

FreeTon DEX Architecture & Design

Contest Proposal

Contest dates

- Warm-up period: 23-25 October 2020
- Submission period: 26 October (00:00:00 UTC) - 15 November (23:59:59) 2020

General description

The goal of this contest is to work out possible architectures, design approaches, and technological stack for implementation of decentralized exchange (DEX) on top of free ton blockchain and infrastructure.

Good working examples with different approaches on the Ethereum network could be found here - <https://defipulse.com/> in category DEXes and include:

1. <https://uniswap.org/>
2. <https://curve.fi/>
3. <https://balancer.finance/>
4. <https://loopring.org/>
5. <https://bancor.network/>

Both popular approaches (1) Liquidity pools as in Uniswap and Bancor and (2) Distributed orderbook as in loopring and idex are possible.

Governance is an optional requirement but can be used as a way to reward active users and/or distribute profits for trading and liquidity provision.

All tools developed prior to the contest on the free ton network can be fully utilized for purpose of this contest (e.g. atomic swaps, stable coins solutions, etc).

Deliverable of the contest is a technical paper with a description of the proposed architecture. Images, diagrams, and illustrations are nice to have. A good economic model is a huge plus as well.

Motivation

There's no need to explain that in the heart of any economy - be it state-governed, global or local market exchanges or community governed blockchain, there is always a need for a place to exchange assets like tokens, loans, IOUs, or other types of liabilities.

Free Ton is no exception and desperately needs a mechanism of a non-custodial distributed way of exchanging assets/tokens (simply "decentralized exchange" or DEX) and the ability to

earn income for the provision of liquidity to the market with different risk/reward characteristics (de pools is a good example of earning on the provision of liquidity).

Such a decentralized exchange might become a major service for other dApps like decentralized borrowing/lending services, payment solutions, derivatives trading, and other ways of earning passive income.

General contest requirements

Your submission should include:

- The basic economic model and description of money flow in the system
- The general technical architecture of the solution including all of the features listed below in the hard evaluation criteria section along with the proposed customer journeys
- Detailed technical specification of the proposed implementation with the justification of the selected approach: smart contracts, integration layer, interfaces
- Name and contact information of the contestant for communication (Telegram username, e-mail)

Your work and the proposed solution must be:

- **Original.** It should not include more than 10% of other contestants' works;
- **Implementable.** Keep in mind the peculiarities and goals of FreeTON;
- **Consistent.** Its elements should not contradict each other and the [FreeTON Declaration of Decentralization](#);
- **Safe.** It must ensure a due level of funds security;
- **Modern.** Inspire by the leading market solutions.

Evaluation criteria and winning conditions

Hard criteria

- Support for non-custody exchange of any tokens within the FreeTON network
- Support for adding liquidity to the exchange from external blockchains at least through smart contract system or using atomic swap bridges described in atomic swap contest
- Non-custody approach to both exchange and liquidity provision
- Scalability potential for adding new tokens
- Maximum utilization of the FreeTON network advantages such as speed and sharding
- Optional governance mechanism or a possibility of adding such a mechanism in the future to govern the parameters of the exchange, including but not limited to the liquidity provision and the fees
- A good economic model for exchange, liquidity makers (providers), and liquidity takers

Artifacts

- PDF with the technical paper containing the backlink to the submission

Soft criteria

- Your position on existing DEX problems (see “Existing DEX problems to be aware of” section below) and how they are tackled in the proposed architecture
- Detailed and easily understandable charts explaining the architecture and business processes
- Brevity
- Mostly everyday English to facilitate understanding
- Readiness to participate in the implementation of the solution in the next stage

Existing DEX problems to be aware of

1. *Frontrunning* (flash boys 2.0 and Mooniswap vs Uniswap value proposition). If it is not possible in Free TON (as it is), should be clearly stated why.
2. Shortcomings of standard curves and its *inflexible nature* in liquidity based approach. These result in the issue - dilution of liquidity into several AMMs (general and specific ones with a more specific curve like Uniswap vs. Curve) which leads to non-optimal price execution.
3. *One-sided liquidity. Impairment loss* problems. The market risk of two assets in the pool is widely discussed. These problems should be somehow covered or at least mentioned for further research.
4. Another liquidity pool-based approach problem is the customized proportion of assets, number of assets in the pool, and metapools. How to regulate the number of assets in the pool, what is the price optimal routing, will it be available to create metapools.
5. Orderbook-based exchanges should state clearly how the on-chain order book is maintained and how its scalability issue is resolved. It is naive to state that transactional expenditures would stay at an effective zero level, so it has to be covered.

Rewards

Place	Reward, TON
1	50,000
2	30,000
3	15,000
4-10	5,000

Voting

- Jury members who vote in this contest must have a solid understanding of the technology. Those jurors who don't, should not vote or choose "Abstain."
- Jurors whose team(s) intend to participate in this contest by providing submissions lose their right to vote in this contest.
- Each juror will vote by rating each submission on a scale of 1 to 10 or can choose to reject it if it does not meet requirements or choose to abstain from voting if they feel unqualified to judge.
- Jurors will provide feedback on your submissions.
- The Jury will reject duplicate, sub-par, incomplete, or inappropriate submissions.

Jury rewards

An amount equal to 2% of the prize fund will be divided equitably between all jurors who vote and provide feedback based on their votes' quantity and quality. Both voting and feedback are mandatory to collect this reward.

Governance rewards

An amount equal to 2% of the prize fund will be divided equitably between all governance members.

Procedural reminders to all contestants

- **Accessibility.** All submissions must be accessible for the Jury to open and view, so please double-check your submission. If the submission is inaccessible or does not fit the criteria described, jurors may reject the submission.
- **Timing.** Contestants must submit their work before the closing of the filing of applications. If not submitted on time, the submission will not count.
- **Contact information.** All submissions must contain the contestant's contact information, preferably a Telegram username by which jurors can verify that the submission belongs to the individual who submitted it. If not, jurors may reject your submission.
- **Content.** The content published in the forum and the provided PDF file should not differ, except for formatting. Otherwise, jurors may reject the submission.
- **Well-formed links.** If your submission has links to the work performed, the content of those links must have the contestant's contact details, preferably a Telegram username, or backlink to your submission at the FreeTON forum, so jurors can match it and verify to whom the work belongs. If not, jurors may reject your submission.
- **Multiple submissions.**
 - Each contestant has the right to provide several submissions if they contain different approaches to the contest problem's solving. However, if works are not unique enough or differ just in insignificant details, jurors may reject such repeating submissions.

- If the contestant wants to make an additional submission that overrides the one previously published, he must inform the Jury about this fact and indicate the correct revision to assess. In this case, only the indicated work will count. If the contestant hasn't indicated the updated submission as the correct one, only the first one will count, the Jury will reject all the others.

Disclaimer

Anyone can participate, but Free TON cannot distribute Tons to US citizens or US entities.