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AUDIT COMPANY

Brave Doge
Smart Contract Security Audit

TechRate

August, 2021

Audit Details

Audited project

Brave Doge

Deployer address

0x1df925d52a7dade6411cf669fa796f1e62bbc509

Client contacts:

Brave Doge team

Blockchain

Binance Smart Chain

Project website:

bravedoge.io

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 Brave Doge to perform an audit of smart contracts:

https://bscscan.com/address/0x07510cd60d7e0ccf5e23f70c8dc4fdfb1c150b54#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

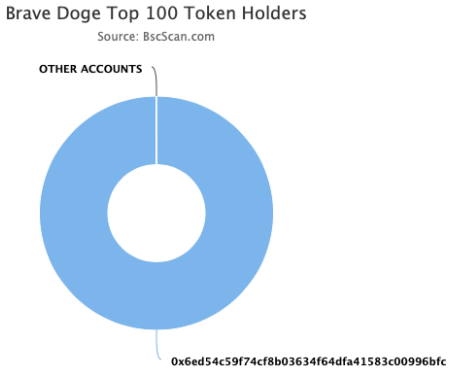
Token contract details for 25.08.2021

Contract name	Brave Doge
Contract address	0x07510cD60d7e0ccF5e23F70c8dc4FdfB1C150b54
Total supply	100,000,000,000,000
Token ticker	Brave
Decimals	9
Token holders	1
Transactions count	1
Top 100 holders dominance	100.00%
Liquidity fee	2
Tax fee	2
Marketing fee	700
Uniswap V2 pair	0x59411605969a99e9c92eed04df9c9037c07093c6
Contract deployer address	0x1df925d52a7dade6411cf669fa796f1e62bbc509
Contract’s current owner address	0x6ed54c59f74cf8b03634f64dfa41583c00996bfc

Brave Doge Token Distribution

The top 100 holders collectively own 100.00% (100,000,000,000,000.00 Tokens) of Brave Doge

Token Total Supply: 100,000,000,000,000.00 Token | Total Token Holders: 1

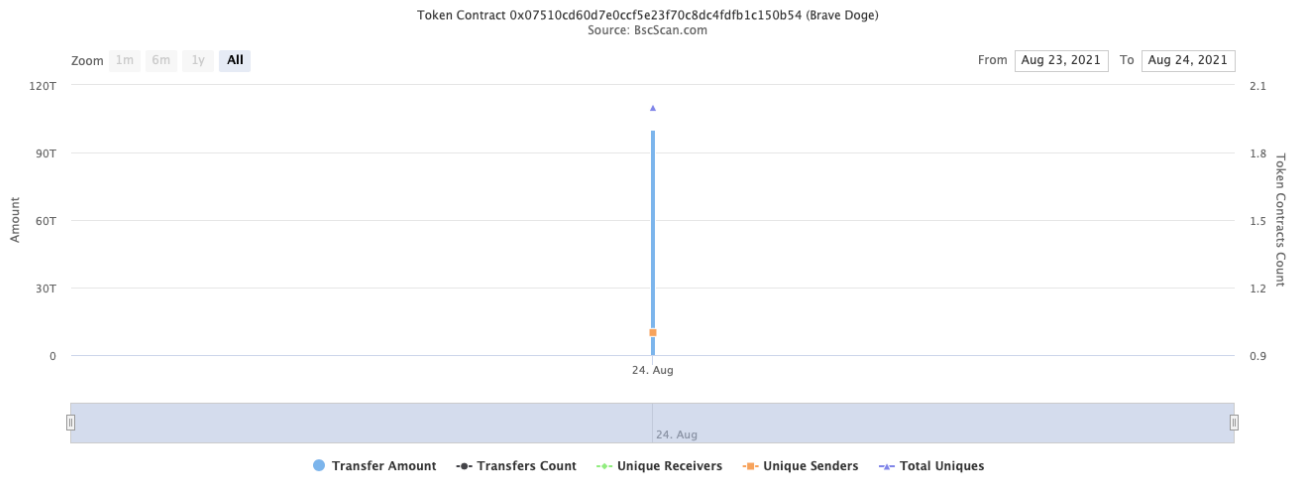


(A total of 100,000,000,000,000.00 tokens held by the top 100 accounts from the total supply of 100,000,000,000,000.00 token)

Brave Doge Contract Interaction Details

Time Series: Token Contract Overview

Tue 24, Aug 2021 - Tue 24, Aug 2021



Brave Doge Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x6ed54c59f74cf8b03634f64dfa41583c00996bfc	100,000,000,000,000	100.0000%

Contract functions details

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

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

+ [Lib] SafeMath
  - [Int] add
  - [Int] sub
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] div
  - [Int] mod
  - [Int] mod
  - [Int] ceil

+ [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Prv] _functionCallWithValue #

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

+ [Int] IUniswapV2Factory
  - [Ext] createPair #

+ [Int] IUniswapV2Pair
  - [Ext] sync #

+ [Int] IUniswapV2Router01
  - [Ext] factory
  - [Ext] WETH
  - [Ext] addLiquidity #
  - [Ext] addLiquidityETH ($)

+ [Int] IUniswapV2Router02 (IUniswapV2Router01)
  - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
  - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
  - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens ($)

+ RewardWallet
  - [Pub] <Constructor> #

+ Balancer
  - [Pub] <Constructor> #

+ BraveDoge (Context, IERC20, Ownable)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Int] find2Percent
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Pub] isExcluded
  - [Pub] reflectionFromToken
  - [Pub] tokenFromReflection
  - [Ext] excludeAccount #
    - modifiers: onlyOwner
  - [Ext] includeAccount #
    - modifiers: onlyOwner
  - [Prv] _approve #
  - [Prv] _transfer #
  - [Prv] collectFee #
  - [Prv] _getReflectionRate
  - [Prv] swapAndLiquify #
    - modifiers: lockTheSwap
  - [Prv] swapTokensForEth #
  - [Prv] addLiquidity #
  - [Ext] setPair #
    - modifiers: onlyOwner
  - [Ext] setTaxless #
    - modifiers: onlyOwner
  - [Ext] setSwapAndLiquifyEnabled #
    - modifiers: onlyOwner
  - [Ext] setFeeActive #
    - modifiers: onlyOwner
  - [Ext] setTaxFee #
    - modifiers: onlyOwner
  - [Ext] setBurnFee #
    - modifiers: onlyOwner
  - [Ext] setLiquidityFee #
    - modifiers: onlyOwner

- [Ext] setMarketingFee #
  - modifiers: onlyOwner
- [Ext] setMaxTxAmount #
  - modifiers: onlyOwner
- [Ext] setMinTokensBeforeSwap #
  - modifiers: onlyOwner
- [Ext] <Fallback> ($)

($) = 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:

- Marketing fee is always taken at every transfer.
- swapAndLiquify's liquidity adding is disproportionate.

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

- Owner can change the tax, burn and liquidity fee.

```
ftrace | funcSig
function setTaxFee(uint256 fee) external onlyOwner {
    _taxFee = fee;
}

ftrace | funcSig
function setBurnFee(uint256 fee) external onlyOwner {
    _burnFee = fee;
}

ftrace | funcSig
function setLiquidityFee(uint256 fee) external onlyOwner {
    _liquidityFee = fee;
}
```

- Owner can change the maximum transaction amount.

```
ftrace | funcSig
function setMaxTxAmount(uint256 amount↑) external onlyOwner {
    maxTxAmount = amount↑;
}
```

- Owner can change uniswapV2Pair.

```
ftrace | funcSig
function setPair(address pair↑) external onlyOwner {
    uniswapV2Pair = pair↑;
}
```

- Owner can exclude from the taxes.

```
ftrace | funcSig
function setTaxless(address account↑, bool value↑) external onlyOwner {
    isTaxless[account↑] = value↑;
}
```

- Owner can disable and enable fees.

```
ftrace | funcSig
function setFeeActive(bool value↑) external onlyOwner {
    isFeeActive = value↑;
}
```

- Owner can change marketing fee.

```
ftrace | funcSig
function setMarketingFee(uint256 amount↑) external onlyOwner {
    MarketingFee= amount↑;
}
```

- Owner can change minimum amount of tokens needed to swap.

```
ftrace | funcSig
function setMinTokensBeforeSwap(uint256 amount↑) external onlyOwner {
    minTokensBeforeSwap = amount↑;
}
```

Conclusion

Smart contracts do not contain high severity issues! 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.