

# FABRIC Protocol Litepaper

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## Abstract

In this paper, we propose the FABRIC ecosystem. FABRIC is a decentralised synthetic asset issuance protocol built on Solana, providing tokenised synthetic assets which leverage an over-collateralized staking pool, the central order book of the Serum decentralised exchange (DEX) and an intelligent Oracle architecture.

## 1 Introduction

The FABRIC protocol is a decentralized synthetic asset issuance protocol built on Solana. All synthetic assets are collateralized by FABRIC tokens (FAB) which must be locked in the FABRIC pool to enable issuance of synthetic assets, known as SPL Synthetics. Users directly interact with the FABRIC pool, requiring no counterparties and avoiding common issues experienced on exchanges such as liquidity or slippage issues. Once minted, users can trade these SPL Synthetics on the Serum DEX. It is not required to hold FAB to trade on the Fsynth.Exchange or Serum DEX.

Fsynth.Exchange will initially support f-Uranium (fURA), synthetic tokenized Uranium, and f-Gold (fGOLD), synthetic tokenized Gold. To incentivize FAB holders to stake their tokens they are paid a pro-rata proportion of fees generated on Fsynth.Exchange. The value of the FAB token is derived from the right to participate in the network and the captured fees generated from Fsynth.Exchange.

## 2 Current Gaps

There are multiple inherent issues that make decentralized trading of tokenized synthetic assets inaccessible for most users.

- No equivalent tokens: There are no equivalent tokenized synthetic assets, such as gold or lumber, within the Solana ecosystem. Wrapped tokens do exist within the ecosystem, such as PAXG, but these assets are limited in variety and liquidity.
- Prohibiting fees: High gas fees on other blockchains prohibits users from trading synthetics regularly, adding liquidity to an AMM pool or harvesting rewards.
- Lack of Solana-based Oracles: There are several Oracles in development such as flux-aggregator, ROPE's Oracle and Pyth. The flux-aggregator project is promising as it has delivered price feeds used in Solana dApps using integration with Chainlink. No mainstream adoption of the project has taken place however. The FABRIC and Pyth team have been in discussion for integration.

## 3 FABRIC Ecosystem

In this section, the features of the FABRIC ecosystem are described in detail.

### 3.1 SPL Synthetics

The core pillar of the FABRIC ecosystem are SPL Synthetics. All Synthetics are backed by FAB tokens. SPL Synthetics are minted when FAB holders stake their FAB as collateral using the FABRIC dApp for interacting with the FABRIC contracts.

A 1000% collateralisation ratio will be required to mint SPL synthetics. This can be modified in the future through the FABRIC governance mechanism. FAB stakers create a debt when they mint SPL Synthetics, and to unlock their FAB they must pay back this debt by burning the SPL Synthetics.

The SPL Synthetics peg is critical to a well functioning system. Incentives are required to ensure that deviations from the peg are minimal and that actors are motivated to correct them.

There are two methods to maintain the Synth peg:

- Arbitrage: When minting SPL Synthetics, FAB stakers create a debt. If the SPL Synthetic peg falls in value they can now profit by buying fUSD back and burning it to reduce their debt, as the FABRIC system always values 1 fUSD at \$1 USD.
- Liquidity pool: each week, a portion of the FAB added to the total supply through the inflationary monetary policy is distributed as reward to people providing liquidity.

FAB holders are incentivised to stake their tokens and mint SPL Synthetics in three ways:

- Serum DEX rewards: When trading through the FABRIC Serum DEX UI, each trade includes a small fee for the GUI hoster available for FAB stakers to claim. This fee is 0.1% per trade and is distributed to stakers based on their staked proportion with respect to the total staked amount.
- Mint/burn rewards: When minting or burning SPL Synthetics using the FABRIC dApp, an exchange fee is generated and sent to the fee pool. This fee is available for FAB stakers to claim each week. This fee is between 5-120 bps (0.05% - 1.2%) and will be displayed during any trade on Fsynth.Exchange.
- FAB staking rewards: The total FAB supply will increase from 250,000,000 to 500,000,000 with a weekly decay rate of 1.25% until December 2023. From December 2023, there will be an annual 1% terminal inflation where these FAB tokens are distributed to FAB stakers weekly on a pro-rata basis provided their collateralisation ratio does not fall below the target threshold.

The above mechanisms ensure FAB stakers are incentivised to maintain their collateralization ratio at the optimal rate of 1000%. This over-collateralisation ensures SPL Synthetics are backed by sufficient collateral to absorb large price fluctuations. Each stakers collateralization ratio will fluctuate if the value of FAB or the SPL Synthetic fluctuates. If the stakers collateralization ratio falls below 1000%, they must restore their ratio before being able to claim fees. To adjust their collateralization ratio, the staker must either mint SPL Synthetics if their ratio is above 1000%, or burn their SPL Synthetics if their ratio is below 1000%.

A debt is created when FAB stakers mint any SPL Synthetics. The value of this debt can fluctuate independent of their original minted value. The value of the debt is based on Oracle-fed price feeds for exchange rates and the supply of the SPL Synthetics. FAB stakers act as a pooled counterparty to all SPL Synthetic exchanges. Stakers take on the risk of the overall debt in the system. This risk can be hedged by taking positions external to the FABRIC system.

## **3.2 Web dApp and DEX**

The FABRIC dApp will provide a web GUI for interacting with the FABRIC protocol. This will allow users to stake FAB, mint or burn SPL Synthetics, view rewards from staking and to vote on FABRIC Protocol Improvement Proposals (FPIPs). SPL Synthetic assets are assigned an exchange rate through price feeds supplied by an oracle, and can be converted using the FABRIC dApp. This provides infinite liquidity up to the total amount of collateral in the system, zero slippage, and permissionless on-chain trading.

The FABRIC DEX will provide a web GUI for the Serum decentralised exchange allowing users to trade any SPL token against a central orderbook.

# **4 FAB Token**

## **4.1 Utility**

The FAB token will hold the following utility:

- Governance: Holders will be able to vote on new SPL Synthetics, Oracle feeds and FABRIC ecosystem proposals through the FABRIC dApp.
- Staking: Holders will be able to stake FAB for xFABRIC, earning FAB from FABRIC DEX fees.

## 4.2 Distribution

The FAB distribution is projected as follows:

- Initial supply: 500,000,000
- Mining reserve: 60%
- Partnership: 20% (Locked, linear release)
- Development and Team: 12% (Locked, linear release)
- Community: 8% (Airdrop, fair distribution)