



Smart Contract Security Audit Report

DUNE

March 2023

Security Status



Audit Details



Audited project

DUNE



Deployer address

0x99c2fb23f7cdfd3954f40ebc8332712de3acabf4



Client contacts

DUNE 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 DUNE to perform an audit of smart contracts:

- <https://bscscan.com/token/0x14B6dC38aEcA1CC7951b0AB5522a3ea6980db801#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 understood 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.

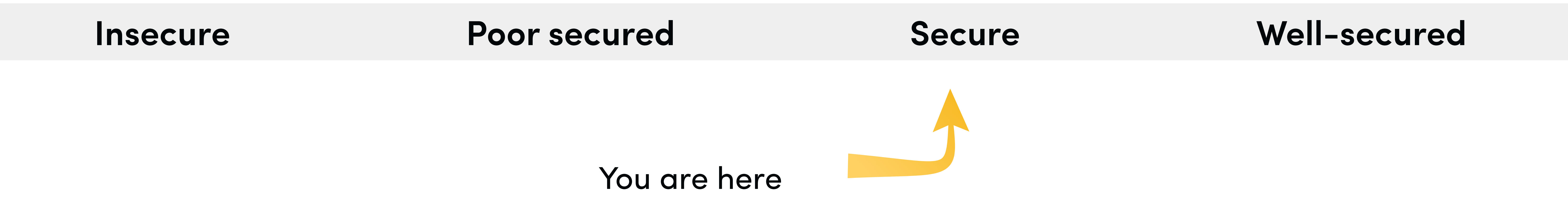
Contract Details

Token contract details for 02.03.2023

Token Type	: Gaming
Contract name	: DUNE
Contract address	: 0x14B6dC38aEcA1CC7951b0AB5522a3ea6980db801
Total supply	: 2,500,000,000
Token ticker	: DUNE
Decimals	: 18
Token Holders	: 6,793
Transactions count	: 10,883
Compiler version	: v0.6.12+commit.27d51765
Contract deployer address	: 0x99c2fb23f7cdfd3954f40ebc8332712de3acabf4

Audit Summary


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




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 1 low.

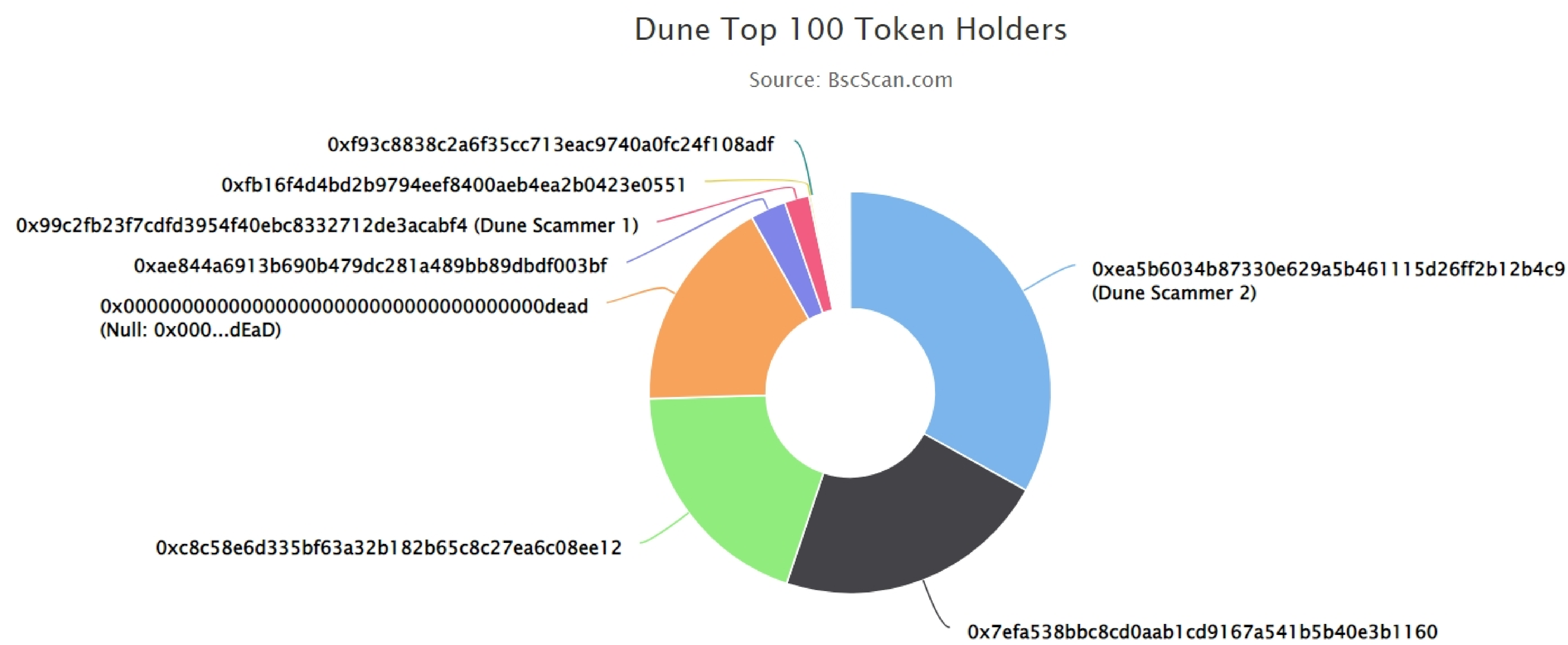
DUNE Token Distribution

 The top 100 holders collectively own 484.79% (12,119,636,659.93 Tokens) of Dune

 Token Total Supply: 2,500,000,000.00 Token



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Total Token Holders: 6,793



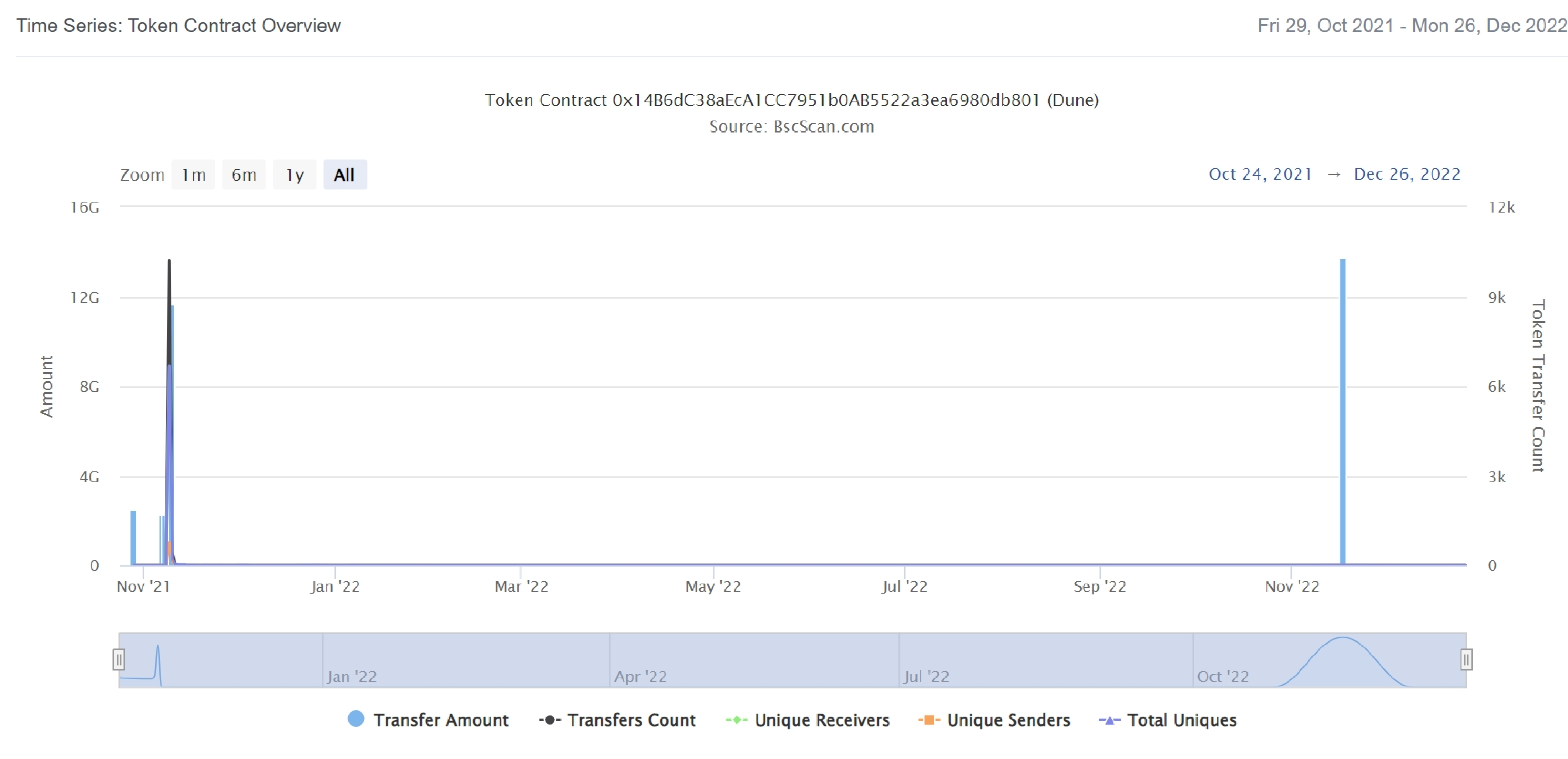
DUNE Top 20 Token Holders

(A total of 12,119,636,659.93 tokens held by the top 100 accounts from the total supply of 2,500,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	Dune Scammer 2	4,008,436,296.028373493522962516	160.3375%
2	0x7efa538bbc8cd0aab1cd9167a541b5b40e3b1160	2,672,303,142.778885917411549281	106.8921%
3	0xc8c58e6d335bf63a32b182b65c8c27ea6c08ee12	2,352,659,740.817113504691984493	94.1064%
4	Null: 0x000...dEaD	2,099,165,975.26706888126861249	83.9666%
5	 0xae844a6913b690b479dc281a489bb89dbdf003bf	347,603,752.00000000019772	13.9042%
6	Dune Scammer 1	241,148,000	9.6459%
7	0xfb16f4d4bd2b9794eef840aeb4ea2b0423e0551	24,000,000	0.9600%
8	 0xf93c8838c2a6f35cc713eac9740a0fc24f108adf	16,999,919.99999999999999	0.6800%
9	0x431d613328cd7c1bf093ccd9c552fe8953c07b59	15,851,814.920578702096406936	0.6341%
10	0xbc72bfa2199ac296fa4cf24de27453718976c605	13,986,000	0.5594%
11	0x1edef7093f7ab37be845e642ddedb06104ded5ed	13,789,251.358603380051295477	0.5516%
12	0xd10b995fd0a7b2ef4cdd445f5c025232559d882f	9,185,345.896581264307046062	0.3674%
13	0xfb85ec92123ac98113161a758a40a13c851a1f46	9,000,000	0.3600%
14	0x6abb5b2467e535b0f3aca0dbd727585154ab32bb	8,090,086.85310687872320858	0.3236%
15	0x25c9ca23e7f4a857bf5ce4a343830560776a12ad	8,000,000	0.3200%
16	0x84fc646f72edf38ac054938e75b0cec01fd99ec1	8,000,000	0.3200%
17	0x57af87f6e7a2c10f137c3d3d6709307ddc6df76e	8,000,000	0.3200%
18	0x6d6f914f8edc56ab8ac5172de3e9a10bcb7cb0c5	8,000,000	0.3200%
19	0xead06bcacd3a00a4e6ad15e2654ce24c5c880ff5	8,000,000	0.3200%
20	0x2040294e5e40bd196ab1149c9c6d3adaddf901f3	7,997,200	0.3199%

DUNE Token Distribution

DUNE Contract overview



Contract functions details

+[Lib] Address

- [Int] isContract
- [Int] sendValue #
- [Int] functionCall #
- [Int] functionCall #
- [Int] functionCallWithValue #
- [Int] functionCallWithValue #
- [Prv] _functionCallWithValue #

+Context

- [Int] _msgSender
- [Int] _msgData

+[Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+Game

- [Ext] <Fallback> (\$)
- [Ext] <Fallback> (\$)
- [Int] _basegame
- [Int] _delegate #
- [Int] _willLoad #
- [Int] _load #

+NFTGame (Game)

- [Pub] <Constructor> (\$)
- [Int] _basegame
- [Int] _approre #
- [Int] _setBasegame #

+DUNE (NFTGame)

- [Pub] <Constructor >(\$)
 - modifiers: NFTGame
- [Ext] approre #
 - modifiers: ifGM
- [Int] gm
- [Int] _willLoad #

Contract functions details

+[Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div
- [Int] mod
- [Int] mod

+ ERC20 (Context, IERC20)

- [Pub] <Constructor> #
- [Pub] name
- [Pub] symbol
- [Pub] decimals
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Int] _transfer #
- [Int] _mint #
- [Int] _burn #
- [Int] _approve #
- [Int] _setupDecimals #
- [Int] _beforeTokenTransfer #

+Ownable (Context)

- [Int] <Constructor> #
- [pub] owner
- [Pub] renounceOwnership #
 - modifiers: onlyOwner
- [Pub] transferOwnership #
 - modifiers: onlyOwner

+[Int] IUniswapV2Factory

- [Ext] feeTo

Contract functions details

- [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] nonces
- [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

Contract functions details

- [Ext] addLiquidity #
- [Ext] addLiquidityETH (\$)
- [Ext] removeLiquidity #
- [Ext] removeLiquidityETH #
- [Ext] removeLiquidityWithPermit #
- [Ext] removeLiquidityETHWithPermit #
- [Ext] swapExactTokensForTokens #
- [Ext] swapTokensForExactTokens #
- [Ext] swapExactETHForTokens (\$)
- [Ext] swapTokensForExactETH #
- [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 #

+Dune (ERC20, Ownable)

- [Pub] - [Pub] <Constructor> #

(\$) = 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	Low issue

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

One medium severity issue found.

✔ Low Severity Issues

One low severity issue found.

1. Old compiler version

Description

Contract has been deployed using too old solidity version.

Recommendation

It is advisable to deploy contract using any of the latest version of solidity.

Conclusion

Smart contract contains low 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.