TimingSwap Whitepaper

Abstract

This technical white paper explains some of the new design decisions behind the Timingswap contract(A New Kind Of Intelligent Decentralized Exchange). The core transaction function of Timingswap comes from the factory and router contract of uniswap v2. During the development of Timingswap, the fee collection proportion of feeto has been adjusted, increasing it from 1 / 6 to 1 / 2. All transaction fees shall be entered into the TimingGuarder contract address (i.e. feeto address) and cannot be changed. Compared with uniswap v2, Timingswap adds the transaction volume statistics function and Timingtoken distribution function of token-eth transaction pairs. Therefore, the following text only describes the functions added by Timingswap compared with uniswap v2. See the uniswap v2 white paper for other similar functions.



Introduction

The added functions of Timingswap compared with uniswap v2 are described as follows according to the Contract Name:

1. Factory:only the statistics function of LP tokens in different pairs is added.The function of restricting the feeto address is added through the timelocker variable. After 100 blocks of the feeto address are set, the feeto address cannot be changed by the feetoseter..
2. RouterV2:add the transaction volume statistics function getnumber for token-eth transaction pairs (the transaction volume is calculated based on the main network currency ETHER), and add the minting distribution function mintto of Timingtoken (ensure that the exchange will not cast Timingtoken repeatedly by comparing followblock and lastblock, so this function is defined as public and can be called by everyone), The distribution of Timingtoken is divided into two categories, which are different for traders and liquidity providers:
3. The method for traders is to multiply the proportion of each trader's statistical trading volume in the total statistical trading volume in each block by 47.5% of the total minting volume of the Timingtoken in each block.
4. The method for liquidity providers: first, according to the proportion of the statistical trading volume of a pool in each block to the total statistical trading volume in the block, multiply by the proportion of LP token supply volume of liquidity providers in the pool, and finally multiply by 47.5% of the total minting volume of Timingtoken in each block. (999827 / 1000000 is the adjustment factor for the increase of minting quantity due to the influence of initial liquidity of pool locking). It should be noted that the proportion of a single LP provider for liquidity mining is recommended not to exceed 50% of the total liquidity pool. Otherwise, its mining will be affected by the getback method of the timingguard contract, which may lead to the temporary inability to dig out TimingToken and damage interests. Therefore, it is recommended that the maximum LP providers divide the liquidity into two accounts to ensure that it is not affected by getback.
5. 5% of the total minting quantity of Timingtoken in each block is mint to the developer's address.

Total minting capacity of Timingtoken: it is designed according to the principle of halving every 180 days. The theoretical total supply is no more than 21 million. The output of each block varies with the time of block out in different main networks (for example, the ETH main network has 4.41 blocks per minute, so the initial output of each block is designed to be 9.186765070277; the BSC main network has 20 blocks per minute, so the initial output of each block is designed to be 2.025462962962; the HECO main network has 20 blocks per minute, so the initial output of each block is designed to be 2.025462962962) , the corresponding Timingtoken of all Timingswap blocks without transaction volume cannot be digged out (equivalent to be burned).

1. TimingGuarder:The feeto service charge of Timingswap is increased from 1 / 6 of uniswap v2 to 1 / 2, and the TimingGuarder contract address is setted to the feeto address. The contract has two main functions: function convertworth and function getback: ① function convertweth is used to convert all the service charges (the service charges are entered in the form of LP token) into weth. This function needs to be manually called by the user to obtain the latest baseprice (calculate the base price according to the weth stock in the contract corresponding to the total supply of Timingtoken at this time); ② the function getback is to automatically return the corresponding number of weth to the address of Timingtoken senders according to the base price in the contract and burn the Timingtoken in the contract.
2. TimingToken: The ownership of Timingtoken has been transferred to the router contract, The token contract is based on the sushi token contract, only minor modifications are made, and the function burn method, function Tapprove authorization method and function transferfrom method are added.

Disclaimers

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**Diagram:**

1. The Transanction Fee of TimingSwap is 0.3%.
2. Half amount of total fee will be sent to Timingguarder(FEETO) address.
3. FEETO address can not be changed after 100 blocks since it has been set.
4. The ownership of TimingToken is transfer to Router contract.
5. The amount of TimingToken mint cut off a half per block every about 180 days.
6. The total supply of TimingToken is about 21million.
7. Traders will share the 47.5% of the total supply of TimingToken according to their Proof Of Trading Volume.
8. Liquidity providers earn another half of 0.3% fee on all trades proportional to their share of the pool. And they will earn another 47.5% TimingToken in the way of each pool’s POT(Proof Of Trading Volume) and their POS(Proof Of Staking Volume) when the Token was mint per block.
9. The devs will get 5% TimingToken when the Token was mint per block.
10. Every TimingToken holders can call the Timgingguarder address getback function to exchange their TimingToken for ETHER at the baseprice, those TimingToken will be burn.
11. TimingToken Only can be dig out by Traders’Transactions from Token-ETHER pairs. And NO Transactions NO TimingTokens !

FEETO

ETHER

OWNER

TimingToken

**Note:** 1. It is recommended that the proportion of single LP providers for liquidity mining should not exceed 50% of the total liquidity pool. The maximum LP providers can divide the liquidity into two accounts equally to ensure that it is not affected by getback.

2. Mining can only be traded in ETH-Token transaction pairs. Mining cannot be traded in Token-Token transaction pairs. Only normal trading functions are available in Token-Token transaction pairs...

Timingswap interpretation:

1. Transaction function: the same as uniswap v2

2. Mining function: similar to sushiswap, liquidity mining (47.5% of the total amount can be excavated) and Trading (competition) mining (47.5% of the total amount can also be excavated). It should be noted that the proportion of a single LP provider for liquidity mining is recommended not to exceed 50% of the total liquidity pool. Otherwise, its mining will be affected by the getback method of the timingguard contract, which may lead to the temporary inability to dig out timing and damage the interests. Therefore, it is recommended that the largest LP providers divide the liquidity equally into two accounts, To ensure that it is not affected by the getback.

3. Timingguard contract: the basic price of 100% timing token is guaranteed to be exchanged through the getback method, and the exchange price is transparent and verifiable, and all the exchanged timing tokens are automatically destroyed. Therefore, either the timing token is destroyed or (permanently locked) eth is destroyed.

4. Timing token: the production will be reduced by half every 180 days or so. The timing token can only be dug up when the timingswap has a transaction volume. Otherwise, the timing token of the corresponding block will be automatically destroyed (unable to be dug up).

5. Introduce a new blockchain concept: the timing token will become an eth based token. Each timing token has a corresponding eth as collateral. It is valuable at birth, and the production will be reduced by half every 180 days. It will be upgraded on the basis of BTC deflation mode. For the first time, the technology is used to link the timing token with the currency that is now valuable, so as to realize the "floating linked exchange rate system" of the timing token. The security of the project is improved by using valuable currencies for mortgage guarantee exchange.

6. All timing token holders have the full right to exchange the weth of the timingguard address in proportion. The weth of the timingguard address is the storage address for 50% of the service charge of timingswap. As time goes on, therefore, timing token holders are the beneficiaries of timingswap. The holder of timing token has the right to vote and can participate in project governance.