



Smart Contract Security Audit

Audit details:

Audited project:	BOGECOIN
Deployer address:	0xf8817128624ea0ca15400dee922d81121c9b9839
Client contacts:	BOGECOIN team
Blockchain:	Binance Smart Chain
Project website:	https://www.bogecoin.org

April, 2021
TechRate

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 BOGECOIN to perform an audit of smart contracts:

- <https://bscscan.com/address/0x248c45af3b2f73bc40fa159f2a90ce9cad7a77ba#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

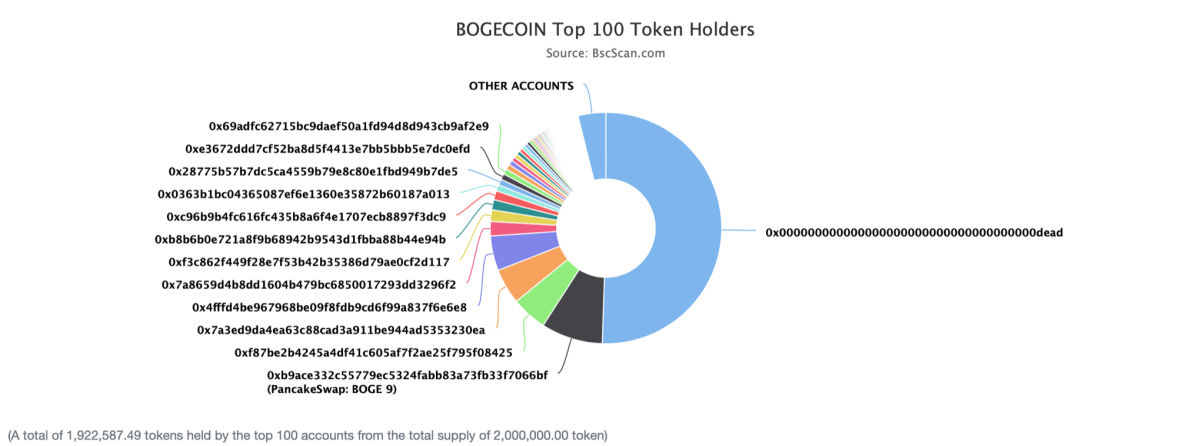
Token contract details for 20.04.2021.

Contract name:	BOGECOIN
Contract address:	0x248c45af3b2f73bc40fa159f2a90ce9cad7a77ba
Total supply:	2_000_000_000_000_000
Token ticker:	BOGE
Decimals:	9
Token holders:	370
Transactions count:	1190
Top 100 holders dominance:	96.13 %
Contract deployer address:	0xf8817128624ea0ca15400dee922d81121c9b9839
Contract's current owner address:	0xf8817128624ea0ca15400dee922d81121c9b9839

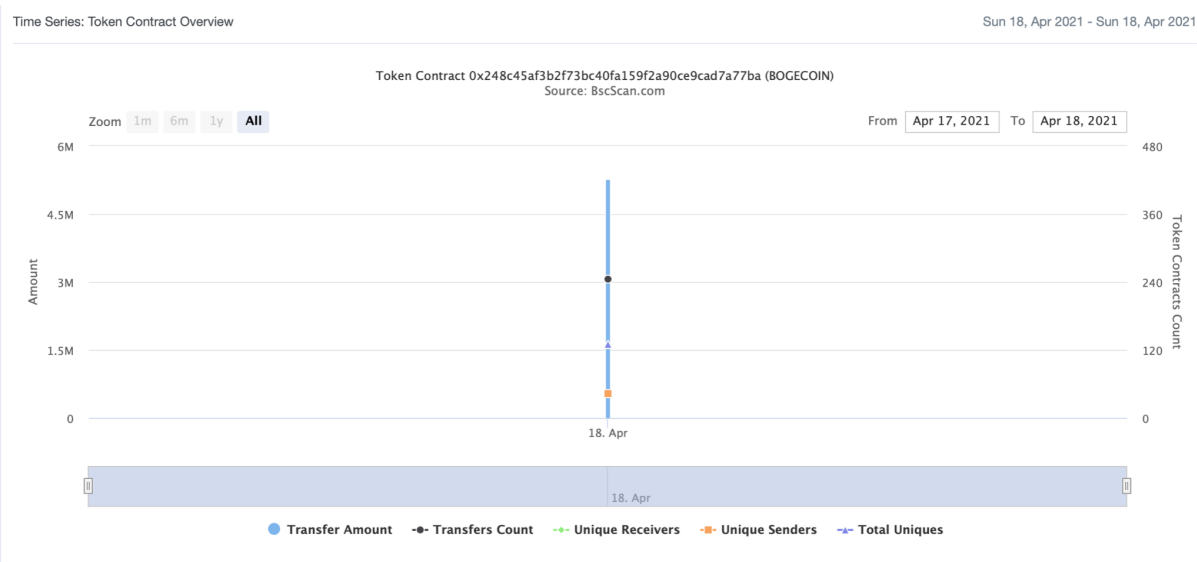
BOGECOIN token distribution

The top 100 holders collectively own 96.13% (1,922,587.49 Tokens) of BOGECOIN


Token Total Supply: 2,000,000.00 Token | Total Token Holders: 370



BOGECOIN contract interaction details



BOGECOIN top 10 token holders

Rank	Address	Quantity (Token)	Percentage
1	0x0000000000000000000000000000000000dead	1,010,309.315096609	50.5155%
2	 PancakeSwap: BOGE 9	172,020.834193208	8.6010%
3	0xf87be2b4245a4df41c605af7f2ae25f795f08425	99,438.343673448	4.9719%
4	0x7a3ed9da4ea63c88cad3a911be944ad5353230ea	99,196.65871841	4.9598%
5	0x4ffd4be967968be09f8fdb9cd6f99a837f6e6e8	97,077.857024612	4.8539%
6	0x7a8659d4b8dd1604b479bc6850017293dd3296f2	40,425.763550795	2.0213%
7	0xf3c862f449f28e7f53b42b35386d79ae0cf2d117	32,594.447626768	1.6297%
8	0xb8b6b0e721a8f9b68942b9543d1fba88b44e94b	28,194.116006077	1.4097%
9	0xc96b9b4fc616fc435b8a6f4e1707ecb8897f3dc9	25,226.988946178	1.2613%
10	0x0363b1bc04365087ef6e1360e35872b60187a013	18,000.486414029	0.9000%

Contract functions details

+ Context

- [Int] _msgSender
- [Int] _msgData

+ [Int] IBEP20

- [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

+ [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

+ BOGECOIN (Context, IBEP20, Ownable)

- [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] isExcluded
- [Pub] totalFees
- [Pub] reflect #
- [Pub] reflectionFromToken
- [Pub] tokenFromReflection
- [Ext] excludeAccount #
 - modifiers: onlyOwner
- [Ext] includeAccount #
 - modifiers: onlyOwner
- [Prv] _approve #
- [Prv] _transfer #
- [Prv] _transferStandard #
- [Prv] _transferToExcluded #
- [Prv] _transferFromExcluded #
- [Prv] _transferBothExcluded #
- [Prv] _reflectFee #
- [Prv] _getValues
- [Prv] _getTValues
- [Prv] _getRValues
- [Prv] _getRate
- [Prv] _getCurrentSupply

(\$) = 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 `includeAccount()` 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.
- ❑ 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.

Recommendation:

Use `EnumerableSet` instead of array or do not use long arrays.

Conclusion

Smart contracts contain only low severity issues.

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.