The Campfire Protocol

Whitepaper

https://Campf.io/

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April, 2021

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Introduction

Campfire Protocol is designed to enable a complete algorithmic money market protocol on Binance Smart Chain. The protocol designs are architected and forked based on Venus and Cream finance and synced into the Campfire platform giving the benefits of both systems into one.

Campfire enables anyone to leverage their Binance smart chain(BSC) assets to generate Camp on the Campfire Platform. Once generated, Camp can be used in the same manner as any other cryptocurrency: it can be freely sent to others, used as payments for goods and services, or held as long term savings. Importantly, the generation of Camp also creates the components needed for a robust decentralized margin trading platform.

In this paper, we introduce a decentralized system for the frictionless borrowing of Binance smart chain(BSC) tokens without the flaws of existing approaches, enabling proper money markets to function, and creating a safe positive-yield approach to storing assets.

Campfire

A limitless aggregator protocol for suppliers and insurers in the crypto-space.

Key Features:

- Borrow cryptocurrencies and stablecoins with no credit check and fast origination directly on Binance Smart Chain.

- Supply cryptocurrencies and stablecoins and earn a variable APY for providing liquidity the protocol that is secured by over-collateralized assets.

- Mint stablecoins from your supplied collateral that can be used at over 60 million locations worldwide through the Campfire platform and more.

- Controlled by the Campfire Token, a governance token designed for the community.

Use Cases

As a user, you can participate in the campfire protocol in three different ways:

💷 **Creditor**: Campfire allows you to earn income on your base assets by depositing them into our vaults. These assets will then be offered to yield pledgers for leveraging up their positions.

🌾 **Yield pledgers:** As a pledger, you can earn a higher yield by opening a leveraged position on Campfire protocol. Of course, this comes with bigger risks: liquidation, impermanent loss, etc.

🕵 **Scouts**: Monitoring the pool for underwater positions and liquidating them when they become too risky. (Bots only)

At launch, we will support two base assets — BNB and BUSD — and integrate our leveraged farming with PancakeSwap.

In this example below, we show how each participant works together in our ecosystem:

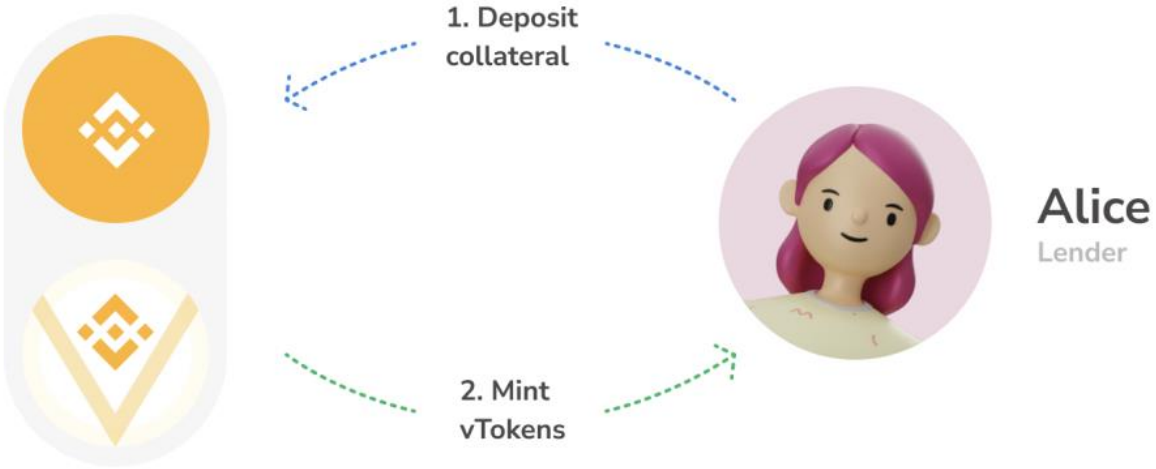
- **Alice the creditor** deposits her BNB into our deposit vault; her asset becomes available for a yield farmer to borrow; she earns interest for providing this liquidity
- **Bob the yield pledger** wants to open a leveraged yield farming position on the BTC/BNB pair; he borrows BNB from the vault and enjoys higher yield farming rewards. Campfire Finance's smart contract takes care of all the mechanics behind the scenes — optimally switching assets to the right ratio, providing liquidity to the pool, and staking LP for Pancake Rewards
- **Erin the liquidator bot** monitors the health of each leveraged position, and when it goes beyond designated parameters, she helps liquidate the position, making sure lenders such as Alice do not lose their capital. For this service, she takes a 5% reward from the liquidated position. At campfire, we also have an in-house bot for this which uses 100% of this fee for a buyback and burn of the CAMP token. So even if you're unfortunate and have your position liquidated, if you're a CAMPFIRE holder, you can feel relieved knowing your token is going up in value as a result.
- **Carlos the bounty hunter bot** monitors the amount of rewards accrued in each pool and helps reinvest it back, compounding returns for all farmers. For this service, he takes 3% of the reward pool, which goes to the dev fund to pay for operations. (In-house bot only)

SUPPLYING ASSESTS

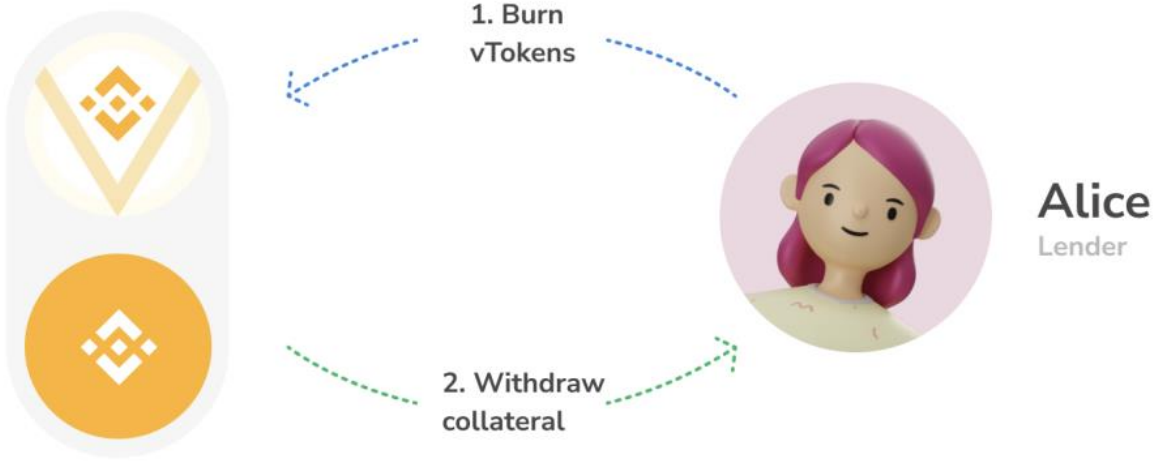
Venus Protocol users may supply various supported cryptocurrencies or digital assets onto the platform, which can be used as collateral for loans, supply liquidity and earn an APY, or to mint synthetic stablecoins.

Unlike an exchange or peer-to-peer platform, where a user's assets are matched and lent to another user, the Campfire protocol aggregates the supply of each user; when a user supplies an asset, it becomes a fungible resource. This approach offers significantly more liquidity than direct lending; unless every asset in a market is borrowed (see below: the protocol incentivizes liquidity), users can withdraw their assets at any time, without waiting for a specific loan to mature.

Assets supplied to a market are represented by a BEP20 Token balance (vToken), which entitles the owner to an increasing quantity of the underlying asset. As the money market accrues interest, which is a function of borrowing demand, vTokens become convertible into an increasing amount of the underlying asset. In this way, earning interest is as simple as holding a BEP20 vToken.



Example: Depositing Collateral



Example: Withdrawing Collateral

BORROWING ASSESTS

Campfire allows users to borrow from the protocol, using vTokens as collateral, for use anywhere in the Binanace ecosystem. Unlike peer-to-peer protocols, borrowing from Campfire simply requires a user to specify a desired asset; there are no terms to negotiate, maturity dates, or funding periods; borrowing is instant and predictable.

Similar to supplying an asset, each money market has a floating interest rate, set by market forces, which determines the borrowing cost for each asset.

The sum of the value of an accounts underlying token balances, multiplied by the collateral factors, equals a user's borrowing capacity . Users are able to borrow up to, but not exceeding, their borrowing capacity, and an account can take no action (e.g. borrow, transfer vToken collateral, or redeem vToken collateral) that would raise the total value of borrowed assets above their borrowing capacity; this protects the protocol from default risk.

Users will have a compound interest rate that will be applied per block on these assets and have no monthly payment obligations. To return the collateral, the user must pay off their origination balance and compounded interest back to the protocol. Market interest rates are determined by the specific yield curve that is designated in the contract. Depending on the market utilization, it will determine what the interest rate will be for that specified market.

USE CASE

For example, if Ethereum has a collateral value of 75%, that means you can borrow up to 75% of the value of your ETH. If the user has $100,000 in ETH credited to the Campfire protocol, that means they can borrow up to 75% of the value. However, if a user's collateral value drops below 75%, or whichever collateral ratio percentage that a certain asset has, it could cause a Liquidation event, which will be discussed later.

Example: Borrowing on supplied collateral

For each Asset deposited, up to 75% can be borrowed.

CAMPFIRE TOKEN(CAMP)

The Campfire Protocol is governed by the Campfire Token (CAMP), which is designed to be a cryptocurrency for the people. There will be founder, team, and developer allocations which takes about 2%(200,000), and CAMP can be earned through the Astronaut LaunchPool project or through providing liquidity to the pancakeswap protocol. There will be an initial 10% of the total supply of 10,000,000 (1,000,000 CAMP) allocated to the Pancakeswap and astronaut LaunchPool project where users can mine (farm) these tokens. A further 20% (2,000,000 CAMP) will go into the ecosystem such as Airdrops, rewarding long term holders and marketing. The remainder of the supply will be exclusively available for the protocol, which will result in 6,800,000 CAMP mined over a period of approximately 1 year, which begins after the Astronaut LaunchPool event at a rate 1.5 CAMP per block (43,200 per day). Initial Emission Upto 500K Total Supply for 11.5 Days. Emission After 500K Total Supply, emission 0.64 CAMP per block (18,493 per day)

Distributed to	% Of Emission Per Block
Farming Pools	75%
Staking Pools	25%

The distribution of CAMP is based on liquidity mining, where 35% of the daily rewards get distributed to borrowers, 35% to suppliers, and 30% for burning.

vTokens

The protocol-created pegged assets when collateral is supplied are called vTokens. vTokens represent the unit of the collateral supplied and can be used as a redemption tool. vTokens are created and implemented by Governance processes and voted by CAMP Token holders.

Protocol Architecture

The protocol has been designed as a fork codebase of Venus and Cream finance and modified to enable both features into one.

Collateral Value

When a user supplies, borrows, or mints from the Campfire protocol, they are using an underlying asset to the first bond to vTokens. These underlying assets held as collateral in the platform have dollar values that are tied to the

vTokens as well. For this system to work properly, collateral values are pulled from market rates. To pull these market rates efficiently, we will be utilizing Band Oracles to grab market prices and update the protocol on-chain.

Value Oracles

Collateral Values are propagated from price feed Oracles, such as Chainlink, which pull market price data and send these values on-chain, so they are transparent and verifiable. Due to the fast speed and architecture of the Binance Smart Chain, these price feeds are easily ascertainable with low cost and high efficiency directly on-chain. Currently, there is a hurdle of bottleneck issues from oracles, such as Chainlink, which are provided on Ethereum. With rising gas costs and congestion, these pricing oracles are not updating prices as efficiently or economically.

Liquidations

If a user's borrowing balance exceeds their total collateral value (borrowing capacity) due to the value of collateral falling, or borrowed assets increasing in value, the public function liquidate(address target, address collateralAsset, address borrowAsset, uint closeAmount) can be called, which exchanges the invoking user's asset for the borrower's collateral, at a slightly better than market price. The remaining collateral, if any, is then returned to the user. A liquidator can stand to benefit from liquidating a collateralized position.

Camp controller contracts

The Campfire protocol does not support specific tokens by default; instead, markets must be whitelisted. This is accomplished with an admin function, that allows users to begin interacting with the asset. In order to borrow an asset, there must be a valid price from the Price Oracle; in order to use an

asset as collateral, there must be a valid price and a collateralFactor. Each function call is validated through a policy layer, referred to as the Camptroller ; this contract validates collateral and liquidity, before allowing a user action to proceed.

Governance

Campfire will begin with centralized control of the protocol (such as choosing the interest rate model per asset), and over time, will transition to complete community and stakeholder control. The following rights in the protocol are controlled by the admin:

- The ability to list a new vToken market
- The ability to update the interest rate model per market
- The ability to update the oracle address
- The ability to withdraw the reserve of a vToken
- The ability to choose a new admin, such as a DAO controlled by the community; because this DAO can itself choose a new admin, the administration has the ability to evolve over time, based on the decisions of the stakeholders.

SUMMARY

Campfire is A limitless aggregator protocol for suppliers and insurers in the crypto-space.

Features:

- Borrow cryptocurrencies and stablecoins with no credit check and fast origination directly on Binance Smart Chain.

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