launch of a decentralized front-end to enhance accessibility and user control.
- Expansion of supported collateral types to provide greater flexibility and choice for users.
- Development of self-redeeming smart vaults to further strengthen peg stability and protect user funds.

Mid-term Goals:

- Introduction of cross-chain functionality to enable seamless interoperability with other blockchain networks.
- Introduction of additional stablecoins (e.g., AUDs, GBPs, INRs) to cater to a wider range of users and use cases.

Long-term Vision:

- To establish The Standard Protocol as the leading 0% interest borrowing protocol in the DeFi space.
- To expand into a multi-chain, multi-currency ecosystem, providing a comprehensive suite of financial services to users globally.
- To continue innovating and developing new financial products that empower individuals and drive the adoption of decentralized finance.
- To make interest bearing loans globally a thing of the past.

9. Conclusion

The Standard Protocol represents a significant advancement in the field of decentralized finance, offering a unique combination of zero-interest borrowing, yield-generating collateral, and flexible multi-collateral vaults. With its strong focus on security, community governance, and continuous innovation, The Standard Protocol is well-positioned to become a leading platform in the decentralized finance space. By providing users with access to cost-effective borrowing solutions, innovative yield generation opportunities, and a robust, community-driven governance model, The Standard Protocol aims to empower individuals and contribute to the broader adoption of decentralized financial services.

FAQs

Q: How does TheStandard offer 0% interest borrowing sustainably?

A: By incentivizing users to provide liquidity to DEXs, generating yield that offsets the need for interest charges.

Q: What happens if the value of my collateral drops?

A: If your collateralization ratio falls below 110%, a portion of your collateral may be liquidated. You can mitigate this risk by:

- Paying down debt.
- Adding more collateral.
- Trading collateral for a less volatile asset.
- Allocating collateral to stable pools.
- Selling the Smart Vault NFT.

Q: Can I use my borrowed USDs to provide liquidity and earn yield?

A: Yes, but you will have to go directly to Uniswap. The problem with that is that you will have to manually watch and manage your UNISWAP V3 position manually. This is very hard and gets old fast.The best thing you can do if you want to use USDs to earn a yield is to place your collateral into the yield pool. To do this you have to place at least 10% into the correlated stable pool. You can go up to 100% but the protocol does not enable you to borrow against USDs holdings if it’s in the yield pool. This is because we don’t want to back USDs with USDs.

Q: How is USDs different from other stablecoins?

A: USDs are fully decentralized, overcollateralized, and backed by yield-generating assets locked up by thousands of people around the world and still in their control.

Q: How can I participate in governance decisions?

A: By holding and staking TST.

Q: Is TheStandard audited?

A: Yes, by reputable third-party security firms Cyfrin, CodeHawks and Maslarov | Rezolv.

Q: What are the future plans for TheStandard?

A: To become the leading 0% interest borrowing protocol and expand to a multi-chain, multi-currency ecosystem.

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