



VERA

One Currency, the Whole World

Protocol Architecture

Draft V1.0

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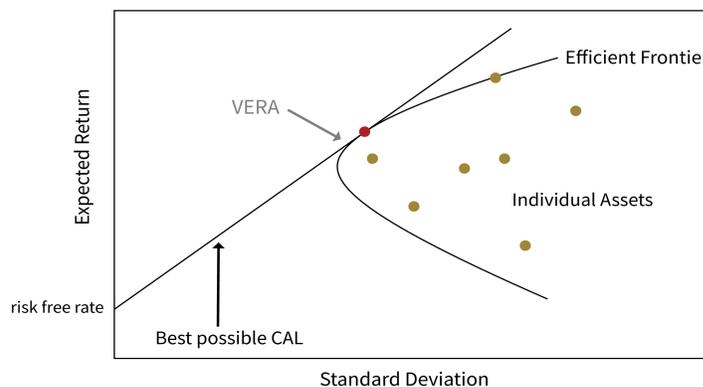
Abstract

This document labels the descriptions and implementations behind the Vera currency, explaining the aspects of technical application. Vera currency will track all assets – Real State, Stock, Bonds, Commodities, Cryptocurrencies, and any investment with noteworthy market capitalization– weighted in proportion to their relative global market values. This composition makes Vera the strongest currency in the world and the ideal store of value (SoV). This paper will provide insight into how Vera has successfully initiated the tokenization of this key data. Our promise is to deliver all investors the ability to store wealth and to have accurate and stable economic calculations.

1. Intro

Historically, currencies have a lifespan of about 30 years. The US Dollar has been serving as a global reserve *currency* for over 90 years, 40 of which as a global fiat. The main reason why currencies fail is due to their subjective value and absence of broad market acceptance. The main value Vera offers is an objective and timeless assessment of what money is worth. If the currency we own now tracks the overall global market according to the existing market caps, it will stay relevant even 100 years from now. Contrary to attributing the value of money to a single asset, for example, gold, Vera takes the approach of maximum diversification which automatically makes it stable. If an investor's desire is to preserve wealth for his next 5 family generations, this economic problem of transmitting wealth or improving economic calculation is now encompassed to a single token deployed in an immutable blockchain.

The fundamental understanding is to have a currency that is ultimately the most efficient in terms of expected return and standard deviation.



The portfolio's expected return is a weighted average of its individual assets' expected returns, and is calculated as:

$$E(R_p) = w_1E(R_1) + w_2E(R_2)$$

Where w_1 , w_2 are the respective weights for the two assets, and $E(R_1)$, $E(R_2)$ are the respective expected returns. We encourage you to read our paper on the theory of this.

2. Price Mechanism

Data aggregated by the largest providers in the world including Bloomberg, S&P, FactSet, and Thomson Reuters will be inserted on-chain. Using tools and applications like Chainlink and Pyth network, we initiate this protocol on the Solana Blockchain.

The price of the Vera will be affected by the weighted components in its basket. For simplicity, let's say the entire financial system had only 4 assets – Bitcoin, Apple Stock, US Treasuries, and Gold – and they represent 50%, 30%, 15%, and 5% respectively of the entire global market cap. If we assume the starting price of Vera is \$10, the components underlying the basket will affect it accordingly. In one simple example, if the total gold market went to zero and all other assets remain constant, Vera's price would now be valued at \$9.5.

There are other alternatives when formalizing the price of an asset that aggregates several price oracles and distinct metrics such as market capitalization. We could add the total market cap for the assets included in the aggregation and normalize them with a simple divisor.

$$\text{Currency price} = \text{Total Market Cap} / \text{Divisor} \times$$

In our case, we collected the market cap for all assets available on Pyth.Network. In addition to that, we collected the total number of share and confirmed the total market cap with on-chain prices from Pyth.

$$\text{Price} = (\text{Number of Shares} * \text{Price}) / \text{Divisor}$$

Below is a simplified example of the calculations:

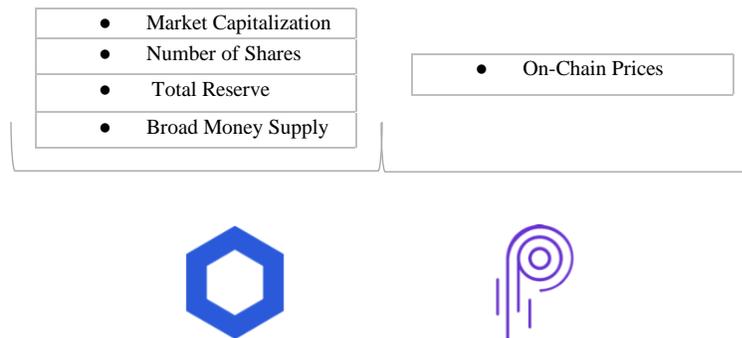
Asset	Market Cap	Market Cap Confirmation	Weighted Impact on Price
Bitcoin	\$1 trillion	# token * live price	500 billion
Apple Stock	\$300 billion	# shares * live price	90 billion
Gold	\$150 billion	# ounces * live price	22.5 billion
US Treasuries	\$5 billion	# shares * live price	250 million
		Total	612.75 billion
		Divisor	1 billion
		Price	\$612.75

Table 1. Price System

2.1. Injecting Data on Solana

In order to have precision on the total market cap in calculation, the protocol will collect a distinct set of data that leads to the confirmation of market values. These include, but are not limited, to the number of shares in the market, circulating supply, broad Money Supply, price execution of trades, total reserve of commodities.

The new, nominal currency basket value trades in parallel with the underlying data metric it tracks. The creation of VERA requires full collateralization to mint it. The smart contract ensures transparency and security that VERA is fully backed.



Total Global Market Capitalization Data must be grouped and weighted in proportion to their relative market values in a single source. Data external from the Solana blockchain must be recorded to the Solana blockchain by some Oracle. In the VERA system, Chainlink's oracle solution will be utilized to deliver trust minimalization. Additionally, Pyth.network will be leveraged to confirm fluctuations in price and discrepancies in the Total Market Cap of individual assets. Fundamental calculations in *price * number of shares* leverage both applications for confirmation.

*Currently, Chainlink does not offer the data we aggregated for the calculations, however, we are incessantly working on bringing this data on-chain by collaborating with Chainlink or other similar applications

2.2. Primary Use Cases

Individuals, large funds, long-term investors, asset allocators, and anyone looking to have their wealth preserved over a long period of time without being subject to a single source backing their currency. A true decentralized autonomous organization (DAO) can only survive if the value backing its mission can run as long as possible.

Dapps, machines, exchanges with token balances can use VERA as a source of hedge against inflation, monetization, and incremental returns by diversifying their

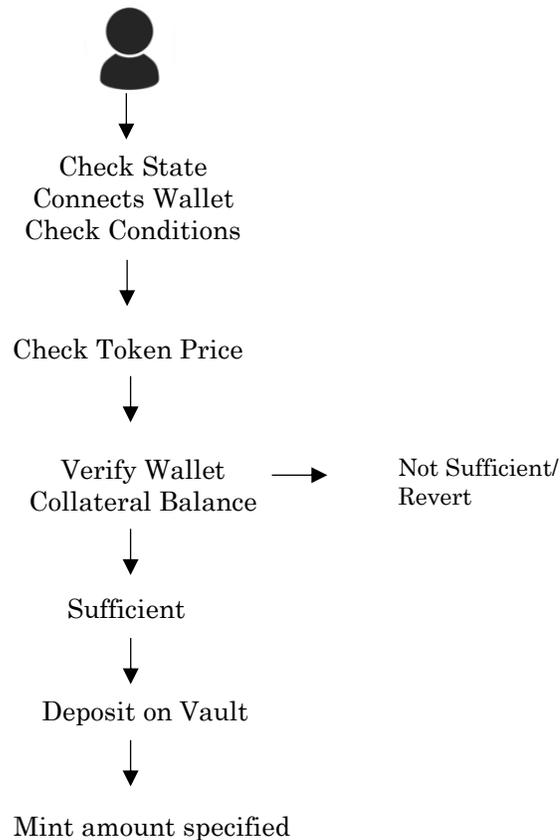
balances; this has the potential to reveal entirely new business endeavors on the Solana ecosystem.

3. Collateralization

While our goal is to have the assets tracked by the basket traded on the spot market. Vera is currently a synthetic currency that tracks, in real-time, an external and ever-moving metric, Total Global Market Capitalization.

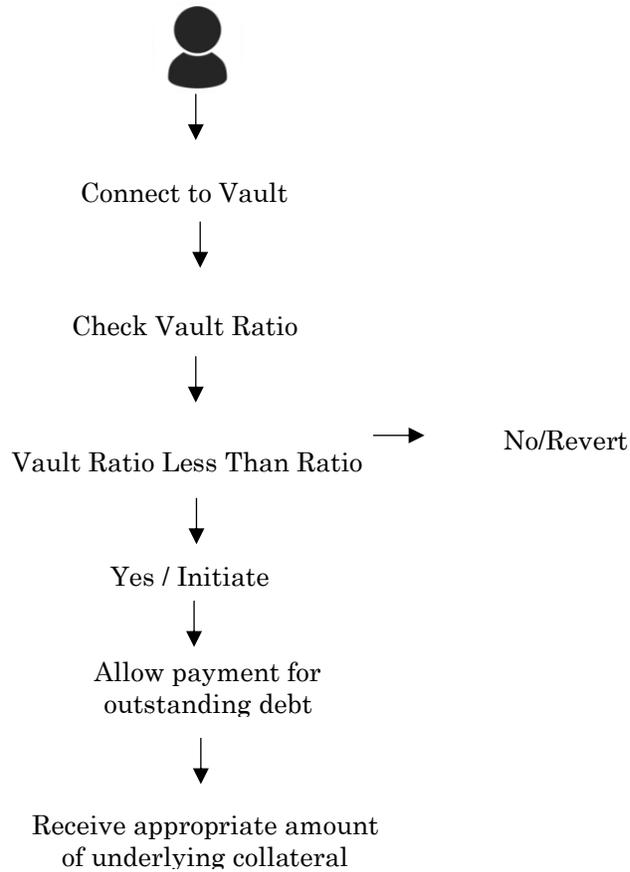
Assuming the creation of a token without any underlying collateral would probably create divergences in price and defeat the original purpose of the protocol. There is no assurance that Vera would be exchanged at the quoted price or maintain its peg to the real-world total market capitalization.

We impose that there must be backing collateral behind the Vera system to maintain its price. Therefore, for any Vera token to be minted, there must be at least 125% collateral value staked in a secure smart contract on the Solana network. These collateralized smart contracts are denoted as Vaults.



4. Liquidation

The price of VERA fluctuates parallel to the assets tracked by market cap and consequently, the minimum quantity of required collateral for every Vault changes appropriately. The VaultRatio must be larger than the system minimum Ratio.



When a Vault is undercollateralized, any external account can begin a liquidation. A liquidation allows the account that initiated it to pay part of the remaining debt. VERA, in this case, is traded for a discounted price of the underlying collateral. The incentive here is offering the underlying collateral at a discount rate.

5. Governance

Vera will launch with centralized control of the project (such as choosing the data sources, price methodology, liquidation system, collaterals available, etc.) and over time, will evolve to broad community and stakeholder control. The following rights in the protocol are controlled by the admin:

- The power to add collaterals
- The collateralization percentage
- The ability to choose a new admin
- The final decision on data sources
- The decision on price methodology and assets available in the basket

6. Conclusion

- Vera provides a timeless, objective, and stable concept for the value of money
- The protocol broadly injects data into the blockchain, beginning with Solana and working into meaningful partnerships to extend its use.
- The protocol intends to provide a global market portfolio benchmark, for retail and institutional investors, based on measurable global capital stock, which will include more than 100 existing indices within 11 asset classes.
- Vera incentivizes financial stability by expanding currency choices to investors with maximized diversification. Devalued currency hurts creditors, and an upward-revalued currency hurts debtors.
- Users can deposit collateral to a Vault and mint the token frictionlessly
- Users in the future will earn incentives by providing liquidity to exchange pools