

# Index — Void Management

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## 1 Introduction

Void Management Index is a decentralized protocol on the Ethereum blockchain that allows you to buy or sell many ERC20 tokens with low gas fees in one transaction. If you want to buy or sell many tokens simultaneously, then you run many transactions with complex calculations of prices and quantities or use our Index as the collection of many cryptocurrencies together. The first method requires you to run many transactions by hand and waste lots of fees on your token swaps. The Index splits fees between all the users and allows you to buy and sell multiple tokens in several or even one transactions. You receive the Index ERC20 token that contains many tokens at once and can be used as any other token on the Ethereum network.

## 2 Product description

### 2.1 Problems

The two main problems in storing many assets in one wallet on the Ethereum blockchain are gas prices and poor management. If you want to buy many tokens, you will need to spend lots of money on [gas](#) to get all of them from decentralized exchanges(DEX) or other types of programs. Aside from the money spent on gas, you will need to measure each amount of tokens bought and spend many hours waiting for your transactions to finish. The more cryptocurrencies you want in your portfolio, the higher the gas price and time consumption will be. That is why we created Crypto Index which allows you to get multiple tokens in a decentralized manner at once.

### 2.2 Index Interactions

Index is a collection of multiple tokens that have different ratios and are contained in one ERC20 token at the end. The Index price derives from the prices of the tokens and their ratios. You can reduce gas costs and quickly buy many crypto tokens with our Index.

If you want to buy the Index:

- You need to send some base currency(DAI, USDT, ETH) to the Index.

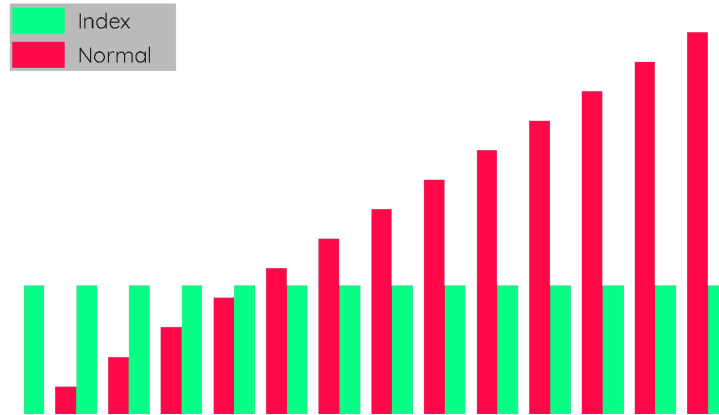


Figure 1: Index gas prices compared to Uniswap exchange gas prices for multiple token operations

- Your wallet will have some corresponding debt.
- We will run the settlement process that manages the underlying assets.
- You send another transaction that will retrieve your debt and add some Index ERC20 Token to your account

We do not buy the tokens once you send your transaction, as Ethereum and Solidity do not allow that. Instead, you add some debt to your account. The debt determines the number of tokens you can get from the Index after the settlement. **Settlement is the process that locks the Index for buy and sell operations and manages the underlying assets. We close the Index and run Uniswap(or other) transactions that allow contracts to hold real tokens. We send 'N+2' transactions where 'N' is the number of cryptocurrencies in the Index. Those transactions are ran through our own services, and that is the only part of the product that is not decentralized. However, nobody has access to your funds, as the only thing that we do is run the settlement without accessing the crypto in the contract.** After the settlement, we open the Index, and you can retrieve available debt to receive the Index ERC20 token. That ERC20 token represents all the tokens inside the index and can be used in other programs as a typical ERC20 token.

### 2.3 How did we solve high gas prices?

As we said before, the main problem in buying many tokens is gas prices. But, our Index is not heavy on the gas. That is because we use fees and the settlement process. When you buy or sell our product, we get some product fees aside from the Ethereum gas fees. The Index sends product fees to our wallet, which runs the settlement process. Instead of buying all the tokens in one transaction(which is

impossible now), we use the settlement process and send many transactions covering single token swaps. The gas is low for you because we get product fees from you and many other people but run swap transactions ourselves.

## **2.4 How did we solve management issues?**

The Index allows you to get a single ERC20 Index token which represents all the tokens and their ratios inside. Think of it like that: you send us some crypto, we buy all the assets and give you the tokens representing all assets in some quantities. After you have the ERC20 Index token in the wallet, you can transfer it, sell it on the exchanges, lend it, use in other applications, and work with it as a standard ERC20 token. The only difference is that each Index token has multiple crypto tokens inside of it.

## **2.5 Other problems solved**

Other problems that we solved are gas limits. You may want to run a long and complex operation on the Ethereum network, but it may fail due to gas limits. When we started working on the Index, the maximum number of tokens to buy was two ERC20 tokens. Any number higher than that failed due to gas limits we could not control. That is why our settlement process only works with many transactions we send ourselves. Each transaction swaps and manages a single token in the Index without exceeding the gas limit.

## **3 The future of the Index**

The Index is in development right now. That is why we do not advise you to do anything with it until you are sure of your actions. But, we want to see the Index as the first investing tool for the general public since it allows you to buy multiple tokens diversifying your investment. If we look at the technical side, we can probably decentralize the settlement process and allow for rebalancing, token changes, and replacements. In terms of the usage of the Index, we want to see it on DEX and other applications, not our own. That is because we can avoid the settlement process by just swapping tokens on DEX without paying additional fees or waiting for the settlement process to start and finish.

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