mayas

Whitepaper

v1.1.

Content

Abstract

Private participation in Bitcoin mining is limited by the high costs of running a mine and miners currently have few options to exit mining. Until now there has been no market where speculators can effectively invest in or trade an elastic asset like tokenized hashrate, and a static tokenized hashrate ends up diluted by the increase in global hashpower. Markets lack a hedge and a secondary market where miners can sell their hashrate for immediate cash. Mayas solves these problems by bringing exchangegrade liquidity to Bitcoin mining by means of dynamic tokenized hashrate. The system tokens, MAYAS and MLP, are collateralized by mining power and liquidity. Staked tokens receive Bitcoin rewards according to the mining power staked and also farm MAYAS tokens on each vesting interruption. Speculators can determine the market price of MAYAS & MLP by the discounted cashflow model of the underlying mining power. Mayas Liquid Mining Staking creates an effective market for Bitcoin mining by opening the industry to speculators in the same way financial companies, like Grayscale, brings institutional liquidity to Bitcoin.

Introduction

The increased interest shown in Bitcoin by institutional investors has affected mining, the core source of Bitcoin. Mining has become almost a venture-capital investment with high costs and limited liquidity, in which private investors and most miners must choose between holding onto hardware for long periods of time or relying on brokers for infrequent sales. This limited liquidity indicates that miners do not have a hedge position or dividend from the fluctuation in the price of mining hardware, which discourages newcomers from making serious investment in Bitcoin mining. Most miners prefer to rent their hashrate for certain periods rather than be left without their mining equipment and traders have an interest in gaining Bitcoin mining exposure, which can be viewed as a Bitcoin long option but is discouraged by the high costs caused by the lack of liquidity.

Introduction

Mayas solves this problem through Liquid Mining Staking, in which speculators can invest into mining operations in exchange for mining power. Investors receive tokens collateralized with hashrate and are able to claim their corresponding BTC mining rewards when staked. This mean Mayas brings exchange-grade liquidity when traded on exchanges and provides speculators with exposure to affordable Bitcoin mining.

Mayas Framework

For understanding purposes we will use 3 different approaches to explain the solution that Mayas provides.

Mayas as Protocol →

Mayas as Marketplace →

Mayas as De-Fi →

Mayas as Protocol

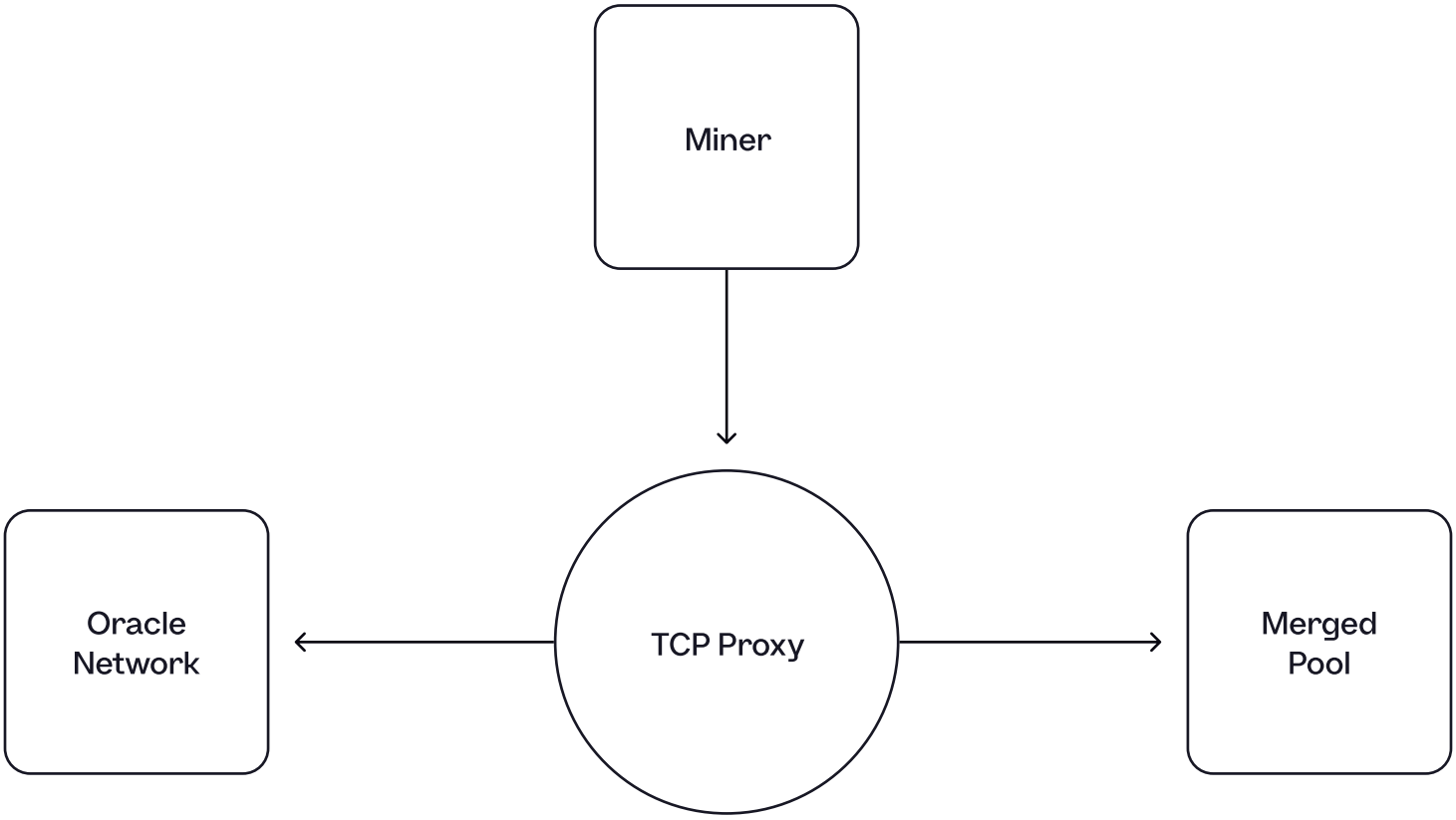
Mayas is the first protocol that tokenizes hashrate in a complete decentralized manner, which can be verifiable on-chain. This means Mayas brings transparency to the source of hashrate in order to be traded in the market. Instead of using an inflationary approach to the tokenization of hashrate, we use a deflationary one, where we do not issue new tokens but instead increase the underlying hashrate that collateralizes them.

Providing Hashrate

In order for hashrate to get tokenized it must be collateralized with liquidity equivalent to the hashrate provided. This hashrate is placed in a pre-tokenization queue pool until an efficiency target is reached, after that the hashrate is moved to the merged pool where it is tokenized.

Mayas as Protocol

At this stage miners act as nodes, which must report the hashrate sent to the oracle network for validation purposes.



The merged pool acts as final point of reference for the validation of the oracle network.

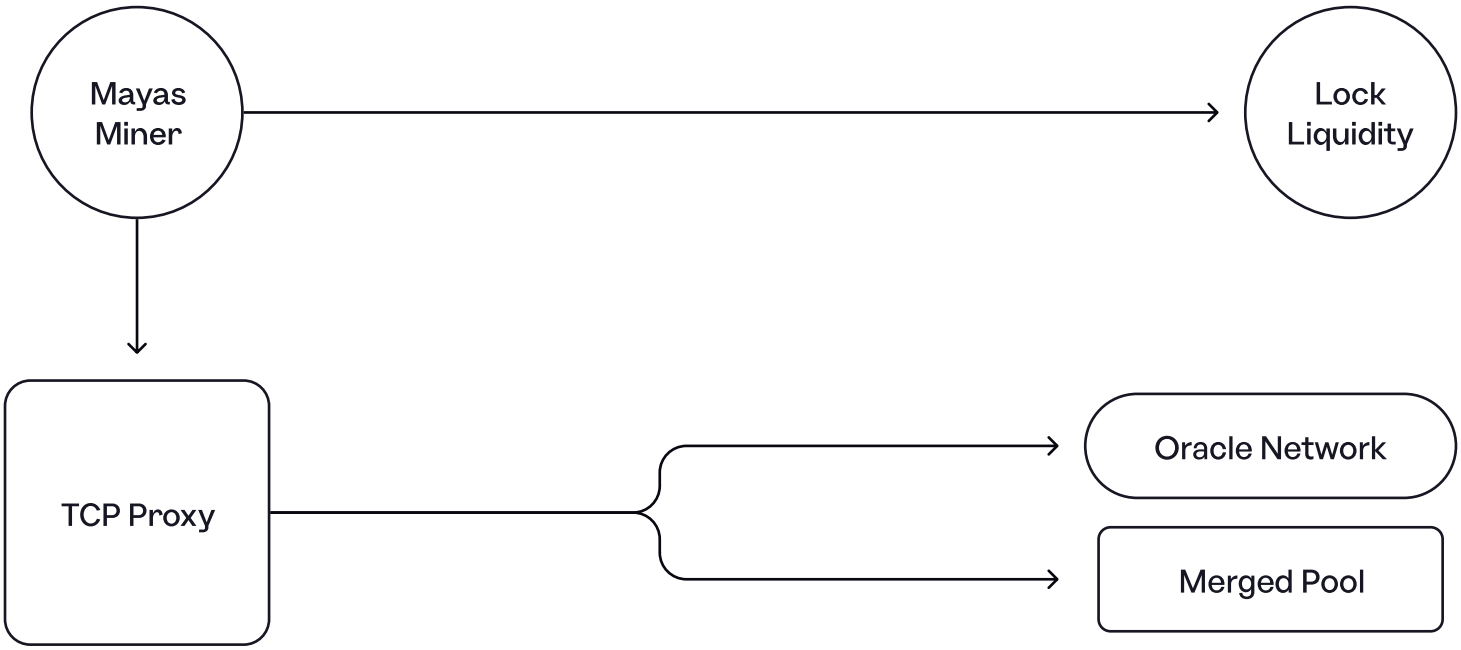
Mayas as Protocol

Validating Hashrate

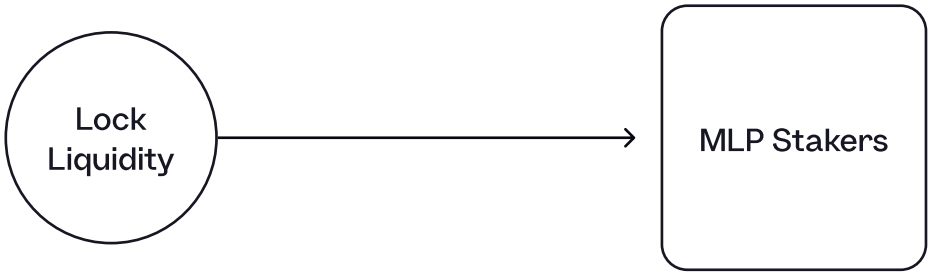
The task of validation in the oracle network is delegated to miners who must lock liquidity, collateralizing at least 75% of the hashrate provided. The major problem with hashrate tokenization is to probe its source and have accurate accounting of it. Mayas miners are entrusted with the task of monitoring the hashrate reported by external miners. In exchange they receive a fee based on the penalty for each misreporting found.

Since Mayas miners have liquidity staked, it is used as bounty for encouraging good behavior. We use on-chain calls from the merged pool to have accurate accounting between the validation of hashrate and the hashrate reported by nodes.

Mayas as Protocol



Successful if Oracle Network equals to Merged Pool



If not successful then locked liquidity is distributed among MLP stakers

Mayas as Protocol

The merged pool acts as the final point of reference for validation by the oracle network, if data provided by the oracle network does not equal the final hashrate read at the merged pool, the validator loses liquidity equivalent to the penalty.

Data derived from hashrate validation:

- Electricity consumption (based on the efficiency target);
- Miner estimated uptime;
- Miner estimated hashrate;
- Miner total hashrate provided;
- Miner total uptime;
- Total hashrate provided;
- Estimated uptime;
- MLP hashrate;
- MAYAS hashrate

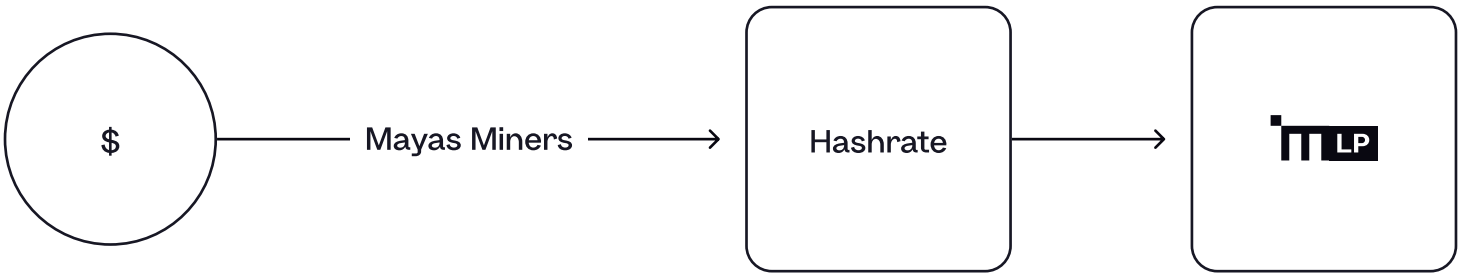
Mayas as Protocol

Tokenizing Hashrate / Genesis

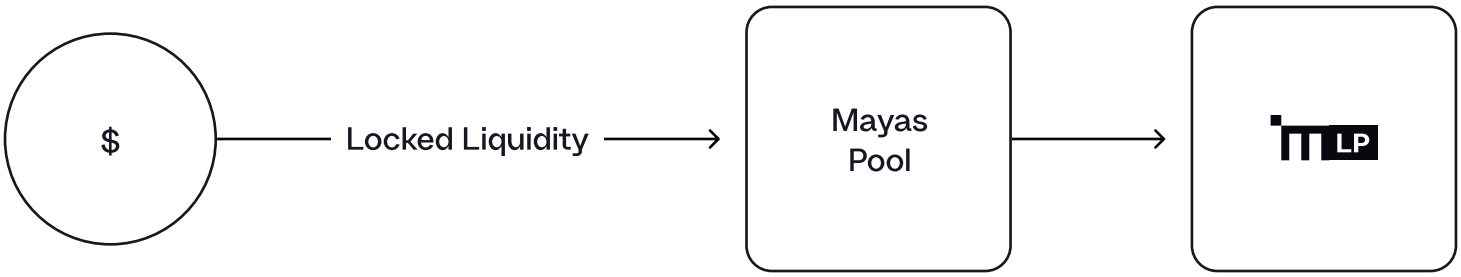
Genesis hashrate is created after the conclusion of the Seed Incubation Period (SIP), a fundraising event where investors are able to deposit liquidity in exchange for MLP tokens, which are closed shares of the ecosystem.

MLP tokens represent both mining power and liquidity and give the owners the right to claim 80% of the mining rewards forever and also earn a passive income by selling the MAYAS tokens.

Mayas as Protocol



40% is used to buy hashrate at a price previously agreed with miners. This mining hash power is given to the investors who stake their MLP,



40% is used to deploy the MAYAS-BTC pool, and lock the LP shares under the MLP token.

20% is used to pay project and team expenses.

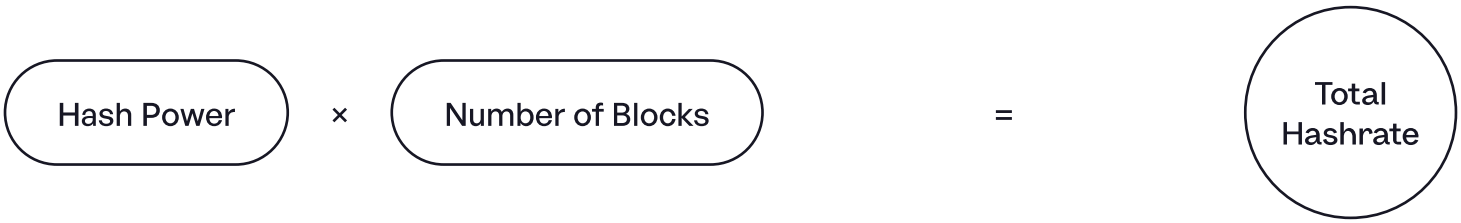
Mayas as Protocol

Initial Hashrate

First miners place the agreed hashrate into a merged mining pool in order to get tokenized by the validators.

Mayas as Protocol

Hashrate contracts are based on the mining power validated and the vesting time in block numbers.



Miners unlock their LP tokens linearly according to the total hashrate provided.

Mayas as Protocol

Increasing Hashrate

Further hashrate can be added by two different methods; either providing hashrate and liquidity on a 1 : 1 ratio, or just by providing liquidity to the MAYAS-BTC pool and locking it.

Method A

Method B

Mayas as Protocol

Method A

Miners can enter the system by allocating mining power to the pretokenization pool and get it validated by the oracle network.

Once hashrate is validated, miners need to provide sufficient liquidity to collateralize it. When hashrate is fully covered, the new MLP tokens are issued.

Mayas as Protocol

Method B

Investors are able to enter the system by providing enough liquidity (at least 0.05 BTC worth, threshold dependant on governance) to the system. Half of liquidity provided is used to place buy orders for hashrate, the other half is used to collateralize it.

If there is not sufficient hashrate available in the market, uncollateralized LP tokens are placed in the treasury while waiting for a seller.

Mayas as Protocol

Decreasing Hashrate

Miners who enter the system using method A have the right to claim the liquidity that is collateralizating their hashrate after fulfilling the total hashrate requirement for the block period of one year, if they have not sold it at the marketplace. At this redemption, the MLP token is burned and the hashrate is removed from the system.

Mayas as Protocol

Compounding Hashrate

Each mining period, 50% of mining rewards are compounded into the system by reinvesting in mining power through method B, and the MLP shares created are distributed between the MLP stakers of that period.

Compounding is activated only after the accumulated rewards exceeds $100,000 in value. We collect those compounded funds in treasury until it reaches a certain threshold, then place a hashrate buy order in the market in order to attract more miners to the pool.

Mayas as Marketplace

Renting Hashrate

Miners that add hashrate to the protocol increase the value of both tokens by:

- Increasing buy pressure on the MAYAS token and provide locked liquidity;
- Increasing the discounted cash flow of both tokens.

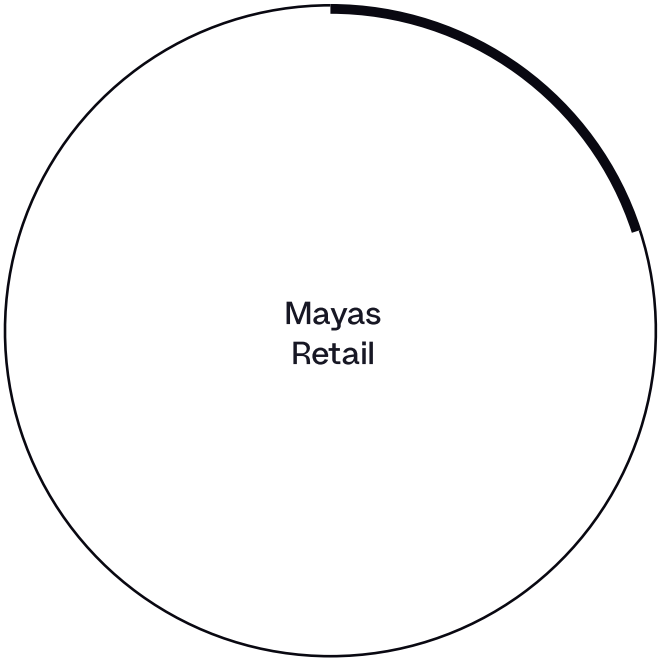
Miners that provide mining power earn a passive income by sharing their hashrate with the protocol. Miners find a hedge for instant liquidity in exchange for the provided hashrate. Furthermore, since the hashrate is tokenized with an efficiency target, there is accurate accounting of the electrical expenses of each miner, which is paid back at the end of each mining period.

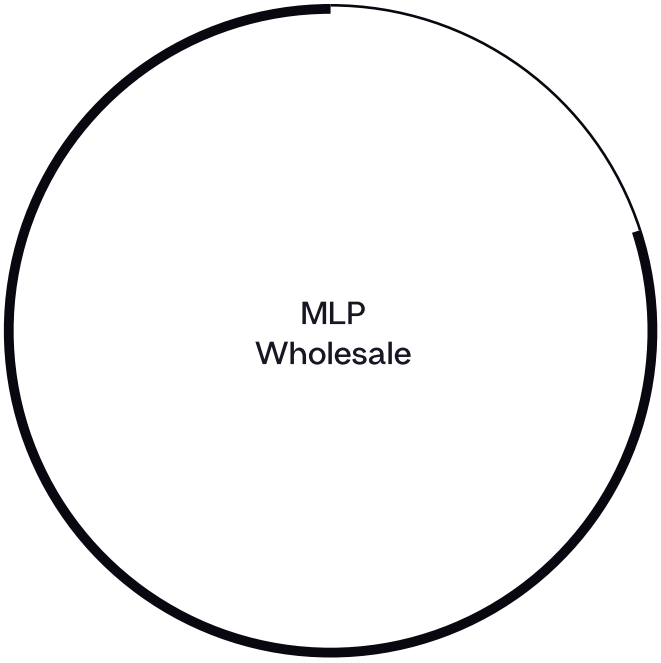
Mayas as Marketplace

Buying Hashrate

Hashrate can be purchased retail or wholesale. Retail hashrate is obtained through the MAYAS token. Wholesale hashrate is acquired by locking MAYAS-BTC LP tokens under the MLP token for at least 6 months.

MLP and MAYAS tokens can claim mining rewards, up to 80% and 20% respectively of their share of hashrate staked in the Smart Trust Vault.





Every time an investor mints a new MLP share, half of the LP is placed as a buy order on the marketplace, awaiting a hashrate seller

Mayas as Marketplace

Selling Hashrate

Miners that enter the system using method A earn profit by selling their hashrate directly to the protocol. Miners need to stake their MLPs at the marketplace, where they fulfill buy orders placed by investors.

Hashrate provided by the miner is bought with LP tokens according to the hashrate price placed by the system. The miner unvest the LP tokens linearly by providing the contracted hashrate as agreed.

De-Fi

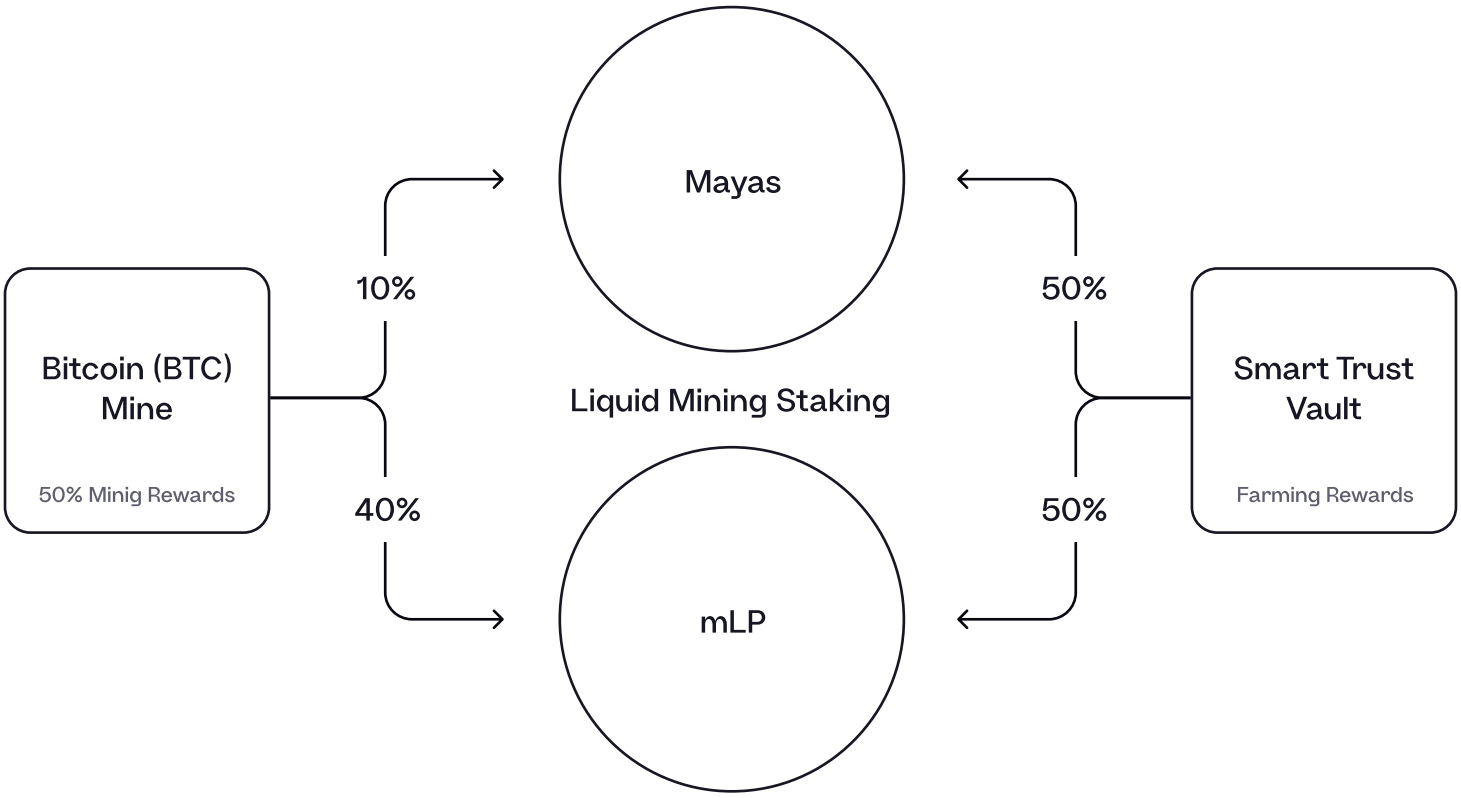
Liquid Mining Staking

Mayas main product is a decentralized financial product for the Bitcoin mining industry, in which investors and miners are able to merge their resources and share profits while maintaining a compounding incentive for both parties.

Liquid Mining Staking (LMS) is a system that rewards users who hold and compound their earnings following the established guidelines. Mayas, by having tokenized hashrate with liquidity as collateral, bring exchange grade liquidity to miners and also enable investors to join the mining industry by injecting liquidity in exchange for mining power.

LMS is a system designed to encourage participants to reinvest their profits in mining power in order to increase future profits. Miners get paid their electricity consumption according to the hashrate provided and the efficiency target set by the system. The remaining rewards are split, half is compounded and the other half is distributed between MLP and MAYAS stakers.

De-Fi



Stakers, besides mining BTC can farm MAYAS tokens, which are distributed during each vesting interruption. These rewards are subject to a vesting period in order to reduce sell pressure on the token

Tokenomics

Mayas

Token Symbol		Mayas
Token Supply	Fixed	21’000’000
Token Emission		Bonding Curve

Token Distribution

Bonding Curve Pool	10’500’000 Mayas	50%

Since Mayas main liquidity pool is paired with BTC, the volatility of it could lead to situations where arbitrage opportunities are in play. Therefore a bonding curve is applied each time someone purchases a MAYAS token

Team Fund Allocation	4’200’000 Mayas	20%

The team funds are used to cover operational costs and support long term development. Current Mayas team members start unlocking their tokens linearly for 12 months. Future team members will be subjected to a vesting period established by current members.

Reserve	6’300’000 Mayas	30%

The remaining 30% of the tokens are reserved for use in future partnerships with miners and / or public auctions of hashrate.

Tokenomics

Token Properties

- 40-day vesting period;
- Deflationary supply;
- Increasing hashrate;
- Mine 20% of Bitcoin (BTC) rewards;
- Farm 50% of MAYAS vesting interruptions

Tokenomics

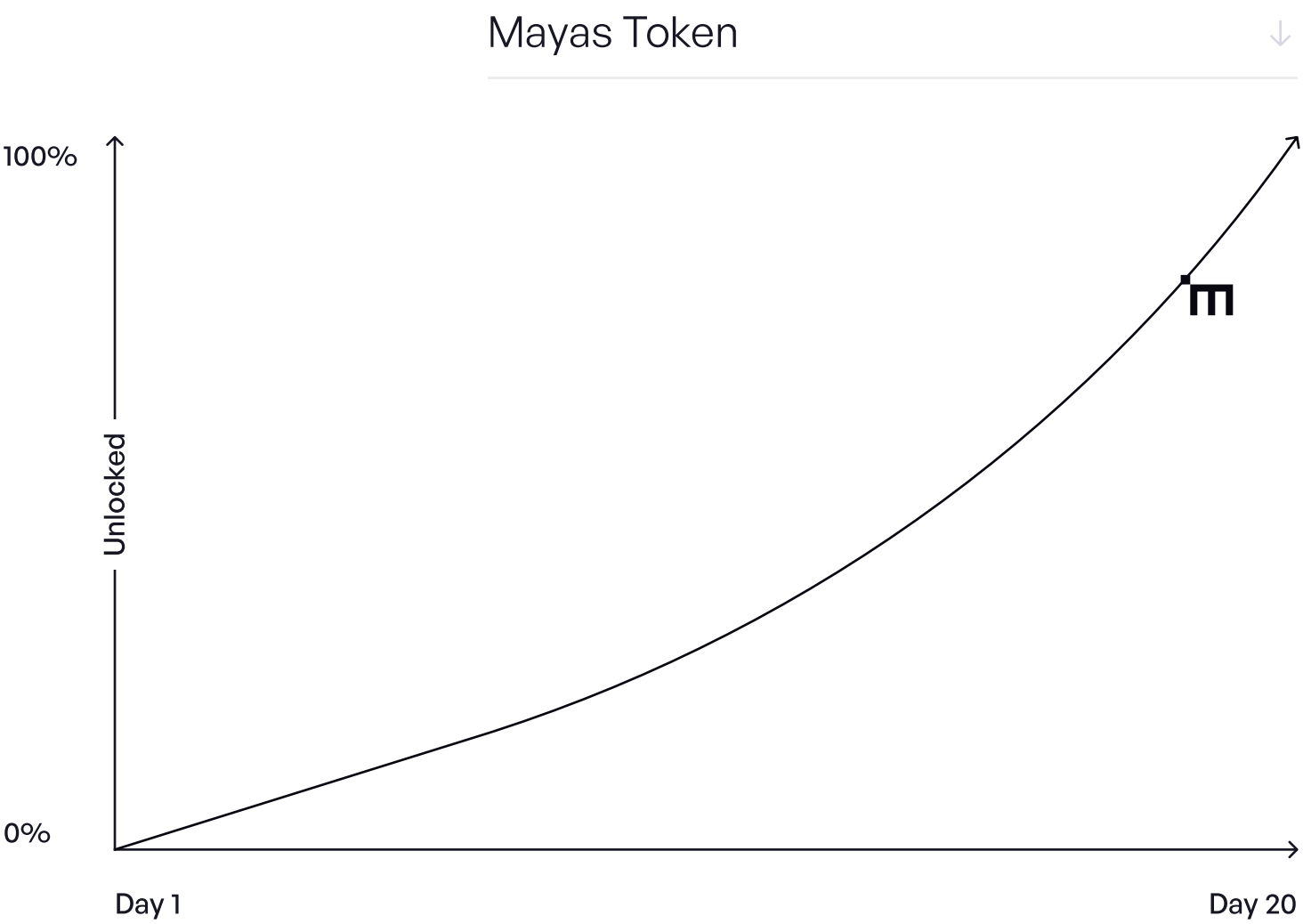
MLP

Token Symbol	mLP
Token Supply	Fixed ??? ??? ???
Token Emission	Locking MAYAS-BTC LP

Token Properties

- Governance token;
- Mine 80% of Bitcoin (BTC) rewards;
- Farm 50% of MAYAS vesting interruptions;
- Mine 20% of Bitcoin (BTC) rewards;
- Can be redeemed for the underlying liquidity after 6 months

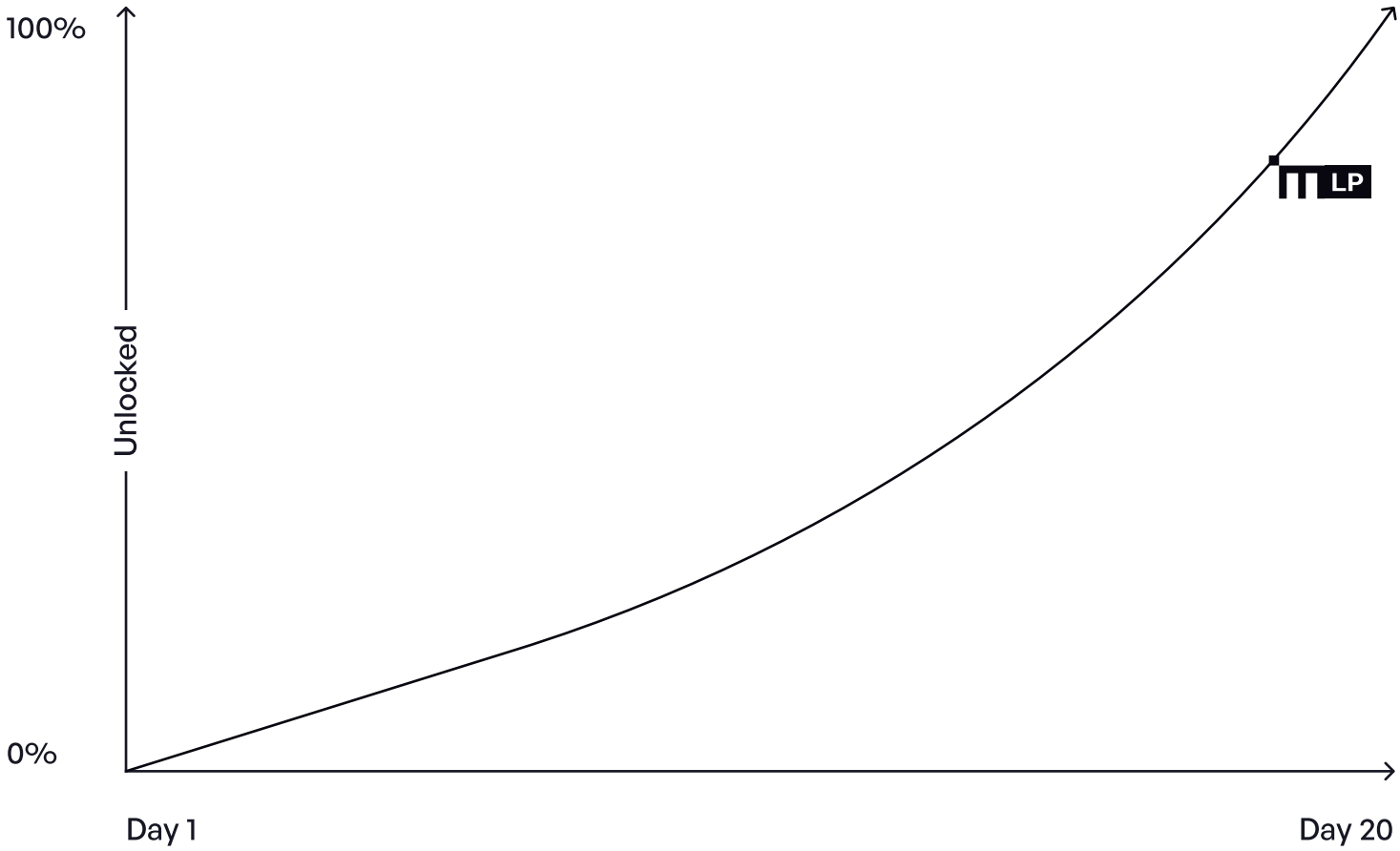
Bonding Curve



In order to ensure the price of a MAYAS token increases as the number of tokens in circulation increases, a bonding curve mechanism is placed in the transfer function of the tokens. MAYAS tokens unlock linearly during the period of 20 days, if user sells or moves tokens before that period, remaining tokens are redistributed to MAYAS and MLP stakers

Bonding Curve

MLP Token



MLP tokens unlock over a period of 180 days and can then be redeemed for the underlying liquidity. The tokens unlock linearly and are subject to the same vesting rules as the MAYAS token, except for the time-period.

Risk Management

Despite general belief, mining Bitcoin isn't as profitable as most people think. In fact, it is an almost venture capital, the same risks with Bitcoin mining apply to Mayas, since our underlying liquidity consists of tokenized mining power, which follows the risks of regular Bitcoin mining.

Specifically, Mayas and mLP mining rewards may temporarily or permanently stop if, among other risks:

1. Properties generating our mining power experience damages or losses (including those resulting from natural disasters like landslides, floods, heavy rainfalls, earthquakes, and tornadoes);
2. Bitcoin global hashrate increases to a level where our mining power becomes unprofitable;
3. Errors in the project code enable attacks, leading to the loss or inaccessibility of mining rewards.

Governance

The Mayas project development, despite having a full team, is not closed and anyone can take part in it by getting elected through the on-chain governance. Mayas project is governed through a series of consecutive steps, of which each increases the consensus degree of the community. Proposals and ideas are first submitted on the public forum, they are finalised in our private forum and then they are deployed on-chain.

The progress stages of this binding consensus are described in the following steps:

Soft Consensus

The author must bring their idea to debate, which take place on our public forum in order to have it under a hard consensus between the community members. It's the author's responsibility that when an idea has received enough support from the community, it must be formalized in the form of a proposal.

Proposals

A proposal is an idea submitted by the author in a formal document in which they describe the proposed changes to the project or protocol configuration.

Governance

Hard Consensus

Once an idea gets formalised in the form of a proposal, it is subjected to a hard consensus between community members in order to clear objections between members of the debate before the off-chain consensus.

Off-chain Consensus

In order to prevent sentiment division between token holders, an off-chain signalling will take place prior the final consensus. This is used as a tool for knowing the likelihood of the outcome when we settle the vote on-chain.

Development

Every proposal requirement is implemented in code on our private repository. They are launched on testnet and get security audited.

On- chain Consensus

At first, system changes are controlled by a multi signature contract under the control of the team. As the team and community grows, we will transition to a more decentralized protocol accordingly.