

Alto Finance - Leveraging Bitcoin security and economics for novel crypto systems

Alto Finance Lightpaper v1.0

Alto Finance Team

December 2023

Abstract

We introduce a novel method of providing Bitcoin level security and economic scale to new Proof of Stake (PoS) blockchains, Decentralized Finance (DeFi), and Real World Asset (RWA) systems. Bitcoin has demonstrated unrivaled security since its launch. The Bitcoin blockchain has never been compromised by a malicious hacking incident. Bitcoin represents the largest decentralized consensus in the crypto asset space through its market leading capitalization and user base. In terms of monetary value, Bitcoin is the largest cryptocurrency. Through its PoW consensus protocol and initial fair launch process, Bitcoin has been classified as a commodity by leading regulators around the world. Since the dawn of the age of blockchain, many Proof of Stake blockchains and staking based DeFi systems have been launched. One area of improvement for PoS blockchains and DeFi systems is the initial launch procedure. Alto Finance provides a novel process of leveraging the Bitcoin ecosystem for launching new PoS blockchains and DeFi systems in a fair, open, and competitive manner. Alto Finance uses the BRC20 system for the initial launch of PoS blockchains and DeFi systems, and in essence, brings Bitcoin security and economics to new PoS blockchains and DeFi systems at launch. Tokens generated by the Alto Finance BRC20 minting services can be traded through Spot or Derivatives DEXs through Alto Services. Alto services can also be generalized as an open and competitive admission process to launch real world and other crypto asset classes, as well as web3 applications. Furthermore, existing BRC20 tokens may also be converted into Alto versions of the ERC20 or ERC1155 compatible tokens and traded on spot and perpetual DEXs on the Alto Finance platform.

1. Overview

Alto Finance provides a novel method of generating initial stake holders in proof of stake systems in an open, fair, and competitive manner. Alto further provides inter-blockchain token transfer service and spot and derivatives exchange services for PoS tokens launched on the Alto platform. Alto allows newly created PoS blockchains, DeFi services, and Real World Asset tokenization systems to generate initial participants through the BRC20 token minting process. Alto ties the native PoS and RWA tokens with BRC20 tokens. The BRC20 tokens can be minted through an open and competitive process by any user. This creates an open process to generate initial users and token holders of a PoS, DeFi, or RWA system.

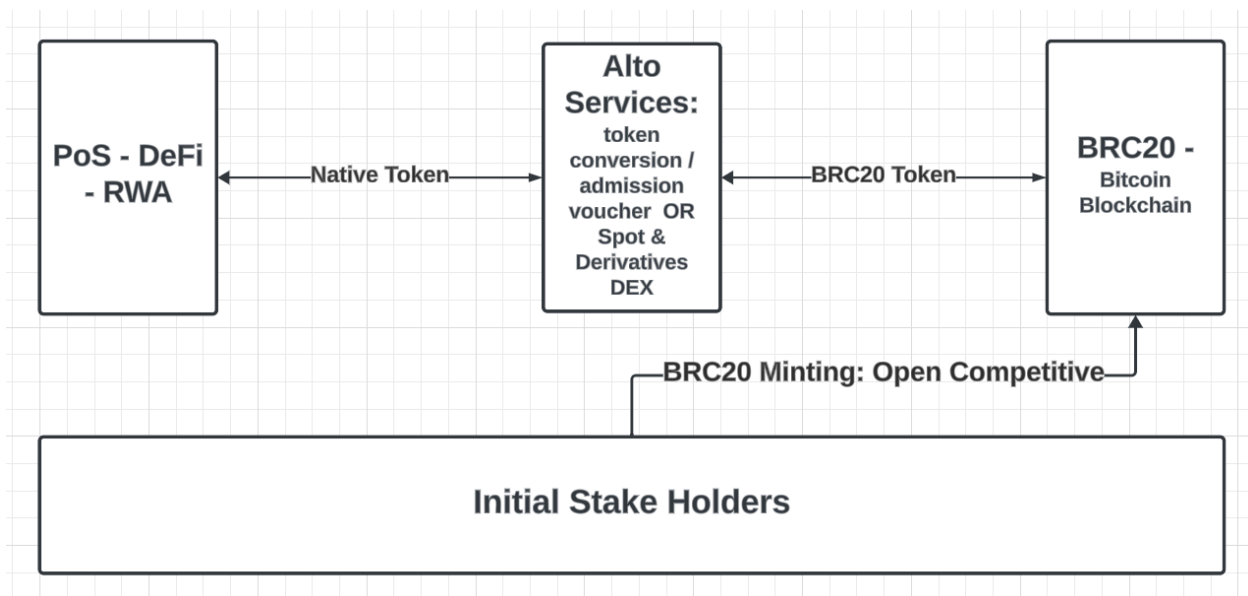


Figure 1: BRC20 Minting as initial token distribution mechanism

Alto Finance utilized the open and competitive nature of the BRC20 minting process to enable PoS blockchain, DeFi systems, and RWA assets to generate an initial base of stakeholders. The BRC20 minting process is by design an open process. It also requires financial commitment in the form of fees associated with BRC20 token minting. Decentralized systems may utilize Alto Finance to distribute the native tokens to initial stake holders directly by converting the minted BRC20 tokens to native tokens, or to grant access rights to the initial users by treating the minted BRC20 tokens as admission voucher for future distribution of the native tokens. Existing BRC20 tokens may also be converted into Alto versions of the ERC20 or ERC1155 compatible tokens and traded on spot and perpetual DEXs on the Alto Finance platform.

2. Alto Services

Alto Finance comprises Token Generation service and Token DEX. Alto Token Generation service utilizes the BRC20 minting mechanism for generating BRC20 representations of native tokens for novel crypto systems. Alto DEX provides spot and derivatives trading for native BRC20 tokens or BRC20 representation of native tokens for novel crypto systems.

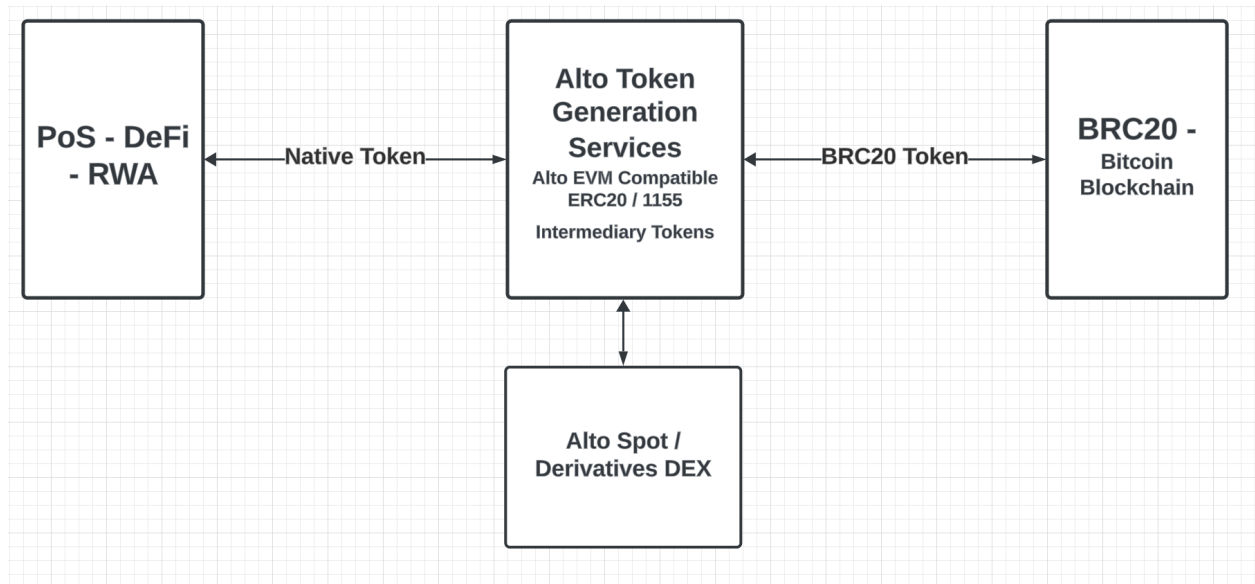


Figure 2: Alto Services - Token or Admission Voucher Generation, Conversion, Spot and Derivatives Trading

2.1. Alto Token Generation

Participants in the Alto token generation service include Token Issuer, Initial Stake Holder, and the Alto Platform.

Procedure for Token Issuer:

1. Define total token supply and number of tokens distributed through BRC20 minting process. Total supply of native tokens may be equal to the number of tokens to be distributed through the BRC20 process
2. Mint native tokens: in quantity of total supply or an equivalent number to be minted through the BRC20 process
3. Total token supply in circulation = number of tokens on native chain (Nt) + number of BRC20 minted tokens (Bt). Either Nt or Bt can be zero.

4. Transfer native tokens to the Alto service in the number of BRC20 tokens to be minted (Mt): Mt amount of Native Tokens to be minted through BRC20 process → Alto Service
5. Alto Service creates BRC20 contracts on Bitcoin blockchain with total supply equal to Mt (number of Native Tokens locked in Alto Service) and all the BRC20 minting parameters defined by the token issuer
6. BRC20 minting process commences: open to anyone who is willing to pay the minting transaction fee while minted BRC20 tokens have not reached total allowable supply
7. The minted BRC20 token: a) can be converted to native tokens and the process is used as a fair token distribution mechanism for initial users b) can be traded in the BRC20 form to establish an initial fair market value and can also be converted to native token c) can be converted into Alto ERC20/1155 compatible intermediary token and traded on Alto Spot and Perp Derivatives DEX. These options can be used in combination or exclusively.

The Alto Token Generation and Trading Service utilizes Inter Blockchain Communication (IBC) protocol for light client based token transfer between blockchains. IBC allows Alto to transfer tokens between heterogeneous blockchains with different consensus mechanisms, account systems, and other parameters with a high degree of security due to its messaging based mechanism.

2.2. Alto DEX

Internal to Alto, a ERC20/1155 compatible token system is adopted. This allows Alto to offer users a Spot and Derivatives trading service. The Alto DEX is useful in establishing a fair market value for the tokens generated through the Alto service. It also provides liquidity for the crypto systems that utilize the Alto service.

Total Native Tokens in circulation = Tokens on Native Blockchain + Intermediary ERC20/1155 Tokens in Alto service + BRC20 tokens on Bitcoin Blockchain

Intermediary ERC20/1155 can be used for spot and derivatives trading on Alto DEX.

2.3. Initial Bitcoin Fee Offering - IBFO

The BRC20 token generated through the Alto Token Generation system can also be simply used as a token distribution mechanism for crypto systems or an admission voucher for any Web3 Dapp. Users essentially pay the Bitcoin transaction fee during the BRC20 token generation process to receive native tokens. Such a system can be used as a fair launch mechanism while

expecting a certain level of commitment in the form of Bitcoin transaction fees for admission into a nascent crypto system. Such a token generation and distribution system is essentially an initial Bitcoin fee offering, IBFO.

3. Conclusion

Alto Finance introduces a novel mechanism for fair launching nascent crypto systems while requiring a level of commitment from the initial stake holders through BRC20 minting process. In addition, Alto Finance provides a system to set a fair market price for tokens issued by nascent crypto systems through trading the intermediary Alto ERC20/1155 tokens on the Alto DEX. Alto Finance services are built on the Bitcoin ecosystem, which has been proven through over a decade of operations to be secure and decentralized. Through Alto Finance, the security and decentralization qualities of Bitcoin can be inherited by other nascent crypto systems, thus enhancing the security and viability of such systems.