

Tangify Whitepaper V1

Introduction

Tangify is a lending and borrowing protocol which makes it easier for users to borrow stablecoin on the physical assets they hold or other real world assets like commodities, Real Estate etc and use that as a collateral.

Problem Statement

Blockchain has proved that it's one of the most efficient tools for finance. The last couple of years a lot of projects have solved Defi and made it easier for the lenders and borrowers in the web3 space. However there seems to be a clear gap on the products built in Defi.

Most Defi users can lend and borrow crypto assets by providing crypto collaterals. Hardly few projects have tried the lending and borrowing protocol using physical assets as a collateral. One big reason for this is the regulatory environment surrounding crypto.

In the past year with Bitcoin and Ethereum (Exchange Traded Fund) being approved in the US and places like Hong Kong, many new businesses and projects that are using Real World Assets have emerged in the Blockchain industry.

Solution

We at Tangify seek to revolutionize the way individuals and businesses access credit markets by leveraging blockchain technology and smart contracts with the power of an open finance community. Our solution lies in the utilization of physical assets as collateral, thereby unlocking a vast array of untapped resources and enabling individuals to borrow against their Tangify possessions. By tokenizing these physical assets on the blockchain, we eliminate the need for intermediaries and streamline the lending process, making it more efficient, transparent, and accessible to a broader audience. Although not all scenarios you would need to tokenize but it would be great if the community comes to consensus about this after some discussions.

Our product gives borrowers and lenders easy loans / lending based on their physical collateral.

This protocol will have different users.

Senior Liquidity providers - These users have the highest skin in the game. They will get more profits on interest rate meanwhile if the defaults happen they will also be taking the most loss. These users will be the ones who will also have a major say at the decisions being made by the protocol regarding investments, defaults and changes to the process of investing and defaults. These groups of users will also see which is the best to lend to borrowers, they are

also the ones who will be responsible for the assets to verify before lending it to the borrowers.

Junior Liquidity providers - These users will provide in the pool for investments. They will not be taking a huge risk in case of defaults as senior Lp's, similarly for profits they will be the second after senior lp's.

Borrowers - These users will come to our platform and submit a proposal to the Senior Liquidity Providers. For their loans to be approved they will need to provide assets whether it's a property, stocks, commodities, or any other types of assets which once approved by the Senior liquidity providers they will be given a stablecoin loan which they can then use any registered exchanges to take it out on their bank account. When they pay the loan or installment they will need to buy the accepted stablecoin we accept from their registered exchange and pay to Tangify.

Key Features

Accept various asset types - we provide users with a wide range of choices as a collateral option. Real Estate, stocks and way beyond.

Decentralized- the protocol is trustless and works from smart contract which will make lending and borrowing much easier and smoother experience, and, our transactions are also executed automatically from the smart contract.

Transparent - The beauty of blockchain is everything is open finance. All data is available for everyone to see.

Technical Architecture

Initial Addresses

- Deployer (Main Central Authority)
- Token Issuer
- Token Agent
- Claim Issuer
- Claim Issuer Signing Key
- User A Wallet
- User A Action Key

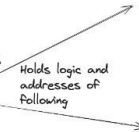
Proxies to Deploy

- Claim Topics Registry
- Trusted Issuers Registry
- Identity Registry Storage
- Identity Registry
- Modular Compliance
- Token Contract
- Identity Contract



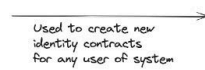
Deploy Authoritative Contracts

- Trex Implementation Factory
- Identity Factory



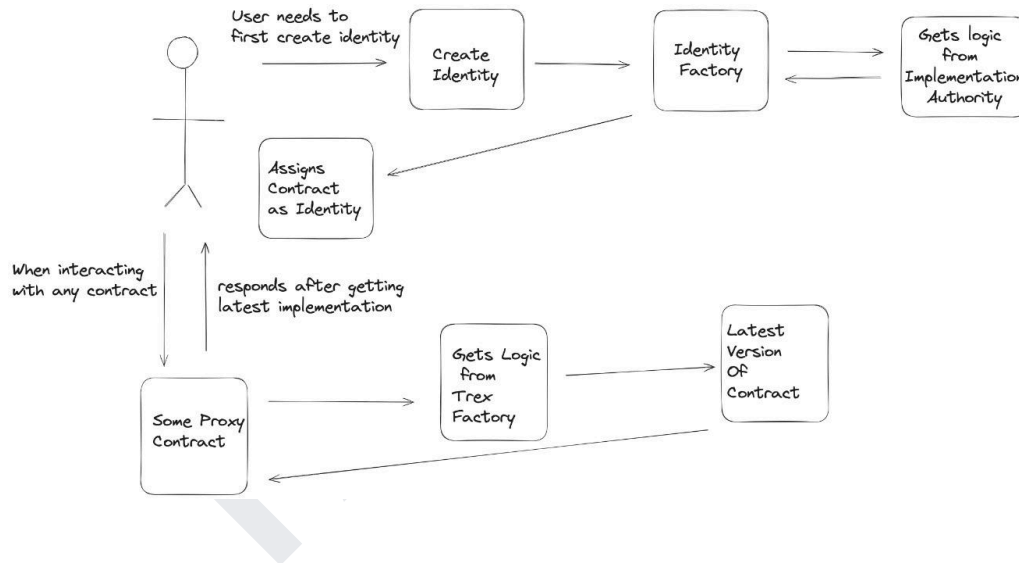
Token
Claim Topics
Identity Registry
Identity Registry Storage
Trusted Issuers
Modular Compliance

- Identity Factory



Identity

User Flow Technical



Process of Each Assets

Tangify will need to have registered companies in a few parts of the world where the jurisdiction allows to invest or take collateral worldwide. Tangify will also need a brokerage account to receive and sell collaterals from or to borrowers. In case there also another option which is using a trusted custodian with a multisig address would be the ideal solution.

Steps for Real Estate

Need steps to verify the authenticity if documents are appropriate

Need to check if all taxes are cleared

Need to check owner history

Check if any pending criminal case ongoing or not

Provide live api real time Real Estate valuation

Comply with the law according to jurisdiction

Steps for Business

Filed tax report

P and I statement

Business owners and partnership agreements

Consent of all partners

Collateral & Default Agreements

Steps for Commodities

Check jurisdiction if we comply

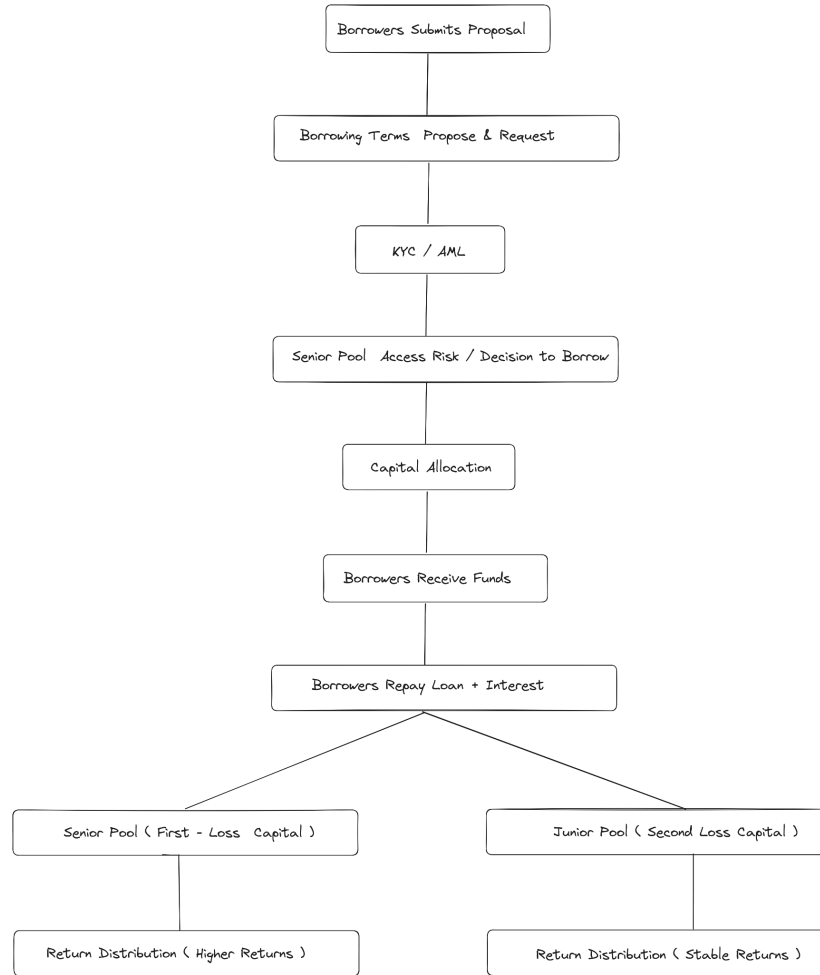
They need to be transferred to our brokerage account once approved by our Senior LP Community

Assets API for real time pricing

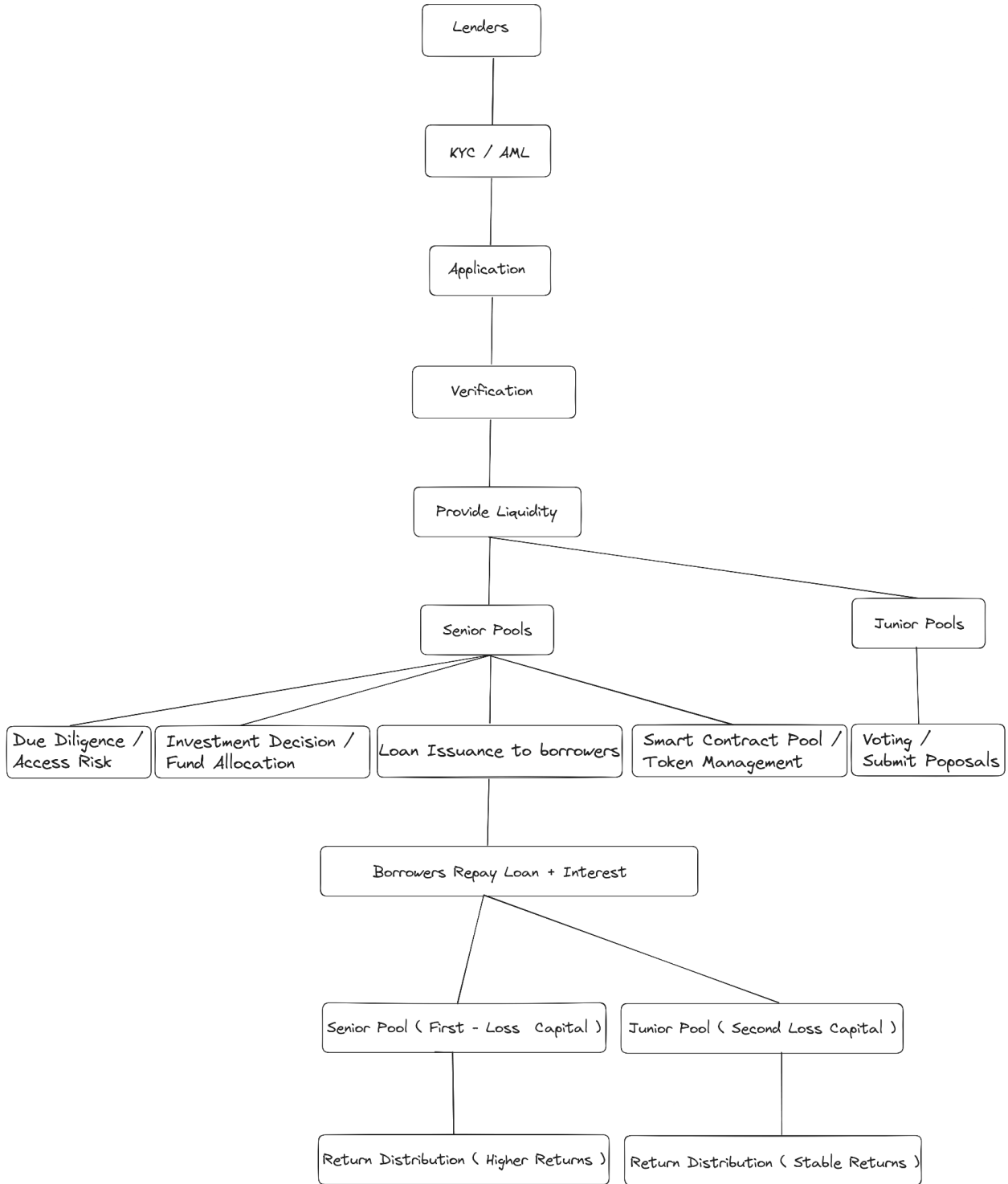
Workflow of Asset Borrowing



How it works from borrowers to interest payment to LP's



Workflow of Lenders

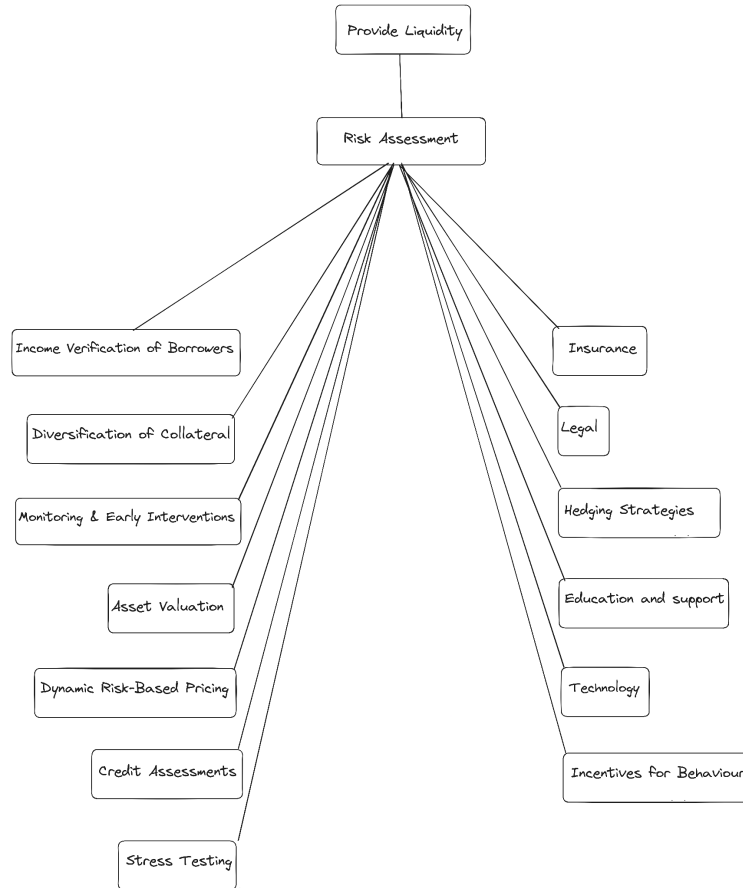


Rewards and Incentives

Senior LPs and Junior LP's are the ones who will be receiving interest rates on the loans provided by the protocol to the borrowers. The Interest rates of each loan will be determined by the community who governs TangifyFi.

Team - This protocol is expecting to have community members who have experience in Finance. If the protocol ignores this to save costs, the risk of defaults will be really high. Professionals like Risk management team, investment team , legal team and other team members are required for the protocol to grow. Growth is a factor that should be considered from the start of the protocol days. Since as we grow protocol requirements might grow. It's best that rather than running out of rewards to pay the team members who might join us after a few years later, we plan way ahead and save for the future so the protocol does not run dry and the business closes down. If the protocol is doing well 100 years later there needs to be incentive for the people working to make the protocol better at that time. Eventually once the protocol is making revenue, is it ideal for the community to store some profits for the growth or in extreme conditions so that the business does not have to close in any circumstances and can keep growing. All of these can be held in a multi sig contract where the community members will be the one to be in control rather than one single person.

Defaults



Credit Assessments - Senior LP's will need to make models which might give credit scoring depending on the financial indicators and the history of the borrowers. It would also be ideal to check social media, transaction history and other data sources to manage the risk well.

Asset Valuation - Protocol needs to have a proper mechanism to ensure that the market values are correct. Whether it's through Api or other process to determine the valuation. Although stocks and commodities might be easier to evaluate, Real Estate prices are a big challenge when assessing these. The assets through API will be real time valuations and the team will be actively monitoring the market fluctuations.

Dynamic Risk-Based Pricing - It would be ideal if the interest rates are based on the risk profit of the borrowers and if the risk of borrower is high then the interest received should also be high. We will also offer borrowers a flexible interest rate based on the constant assessment of risk.

Diversification - The protocol senior lp will consider having multiple assets as collateral rather than one single asset to minimize the risk.

Income Verification of Borrowers - Set debt to income ratios to ensure borrowers can afford

their loan repayments

Monitoring & Early Interventions. - The dev team will build a tool which the senior lps suggested to manage the risk well. Using automated in build tools to provide the health factor of the borrower. The Real Estate system should be able to detect and throw early warning to the protocol of potential default

Legal - Experienced financial team in seniors IP's need to ensure that the contract of loan should be clear and well defined in terms of defaults and recovery process. Senior Lp's need to have strong strategies to recover assets when default happens.

Insurance - Whether its crypto insurance protocols or real world insurance it would be safe for Tangify to save from defaults.

Hedging Strategies - Protocol needs to be in touch with latest market trends and use financial instruments to hedge against risk associated with interest rate changes in the market.

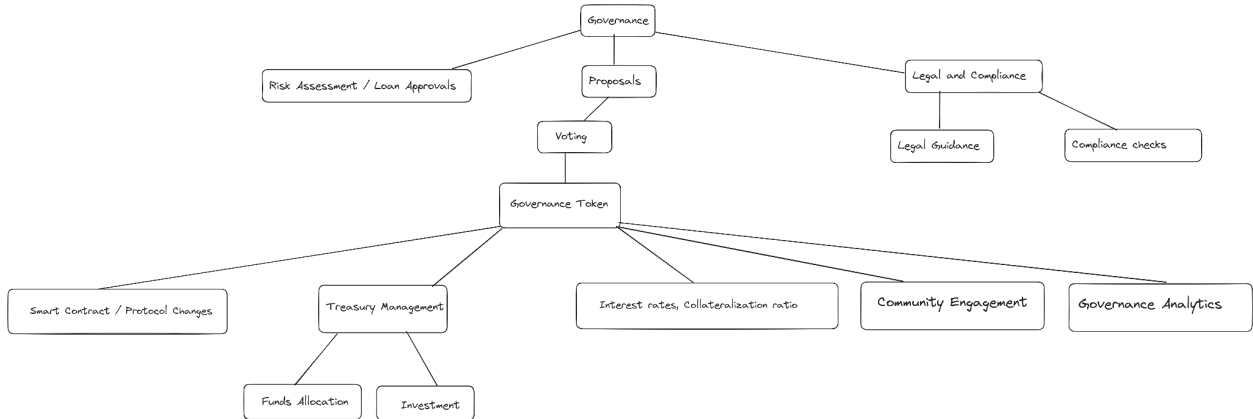
Education and Support - Our protocol will provide borrowers with financial knowledge to improve their understanding of the loan terms and financial management. Providing advisory services to help borrowers to manage their finances well can help the protocol save from defaults.

Technology - Protocol will use transparent methods as much as possible to make it a decentralized open community and make our protocol secure by using smart contracts. Through community discussion we should be able to achieve this better and better.

Incentivize for Behaviour – Borrowers paying on timely manners or late payments will have credit scoring which will maintain the credit score. Additionally if the installments are happening on time then Senior Lp's should decide whether to incentivise them with Interest rate discount.

Stress Testing - A dedicated community of members who come from financial market risk management background should constantly test and evaluate how different economic situations should impact the loan of borrowers. This team should develop action plans for various scenarios to be overly prepared so risk of defaults are less.

Governance



TIP - Tangify Improvement Proposals - Governance (Continued)

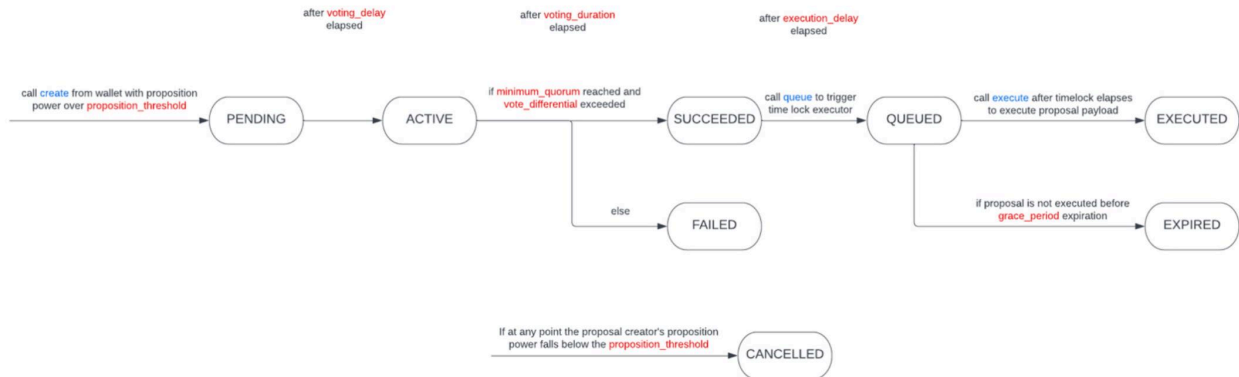
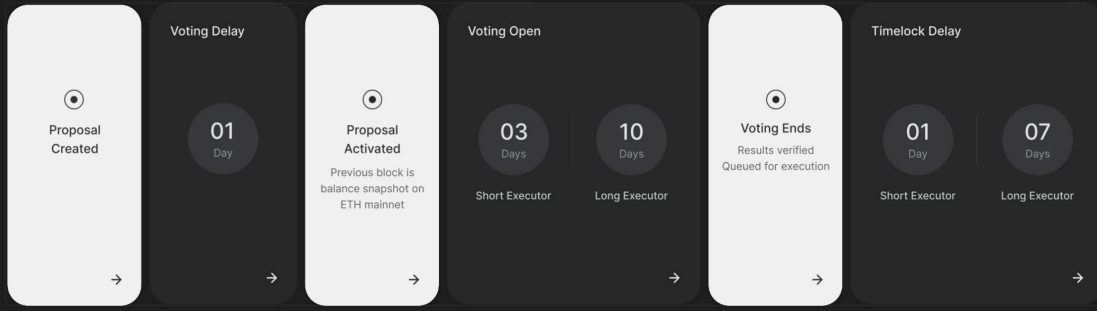
There will be a forum where any users can propose different ideas. This will just be a place for discussions. If there are any ideas that will help the protocol then the Senior Lp team needs to put it down as a TIP and vote. There needs to be a threshold for the least amount of vote required which the community together has to come to consensus for min threshold of Senior Lp voters. All discussions are open source and no conversations will be deleted..

Governance voting process can be up to 7 days and a minimum threshold for approvals to be passed. However, in a state of emergency there should be a process where all operations or smart contracts are paused due to unseeable events. E.g. hacks, or users trying to misutilized the platform find a loophole. In emergency situations, whether few devs or along with the community need to have the access to pause the operations and smart contract until the problem is solved.

Proposal Lifecycle



Voting & Execution Timeline



Source : Aave

Liquidity Mining Strategies

- Gradual Emission Schedule
- Staking and Lock-Up Mechanism
- Tiered Rewards System
- Revenue Sharing
- Community Governance
- Incentivize Liquidity on Key Pairs
- Buybacks and Burn Mechanisms
- Educational Incentives

Onchain ID management kyc

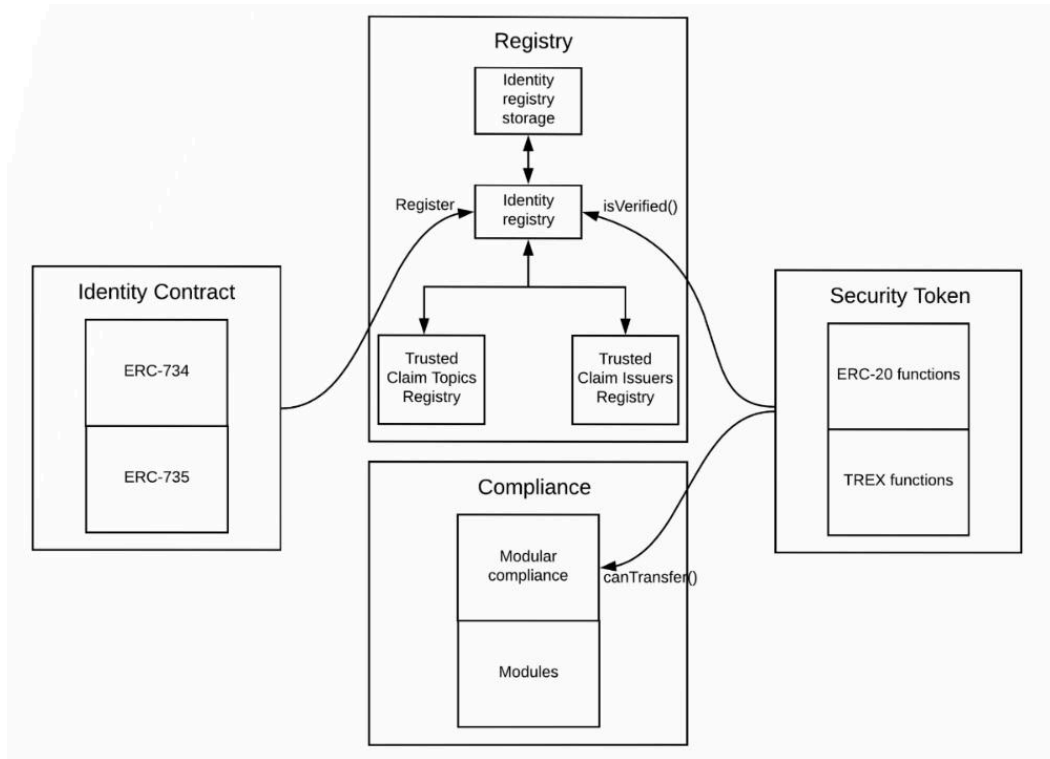
Third party identity management

Using ERC 734 and ERC 735. Use these standards to only permit well-identified and reputable entities, individuals or organizations.

Steps to identity verification

Identity holder requests through trusted third party

The person or entity requesting for ID to be approved signs a message containing users ONCHAINID address, claim topic, optional data (hashes to off chain data reference store by trusted claim issuer) & valid signature of claim information by a key listed on the claim issuer smart contract. This can help verify ONChain identity and provide the claims if its right.



In case investors lose their wallet, the ONChain Id has steps where the investor can verify their identity off-chain and recover the lost wallet. This is a third party service from Onchain ID.

Legal & Compliance

Using Compliant Token Standards like ERC-3643

This is where ERC-3643 shines, as it is designed to handle regulatory compliance, addressing legal considerations and jurisdictional challenges directly. ERC-3643 can assure users and regulators that the tokenized assets comply with legal requirements,

Security & Audits

ERC-3643 incorporates security measures that ensure the compliant issuance and transfer of tokens, which would be critical for the platform's overall security framework. Using ERC-3643 can reinforce the project's commitment to compliant, secure, and innovative DeFi solution. Kaspersky and Hacken have **audited the contract** and stated it **is safe**.

Only Use Trusted Audited Platforms like Decentralized Exchanges like Uniswap, Sushiswap for Liquidity.

Only Usage from Standardized & Audited token standard by trusted Groups like openzeppelin etc.e.g. Vesting, Lock tokens, Erc 20.

