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AUDIT COMPANY

Smart Contract Security Audit

TechRate

December, 2021

Audit Details

Audited project

Meta Stake Finance

Deployer address

0x49a0da3713427c0dab2af0ca83eb7a828e7acc25

Client contacts:

Meta Stake Finance team

Blockchain

Binance Smart Chain

Project website:

Not provided

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by Meta Stake Finance to perform an audit of smart contracts:

https://bscscan.com/address/0xB67A9caA00506F88B572298bd61eE92a9375844A#code

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contracts Details

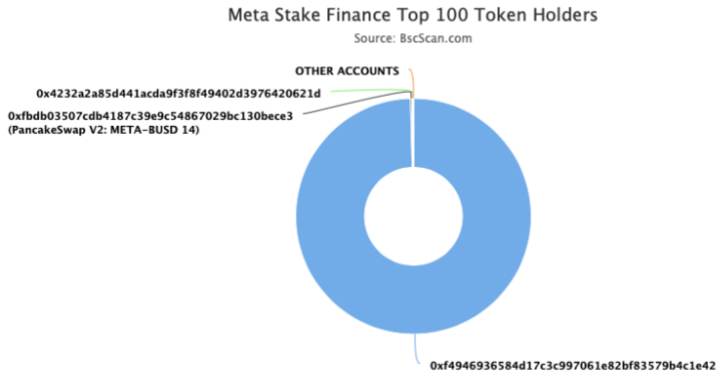
Token contract details for 18.12.2021

Contract name	Meta Stake Finance
Contract address	0xB67A9caA00506F88B572298bd61eE92a9375844A
Total supply	500
Token ticker	META
Decimals	18
Token holders	3
Transactions count	4
Top 100 holders dominance	100.00%
Contract deployer address	0x49a0da3713427c0dab2af0ca83eb7a828e7acc25
Contract's current owner address	0xf4946936584d17c3c997061e82bf83579b4c1e42

Meta Stake Finance Token Distribution

The top 100 holders collectively own 100.00% (500.00 Tokens) of Meta Stake Finance

Token Total Supply: 500.00 Token | Total Token Holders: 3



(A total of 500.00 tokens held by the top 100 accounts from the total supply of 500.00 token)

Meta Stake Finance Contract Interaction Details

Time Series: Token Contract Overview

Tue 7, Dec 2021 - Thu 9, Dec 2021

Meta Stake Finance Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0xf4946936584d17c3c997061e82bf83579b4c1e42	498	99.6000%
2	PancakeSwap V2: META-BUSD 14	1	0.2000%
3	0x4232a2a85d441acda9f3f8f49402d3976420621d	1	0.2000%

Contract functions details

+ [Int] IUniswapV2Factory
  - [Ext] feeTo
  - [Ext] feeToSetter
  - [Ext] getPair
  - [Ext] allPairs
  - [Ext] allPairsLength
  - [Ext] createPair #
  - [Ext] setFeeTo #
  - [Ext] setFeeToSetter #
+ [Int] IUniswapV2Pair
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transfer #
  - [Ext] transferFrom #
  - [Ext] DOMAIN_SEPARATOR
  - [Ext] PERMIT_TYPEHASH
  - [Ext] nonces
  - [Ext] permit #
  - [Ext] MINIMUM_LIQUIDITY
  - [Ext] factory
  - [Ext] token0
  - [Ext] token1
  - [Ext] getReserves
  - [Ext] price0CumulativeLast
  - [Ext] price1CumulativeLast
  - [Ext] kLast
  - [Ext] mint #
  - [Ext] burn #
  - [Ext] swap #
  - [Ext] skim #
  - [Ext] sync #
  - [Ext] initialize #
+ [Int] IUniswapV2Router01
  - [Ext] factory
  - [Ext] WETH
  - [Ext] addLiquidity #
  - [Ext] addLiquidityETH ($)
  - [Ext] removeLiquidity #
  - [Ext] removeLiquidityETH #
  - [Ext] removeLiquidityWithPermit #
  - [Ext] removeLiquidityETHWithPermit #
  - [Ext] swapExactTokensForTokens #
  - [Ext] swapTokensForExactTokens #
  - [Ext] swapExactETHForTokens ($)
  - [Ext] swapTokensForExactETH #
  - [Ext] swapExactTokensForETH #
  - [Ext] swapETHForExactTokens ($)

  - [Ext] quote
  - [Ext] getAmountOut
  - [Ext] getAmountIn
  - [Ext] getAmountsOut
  - [Ext] getAmountsIn
+ [Int] IUniswapV2Router02 (IUniswapV2Router01)
  - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
  - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
  - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
  - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens ($)
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
+ [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Int] functionStaticCall
  - [Int] functionStaticCall
  - [Int] functionDelegateCall #
  - [Int] functionDelegateCall #
  - [Prv] _verifyCallResult
+ [Lib] SafeBEP20
  - [Int] safeTransfer #
  - [Int] safeTransferFrom #
  - [Int] safeApprove #
  - [Int] safeIncreaseAllowance #
  - [Int] safeDecreaseAllowance #
  - [Prv] _callOptionalReturn #
+ [Lib] SafeMath
  - [Int] tryAdd
  - [Int] trySub
  - [Int] tryMul
  - [Int] tryDiv
  - [Int] tryMod
  - [Int] add
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] mod
  - [Int] sub
  - [Int] div
  - [Int] mod
+ [Int] IBEP20
  - [Ext] totalSupply
  - [Ext] decimals
  - [Ext] symbol
  - [Ext] name
  - [Ext] getOwner
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ Context
  - [Int] _msgSender
  - [Int] _msgData
+ Ownable (Context)
  - [Int] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
+ BEP20 (Context, IBEP20, Ownable)
  - [Pub] <Constructor> #
  - [Ext] getOwner
  - [Pub] name
  - [Pub] decimals
  - [Pub] symbol
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Pub] mint #
    - modifiers: onlyOwner
  - [Int] _transfer #
  - [Int] _mint #
  - [Int] _burn #
  - [Int] _approve #
  - [Int] _burnFrom #
+ MetaStakeFinance (BEP20)
  - [Pub] <Constructor> #
    - modifiers: BEP20
  - [Pub] mint #
  - [Int] _transfer #
    - modifiers: antiWhale
  - [Pub] getToken #
    - modifiers: onlyOperator
  - [Prv] swapAndLiquify #
    - modifiers: lockTheSwap,transferTaxFree
  - [Prv] swapTokensForEth #
  - [Prv] addLiquidity #
  - [Pub] maxTransferAmount
  - [Pub] isExcludedFromAntiWhale
  - [Ext] <Fallback> ($)
  - [Pub] updateTransferTaxRate #
    - modifiers: onlyOperator
  - [Pub] updateBurnRate #
    - modifiers: onlyOperator
  - [Pub] updateMaxTransferAmountRate #
    - modifiers: onlyOperator
  - [Pub] updateMinAmountToLiquify #
    - modifiers: onlyOperator
  - [Pub] setExcludedFromAntiWhale #

    - modifiers: onlyOperator
  - [Pub] updateSwapAndLiquifyEnabled #
    - modifiers: onlyOperator
  - [Pub] UpdateSwapEnabled #
    - modifiers: onlyOwner
  - [Pub] updateMetaRouter #
    - modifiers: onlyOperator
  - [Pub] updateMinter #
    - modifiers: onlyOperator
  - [Pub] operator
  - [Pub] transferOperator #
    - modifiers: onlyOperator
  - [Ext] delegates
  - [Ext] delegate #
  - [Ext] delegateBySig #
  - [Ext] getCurrentVotes
  - [Ext] getPriorVotes
  - [Int] _delegate #
  - [Int] _moveDelegates #
  - [Int] _writeCheckpoint #
  - [Int] safe32
  - [Int] getChainId

($) = payable function
= non-constant function

Issues Checking Status

	Issue description	Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Passed
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user data leaks.	Passed
14.	Malicious Event log.	Passed
15.	Scoping and Declarations.	Passed
16.	Uninitialized storage pointers.	Passed
17.	Arithmetic accuracy.	Passed
18.	Design Logic.	Passed
19.	Cross-function race conditions.	Passed
20.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

Security Issues

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

No low severity issues found.

Notes:

- There is sending tokens to the dead address in overridden _transfer functions, instead of burning them in token contract.

Owner privileges:

- Owner can mint before transferring ownership to MasterChef.
- Operator can change the operator.
- Operator can change the transfer tax rate.
- Operator can change the burn rate.
- Operator can change the max transfer amount rate.
- Operator can exclude and include in antiWhale.
- Operator can change the min amount to liquify.
- Operator can change the router and pair contract addresses, which could be not audited.
- Operator can withdraw contract BEP20 tokens.

Conclusion

Smart contracts do not contain high severity issues! Audited only token of the project. Liquidity pair contract's security is not checked due to out of scope.

Liquidity locking details NOT provided by the team.

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.