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AUDIT COMPANY

Smart Contract Security Audit

TechRate

February, 2022

Audit Details

Audited project

DFS MAFIA

Deployer address

0x6a540ee12a1df6e1c72d7fa2829c9e52f63a01ec

Client contacts:

DFS MAFIA team

Blockchain

Binance Smart Chain

Project website:

https://dfs-mafia.com/

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 DFS MAFIA to perform an audit of smart contracts:

https://bscscan.com/address/0x5DBeaA03927255cA8aF5aD3821B2A170B44a25a5#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

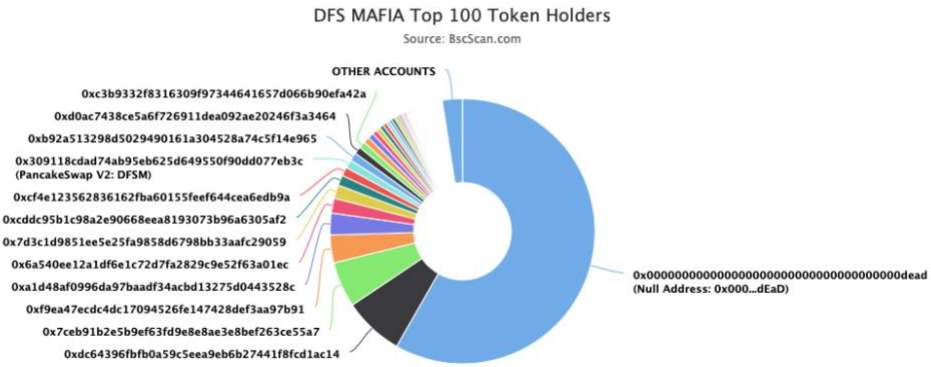
Token contract details for 14.02.2022

Contract name	DFS MAFIA
Contract address	0x5DBeaA03927255cA8aF5aD3821B2A170B44a25a5
Total supply	1,000,000,000,000
Token ticker	DFSM
Decimals	9
Token holders	1,380
Transactions count	14,209
Top 100 holders dominance	97.55%
Liquidity fee	1000
Tax fee	200
Total fees	87430280235945831702
Uniswap V2 pair	0x309118cdad74ab95eb625d649550f90dd077eb3c
Contract deployer address	0x6a540ee12a1df6e1c72d7fa2829c9e52f63a01ec
Contract's current owner address	0x6a540ee12a1df6e1c72d7fa2829c9e52f63a01ec

DFS MAFIA Token Distribution

The top 100 holders collectively own 97.55% (975,487,343,337.90 Tokens) of DFS MAFIA

Token Total Supply: 1,000,000,000,000.00 Token | Total Token Holders: 1,380

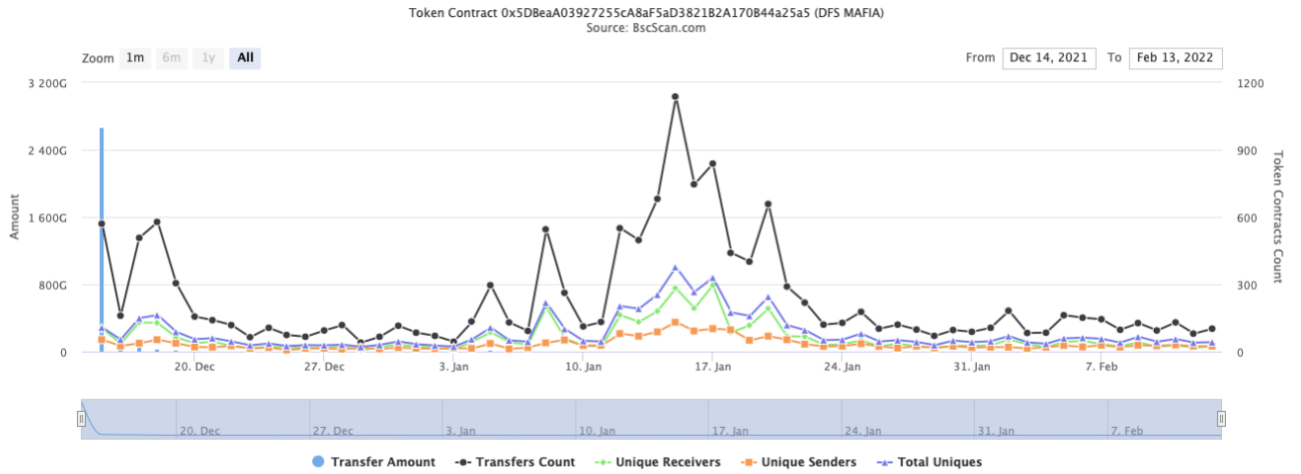


(A total of 975,487,343,337.90 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000.00 token)

DFS MAFIA Contract Interaction Details

Time Series: Token Contract Overview

Wed 15, Dec 2021 - Sun 13, Feb 2022



DFS MAFIA Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	Null Address: 0x000...dEaD	582,893,415,502.336375032	58.2893%
2	0xdc64396fbfb0a59c5eea9eb6b27441f8fcd1ac14	73,337,545,271.135083532	7.3338%
3	0x7ceb91b2e5b9ef63fd9e8e8ae3e8bef263ce55a7	55,504,623,314.072602716	5.5505%
4	0xf9ea47ecdc4dc17094526fe147428def3aa97b91	33,923,863,408.779323023	3.3924%
5	0xa1d48af0996da97baadf34acbd13275d0443528c	26,418,398,926.175342369	2.6418%
6	0x6a540ee12a1df6e1c72d7fa2829c9e52f63a01ec	18,115,938,851.697611185	1.8116%
7	0x7d3c1d9851ee5e25fa9858d6798bb33aafc29059	16,360,057,059.259831367	1.6360%
8	0xcddc95b1c98a2e90668eea8193073b96a6305af2	12,645,182,884.307131557	1.2645%
9	0xcf4e1235628361 62fba60155feef644cea6edb9a	10,720,649,323.449134568	1.0721%
10	PancakeSwap V2: DFSM	10,218,256,335.464451091	1.0218%

Contract functions details

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ Context
  - [Int] _msgSender
  - [Int] _msgData

+ Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Prv] _setOwner #

+ [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

+ [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Int] functionStaticCall
  - [Int] functionStaticCall
  - [Int] functionDelegateCall #
  - [Int] functionDelegateCall #
  - [Int] verifyCallResult

+ [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 #

+ [Int] IUniswapV2Factory
  - [Ext] feeTo
  - [Ext] feeToSetter
  - [Ext] getPair
  - [Ext] allPairs
  - [Ext] allPairsLength
  - [Ext] createPair #
  - [Ext] setFeeTo #
  - [Ext] setFeeToSetter #

+ BaseToken

+ LiquidityGeneratorToken (IERC20, Ownable, BaseToken)
  - [Pub] <Constructor> ($)
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Pub] isExcludedFromReward
  - [Pub] totalFees
  - [Pub] deliver #
  - [Pub] reflectionFromToken

- [Pub] tokenFromReflection
- [Pub] excludeFromReward #
  - modifiers: onlyOwner
- [Ext] includeInReward #
  - modifiers: onlyOwner
- [Prv] _transferBothExcluded #
- [Pub] excludeFromFee #
  - modifiers: onlyOwner
- [Pub] includeInFee #
  - modifiers: onlyOwner
- [Ext] setTaxFeePercent #
  - modifiers: onlyOwner
- [Ext] setLiquidityFeePercent #
  - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
  - modifiers: onlyOwner
- [Ext] <Fallback> ($)
- [Prv] _reflectFee #
- [Prv] _getValues
- [Prv] _getTValues
- [Prv] _getRValues
- [Prv] _getRate
- [Prv] _getCurrentSupply
- [Prv] _takeLiquidity #
- [Prv] _takeCharityFee #
- [Prv] calculateTaxFee
- [Prv] calculateLiquidityFee
- [Prv] calculateCharityFee
- [Prv] removeAllFee #
- [Prv] restoreAllFee #
- [Pub] isExcludedFromFee
- [Prv] _approve #
- [Prv] _transfer #
- [Prv] swapAndLiquify #
  - modifiers: lockTheSwap
- [Prv] swapTokensForEth #
- [Prv] addLiquidity #
- [Prv] _tokenTransfer #
- [Prv] _transferStandard #
- [Prv] _transferToExcluded #
- [Prv] _transferFromExcluded #

($) = 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.	Low issues
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

1. Out of gas

Issue:

- The function includeInReward() uses the loop to find and remove addresses from the _excluded list. Function will be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

```
function includeInReward(address account) external onlyOwner() {
    require(_isExcluded[account], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
}
```

- The function _getCurrentSupply also uses the loop for evaluating total supply. It also could be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

```
function _getCurrentSupply() private view returns (uint256, uint256) {
    uint256 rSupply = _rTotal;
    uint256 tSupply = _tTotal;
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (
            _rOwned[_excluded[i]] > rSupply ||
            _tOwned[_excluded[i]] > tSupply
        ) return (_rTotal, _tTotal);
        rSupply = rSupply.sub(_rOwned[_excluded[i]]);
        tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    }
    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
    return (rSupply, tSupply);
}
```

Recommendation:

Check that the excluded array length is not too big.

Owner privileges (In the period when the owner is not renounced)

- Owner can change the tax and liquidity fee.

```
function setTaxFeePercent(uint256 taxFeeBps⬆) external onlyOwner {
    _taxFee = taxFeeBps⬆;
    require(
        _taxFee + _liquidityFee + _charityFee <= 10**4 / 4,
        "Total fee is over 25%"
    );
}

ftrace | funcSig
function setLiquidityFeePercent(uint256 liquidityFeeBps⬆)
    external
    onlyOwner
{
    _liquidityFee = liquidityFeeBps⬆;
    require(
        _taxFee + _liquidityFee + _charityFee <= 10**4 / 4,
        "Total fee is over 25%"
    );
}
```

- Owner can exclude from the fee.

```
    function excludeFromFee(address account⬆) public onlyOwner {
        _isExcludedFromFee[account⬆] = true;
    }
```

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope.

Liquidity locking details provided by the team:
https://deeplock.io/lock/0x309118CdaD74ab95Eb625d649550F90Dd077EB3c

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.