

Meuna: on-chain bidirectional access to the price action of traditional-asset classes.

Using censorship-resistant real-time values.

Concept Lightpaper v1

Meuna DAO

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Disclaimer.

Meuna is an experimental set of open-source smart contracts that mainly interconnects publicly available technology. The result "software" does not introduce any custodial service and only routes the information available to everyone. Neither Meuna nor its users do not deal with any physical assets. Theoretically, any functionality available on Meuna could be manually replicated using third party decentralized service providers. After the initial launch, Meuna's back-end and front-end are not controlled by a single person or a group of people – it is governed through Meuna DAO and on-chain voting. The smart contract parameters are as well controlled through the same type of governance.

Abstract.

Blockchain industry and technology have matured enough to be used in certain retail types of products. While much innovation is solely in the field of blockchain infrastructure, numerous times, the open market has confirmed the readiness to sustain several groups of retail solutions. Thoughtfully fitting proven achievements of blockchain into a product's backend while adopting commonly accepted UX solutions could create platforms that reduce the complex learning curves and related onboarding burdens. On top of that, blockchain could become a supporting infrastructure to expand the traditional solutions markets without common bottlenecks associated with blockchain and cryptocurrencies-centered systems.

Introduction.

Meuna is a blockchain-based protocol that addresses the problem of fair access to traditional market pricing exposure. Combining existing cryptography and blockchain developments allows for an environment where a user is able to create, transfer, and exchange tokenized assets. These tokenized assets are further referred to as "synthetic assets" and could reflect the value of a selected traditional asset (as a stock or commodity). By utilizing reviewed logic for oracle price feeders, over-collateral, and liquidation auctions (from protocols such as Mirror Protocol, Maker DAO), Meuna DAO is theoretically capable of maintaining the correlation between values of synthetic assets and the corresponding traditional assets. Furthermore, Meuna's innovative approach allows for an easy short and long type of pricing exposure, making the exposure itself bidirectional. In this lightpaper, we will review the general theoretical principles of maintaining the synthetic assets values, explain the bidirectional pricing exposure design, and break down the decentralized non-custodial mechanics of Meuna.

A. Creating Tokenized "Synthetic" Assets. Opening a Short Position.

A series of traditional assets contain various inefficiencies due to the origin of their design. The inefficiencies range from not optimally liquid markets to missing fractionalized ownerships and are extensively introduced in previous synthetic assets protocol attempts such as Mirror Protocol. Essentially, tokenizing an asset as a stock or a commodity on a distributed ledger successfully addresses several issues while maintaining the verifiable ownership aspect for the asset of choice.

Let's assume there is an asset class A with a verifiable real-time value. This asset could either be physical or non-physical (for example, a property vs bonds). Regardless, an asset class A would be a positive candidate for tokenization if its single unit of value X could be trackable in real time. By extracting a value X for such an asset, we could further assume loan-type collateralization for creating a token N. The preferred loan creation method used is a standard time-tested Maker DAO overcollateralized deposit with a loan-to-value ratio less than 100% (with an initial select maximum value of 66% for Meuna tokenization). Now, our newly created "synthetic" token N would be representing value X at the initial point of time in the form of ~150% overcollateralized loan. Since we most commonly measure the value of typical N against the fiat currency unit, we can interpret the created token as a newly open short position against the asset class A. As a result, the token N can simultaneously be a transferrable asset that reflects value X and, by its design, is a short position around the same "opening" value X.

It is worth noting that collateral for creating a token N should fit specific criteria to avoid excessive, unnecessary risks and UX complications previously seen in other synthetic protocols.

Firstly, to adopt the design of traditional trading platforms, it is only reasonable to choose USD-based collateral. This is because cryptocurrencies such as Bitcoin

or other "altcoins" provide a series of adoption bottlenecks associated with clarifying the shorting concept (i. e. ETH vs. AMZN is a very counter-intuitive short) and onboarding majority groups critical towards volatile assets.

Secondly, the asset of choice should have an overcollateralized design with sufficient liquidity depth. This is crucial for meaningfully and securely setting a market capitalization maximum (with an initial value of 10%) utilized as collateral for creating synthetic assets. That would further reduce the risks associated with extreme volatility and common exploit attack vectors such as flash loans. Lastly, the asset should be decentralized to maintain the promise of fair borderless access and the non-custodial nature of Meuna. "Custodial" stablecoins such as USDT or USDC have a technological capacity for "freezing" or "blacklisting" funds without prior notice.

An overcollateralized decentralized USD value token such as DAI (Maker DAO) or HAY (Helio Protocol) are the best fits for Meuna collaterals across most popular EVMs. With a default chain of choice for Meuna being BNB Chain due to its' DAU dynamics and predictable validator structure, Helio Protocol's DeStablecoin HAY is the single initially selected asset for creating any loan positions on Meuna.

B. Liquidation Mechanics for Synthetic Assets, aka Short Positions.

As with any short position, there are liquidation points. Therefore, our newly created synthetic asset would have a liquidation point at a price above the value X and below the $\sim 150\%$ of X . The specific value of liquidation between those two points would traditionally be determined as coefficient Z by governance. Whenever collateral value divided by asset value reaches Z , the liquidation event for the loan should be triggered, effectively closing the short position. Meanwhile, a part of the excess collateral goes to Meuna's smart contract. Assumption: a loan-representing token N would now need to be extracted from the supply to fully close the cycle

and restore the original economic balance. The previously "seized" excess collateral could be used to retrieve the token N.

*The initial liquidation point value Z would be introduced in a technical whitepaper after extensive test network scenarios are run with "mock" tokens within the identified design boundaries as a minimum LTV or market capitalization maximum for creating synthetic assets.

C. Liquidation Bots and Community Participants Liquidation. Further Maintaining of the Price Peg.

Assumption continuation: In order to retrieve the excess synthetic asset from the supply, just like in protocols such as Maker DAO, Meuna is designed to "purchase back" the token and, after that, effectively "burn" it. Since Meuna is only accepting USD in the form of HAY as collateral for creating a synthetic asset, and the liquidation point is measured in USD as well, the preferred liquidation algorithm is standard AAVE Lending Protocol liquidation vs. Mirror Protocol Auctions.

When a price of a synthetic asset goes up and the collateral ratio falls below 150% by a value P (determined from the testnet), any liquidator is welcome to claim backing collateral by paying an equal amount of synthetic assets at risk. This could be a manual liquidator (user) or a "bot," while the mechanics rely on arbitrage and redeeming the premium from an overcollateralized position.

Last, just like in AAVE protocol, the Meuna treasury is getting a fixed fee on the excess collateral withdrawal. After deducting a standard value of 1.5% towards the treasury (adjustable through governance) and paying the premium to the liquidator, the original position holder receives the remaining funds on balance.

Meuna protocol does not pay out any fees to stakeholders and uses the treasury fees to maintain the ecosystem's sustainability. An indirect incentive for

stakeholders includes occasional buybacks and burns, creating a deflationary economic environment for governance participators.

D. AMMs, UX, and supporting infrastructure. Opening a Long Position.

To open up a "long position" on a price exposure for the asset class A, it would simply be enough to place any type of a spot order (limit or market buy) for a previously created synthetic position. Essentially, buying someone's overcollateralized and tokenized short position would mean being long on the asset against the USD. Now, there are several ways to systemically allocate the liquidity using the existing BNB Chain infrastructure and common Solidity (EVM) solutions, meanwhile, providing users with an opportunity to seamlessly open a long position.

Firstly, there are types of assets that are a better fit for a traditional "Uniswap-styled" AMM. Those are the assets unique in their nature (as stocks or commodities). Essentially, these assets could be located on either Meuna's native LP pools or the most popular AMMs (currently, PancakeSwap). However, locating these assets on PancakeSwap and routing the LPs to Meuna UI (with tokenized rewards) at the same time would make the most adoption impact by making the trading accessible on both Meuna and the AMM with the highest DAU participation. In the end, Meuna traders will have access to the best rate from aggregating the liquidities in between native LPs and 3rd party AMM pools. Meanwhile, DAU participators would be able to regulate the allocation of treasury liquidity and incentives for the different pools with a traditional vote escrow voting mechanic.

Secondly, there is a class of potentially tokenizable non-USD assets that are already represented on the chain. An example of such an asset could be any popular fiat currency. Organizations such as Circle or Tether are among the few backers of numerous on-chain stablecoins such as EUR or GBP. Within the same

logic, creating a synthetic EUR or GBP would be a short position against the USD. Now, to further improve the liquidity and user experience, it is reasonable to add one more type of liquidity allocation – single or side pools designed by Wombat Exchange. Pairing synthetic EUR tokens with a traditional EUR stablecoin would not just improve the ecosystem's liquidity depth and optimize aggregating for the best slippage levels but also simplify the cycle of going from on-chain assets to traditional banking fiat. This has an extensive list of retail adoption advantages while keeping the system censorship-resistant.

E. Censorship Resistance. Price Feeding Oracles.

To ensure uninterrupted mimicking of the synthetic asset price action without the burdens of dealing with real underlying assets, Meuna's significant focus is on providing a stable environment resistant to any third party entity involvement. On top of selecting decentralized collaterals for creating synthetic assets, the very base of the Meuna is maintaining the decentralized status of oracle price feeders.

At the launch, Meuna's oracle "of choice" will be Pyth Network due to its support of the wide range of traditional classes of assets. In order to remove a single point of failure, Meuna DAO participators could choose the oracles from the list of whitelisted data providers, including the native protocol price feeders for certain assets (like Wombat pools for EUR).

The goal of the oracle is not to set the price on a synthetic asset but instead to regulate the minting of a synthetic asset (by providing the values for opening debt positions). On top of that, oracles act as stimulation for the arbitrage across the entire Meuna ecosystem by being the network's direct measure for triggering debt liquidations. All together, managed through Meuna DAO, it creates a traditional borderless experience for the end user.

F. Meuna DAO. Governance model.

To further reduce any potential risk of interrupting the access to traditional assets pricing exposure, the Meuna platform is set to be governed by Meuna DAO after the testing period. The DAO limitations would only be set in place where the financial manipulation could misbalance the debt positions or introduce a centralized entity that could interrupt access to any Meuna functionality. During the testnet, community contributors would be able to experiment with various parameters and infrastructure entities to, later on, decide on selecting any restrictions or creating various whitelist/blacklist limitations.

G. Participation Overview. Summary.

As a result, Meuna's combination of innovative routing and previously deployed blockchain protocols allows for indirect yet sustainable and frictionless participation in various popular markets. At the same time, the methods used to create Meuna do not impose any commonly known blockchain and cryptocurrency bottlenecks, allowing for broader product adoption and the use of an increased variety of retail onboarding instruments. While certain groups of core users would be crypto-native individuals, Meuna's design allows for relatively easy participation of users not traditionally associated with blockchain. In various scenarios as trading through Meuna UI and depositing assets through an integrated third party fiat-to-crypto on-ramp, users would get access to the end product without noticing any blockchain or cryptocurrency "distracting" or "confusing" elements.

References

Mirror Protocol, <https://docsend.com/view/kcsm42mqiyu5t6ej>

Uniswap Labs, <https://uniswap.org/whitepaper-v3.pdf>

Maker DAO, [https://makerdao.com/whitepaper/White%20Paper%20-The%20Maker%20Protocol_%20MakerDAO%E2%80%99s%20Multi-Collateral%20Dai%20\(MCD\)%20System-FINAL-%20021720.pdf](https://makerdao.com/whitepaper/White%20Paper%20-The%20Maker%20Protocol_%20MakerDAO%E2%80%99s%20Multi-Collateral%20Dai%20(MCD)%20System-FINAL-%20021720.pdf)

Helio Protocol, <https://helio.money/static/whitepaper.pdf>

Wombat Exchange, https://www.wombat.exchange/Wombat_Whitepaper_Public.pdf

PancakeSwap, <https://docs.pancakeswap.finance/>

Pyth Network, <https://pyth.network/whitepaper.pdf>