HackSafe

Smart Contract Security Audit Report

TRIPVERSE

March 2023

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
TRIPVERSE

Deployer address
0x961504cc5b94615476156a6b5525647d9c95363f

Client contacts
TRIPVERSE Team

Blockchain
Binance smart chain

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.

Procedure

Step 1 - In-Depth Manual Review

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

Step 2 - Automated Testing

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

Step 3 – Leadership Review

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

Step 4 - Resolution of Issues

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

Step 5 - Published Audit Report

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

Background

HackSafe was commissioned by TRIPVERSE to perform an audit of smart contracts:

- https://bscscan.com/token/0x2b8f0A1e125f1e5A6e9199d81258084b702bBA30#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 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.

Contract Details

Token contract details for 23.03.2023

Token Type	: DEFI
Contract name	: Tripverse
Contract address	: 0x2b8f0A1e125f1e5A6e9199d81258084b702bBA30
Total supply	: 1,000,000,000
Token ticker	: TV
Decimals	: 9
Token holders	: 804
Transactions count	: 4,854
Compiler version	: v0.8.9+commit.e5eed63a
Contract deployer address	: 0x961504cc5b94615476156a6b5525647d9c95363f
owner address	: 0x0000000000000000000000000000000000000000

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are **“Secure”.** This token contract does not contain owner control as ownership has been renounced, which do make it fully decentralized.

Insecure	Poor secured	Secure	Well-secured

You are here 

We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 0 medium and 0 low.

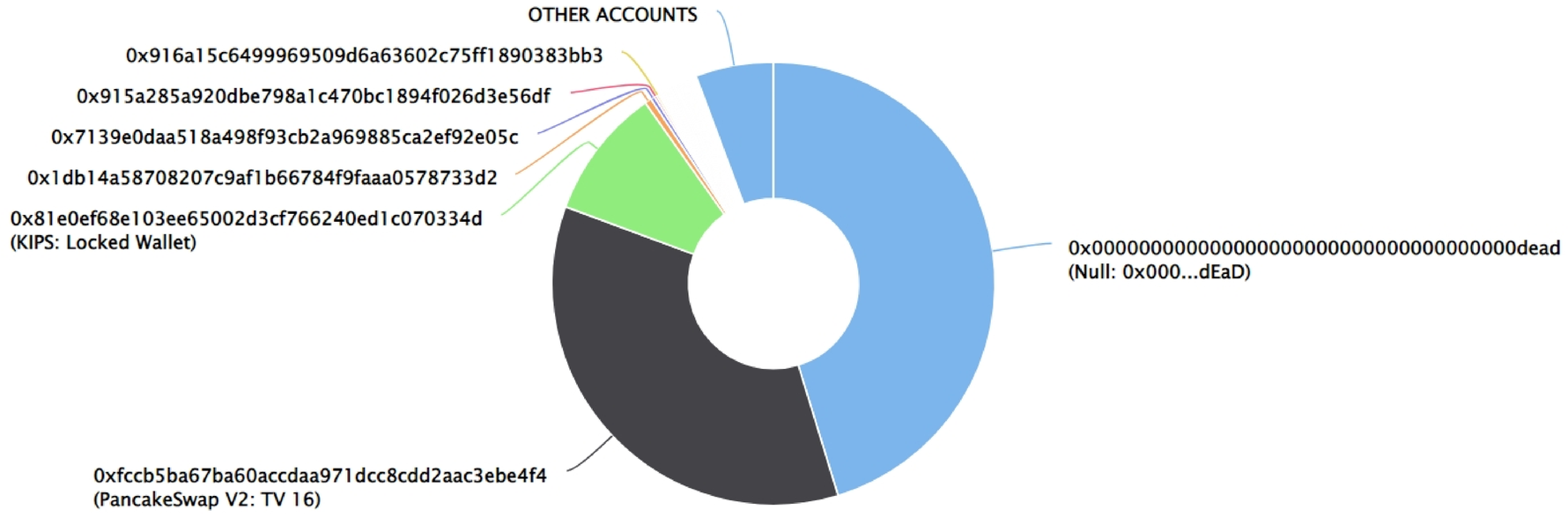
TRIPVERSE TOKEN Distribution

The top 100 holders collectively own 94.32% (943,249,348.33 Tokens) of TripVerse

Token Total Supply: 1,000,000,000.00 Token | Total Token Holders: 804

TripVerse Top 100 Token Holders

Source: BscScan.com



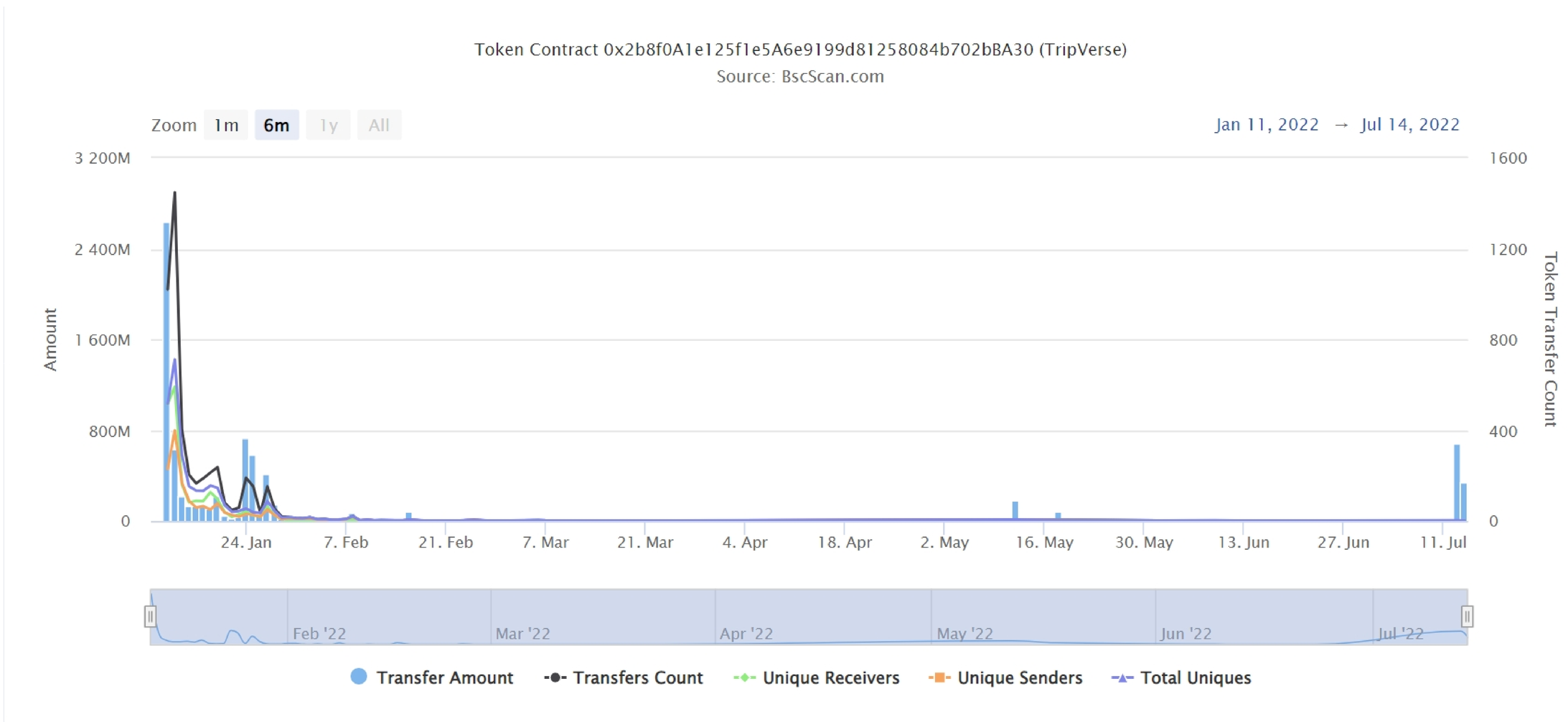
TRIPVERSE Token Top 20 Token Holders

(A total of 943,249,348.33 tokens held by the top 100 accounts from the total supply of 1,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	Null: 0x000...dEaD	452,890,229.373280823	45.2890%
2	PancakeSwap V2: TV 16	353,455,239.849226676	35.3455%
3	KIPS: Locked Wallet	95,526,952.648834586	9.5527%
4	0x1db14a58708207c9af1b66784f9faaa0578733d2	4,950,000	0.4950%
5	0x7139e0daa518a498f93cb2a969885ca2ef92e05c	2,822,697.821014584	0.2823%
6	0x915a285a920dbe798a1c470bc1894f026d3e56df	1,835,090.561213836	0.1835%
7	0x916a15c6499969509d6a63602c75ff1890383bb3	1,528,284.808205998	0.1528%
8	0xe855c0a0eb6f35a4a2be9c23539b551aba5aade8	1,314,550.955389903	0.1315%
9	0x644fab7e0263a865c7daceb0852041056c5651d6	1,035,527.471355281	0.1036%
10	0x215146f81d46ea33f233abb88bc7a93c6c2b289f	1,007,749.238644011	0.1008%
11	0x96074dec46f08330bf9e32ec115cd02ab4cc99f8	948,313.564674862	0.0948%
12	0x3b7fb0dc871f48ad451da5a595de58a51780485d	918,000	0.0918%
13	0xa7719639c8ac56c64990b2f6968ae36794a23a7c	838,823.378456199	0.0839%
14	0x32ad96901583e12b436edb97c567400fc68e5f98	810,198.980827058	0.0810%
15	0x964c0cfad86160d90028e539b1a9e67a3b90c0e8	783,038.551098197	0.0783%
16	0xfc621d6f2024510a7ba07ebbe9b6979477c71fb8	712,005.696045568	0.0712%
17	0x06572c29157d13c69d0c1a6302ee9b422e5e4603	662,835.285975869	0.0663%
18	0xb6f614b8002cd61ddecd88a492f9aa85fbed7573	623,004.361030527	0.0623%
19	0xfdf298e4745680146cee97d77c5e6a9d70de3f69	599,567.935251717	0.0600%
20	0x94ff879da050858d097d64f6a266321bcf0ad8e0	586,749.535163182	0.0587%

TRIPVERSE TOKEN Distribution

TRIPVERSE Contract Overview



Contract functions details

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

+[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

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

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

Contract functions details

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

+[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

Contract functions details

-[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 #

+Tripverse (Context, IERC20, Ownable)
-[Pub]< Constructor> #
-[Pub] name

Contract functions details

-[Pub] symbol
-[Pub] decimals
-[Pub] totalSupply
-[Pub] balanceOf
-[Pub] transfer #
-[Pub] allowance
-[Pub] approve #
-[Pub] transferFrom #
-[Pub] increaseAllowance #
-[Pub] decreaseAllowance #
-[Pub] deliver #
-[Pvt] tokenFromReflection
-[Pvt] _transferBothExcluded #
-[Pub] excludeFromFee #
  - modifiers: onlyOwner
-[Pub] includeInFee #
  - modifiers: onlyOwner
-[Ext] setTaxFeePercent #
  - modifiers: onlyOwner
-[Ext] setRndFeePercent #
  - modifiers: onlyOwner
-[Ext] setSuperinvestorFeePercent #
  - modifiers: onlyOwner
-[Pub] setSwapAndLiquifyEnabled #
  - modifiers: onlyOwner
-[Ext] ($)
-[Pvt] _reflectFee #
-[Pvt] _getValues
-[Pvt] _getTValues
-[Pvt] _getRValues
-[Pvt] _getRate
-[Pvt] _getCurrentSupply
-[Pvt] _takeRnd #
-[Pvt] _takeSuperinvestor #
-[Pvt] calculateTaxFee
-[Pvt] calculateRndFee
-[Pvt] calculateSuperinvestorFee
-[Pvt] removeAllFee #

Contract functions details

-[Pvt] restoreAllFee #
-[Pub] isExcludedFromFee
-[Pvt] _approve #
-[Pvt] _transfer #
-[Pvt] swapAndLiquify #
  - modifiers: lockTheSwap
-[Pvt] swapTokensForEth #
-[Pvt] addLiquidity #
-[Pvt] _tokenTransfer #
-[Pvt] _transferStandard #
-[Pvt] _transferToExcluded #
-[Pvt] _transferFromExcluded #

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Compiler error	Passed
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	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.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Passed

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

- **Critical Severity Issues**
  No critical severity issue found.
- **High Severity Issues**
  No high severity issue found.
- **Medium Severity Issues**
  No medium severity issue found.
- **Low Severity Issues**
  No low severity issue found.

Centralization

Owner Privileges :

- TRIPVERSE Contract:
    - Owner can change the tax, rnd and superinvestor fees.
    - Owner can exclude from the fee.

This smart contract has some functions which can be executed by the admin (Owner) only. If the admin wallet private key would be compromised, then it would not create trouble as smart contract ownership has been renounced.

Conclusion

Smart contract contains no medium severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe 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.