



Smart Contract Security Audit Report

TARP

February 2023

Security Status



www.hacksafe.io



Audit Details



Audited project

TARP



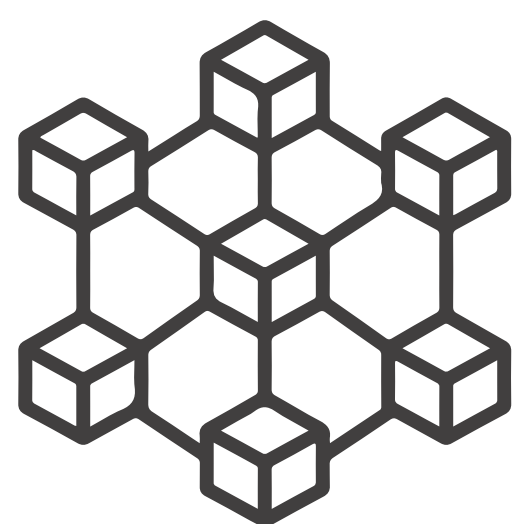
Deployer address

0x8b2dcefa75c9f327ed3b53451d21e026543c5404



Client contacts

TARP 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 TARP to perform an audit of smart contracts:

- <https://bscscan.com/token/0x6C0A568a3fFb61957812fb3e300e4C10B708d336#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.

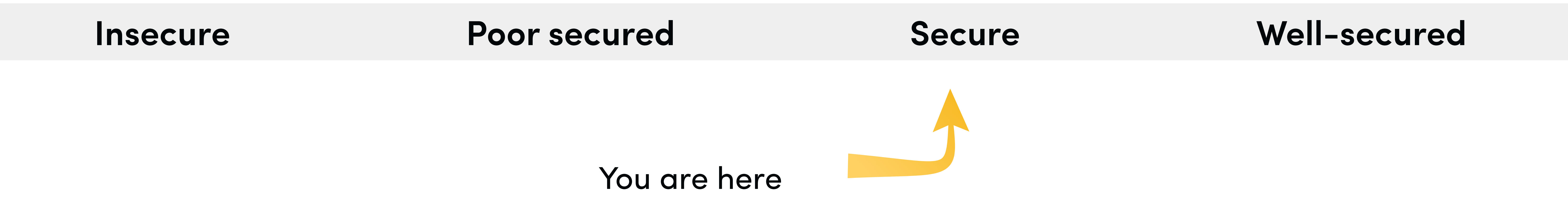
Contract Details

Token contract details for 24.02.2023

Token Type	: DEFI
Contract name	: TARP
Contract address	: 0x6C0A568a3fFb61957812fb3e300e4C10B708d336
Total supply	: 1,000,000,000,000
Token ticker	: TARP
Decimals	: 9
Token Holders	: 4,269
Transactions count	: 169,008
Compiler version	: v0.8.7+commit.e28d00a7
Contract deployer address	: 0x8b2dcefa75c9f327ed3b53451d21e026543c5404
Owner address	: 0x8b2dcefa75c9f327ed3b53451d21e026543c5404

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, 1 medium and 0 low.

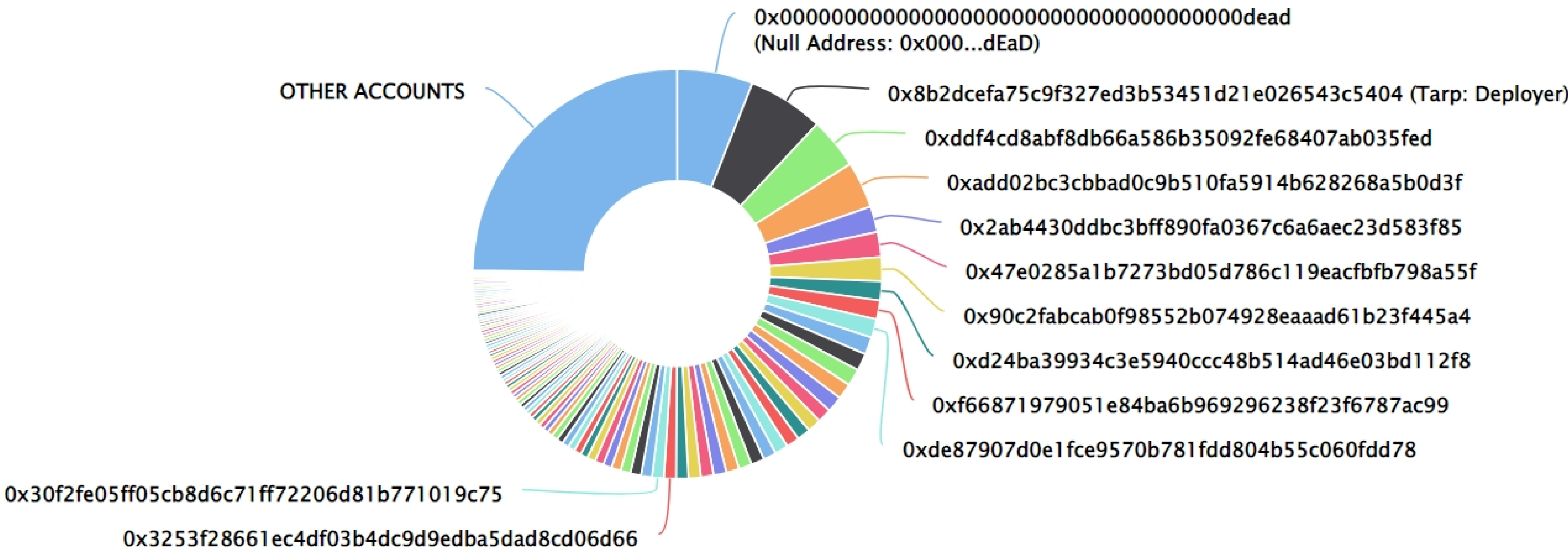
TARP Token Distribution

💡 The top 100 holders collectively own 75.27% (752,658,020,387.33 Tokens) of Totally A Rug Pull

💡 Token Total Supply: 1,000,000,000,000.00 Token | Total Token Holders: 4,269

Totally A Rug Pull Top 100 Token Holders

Source: BscScan.com



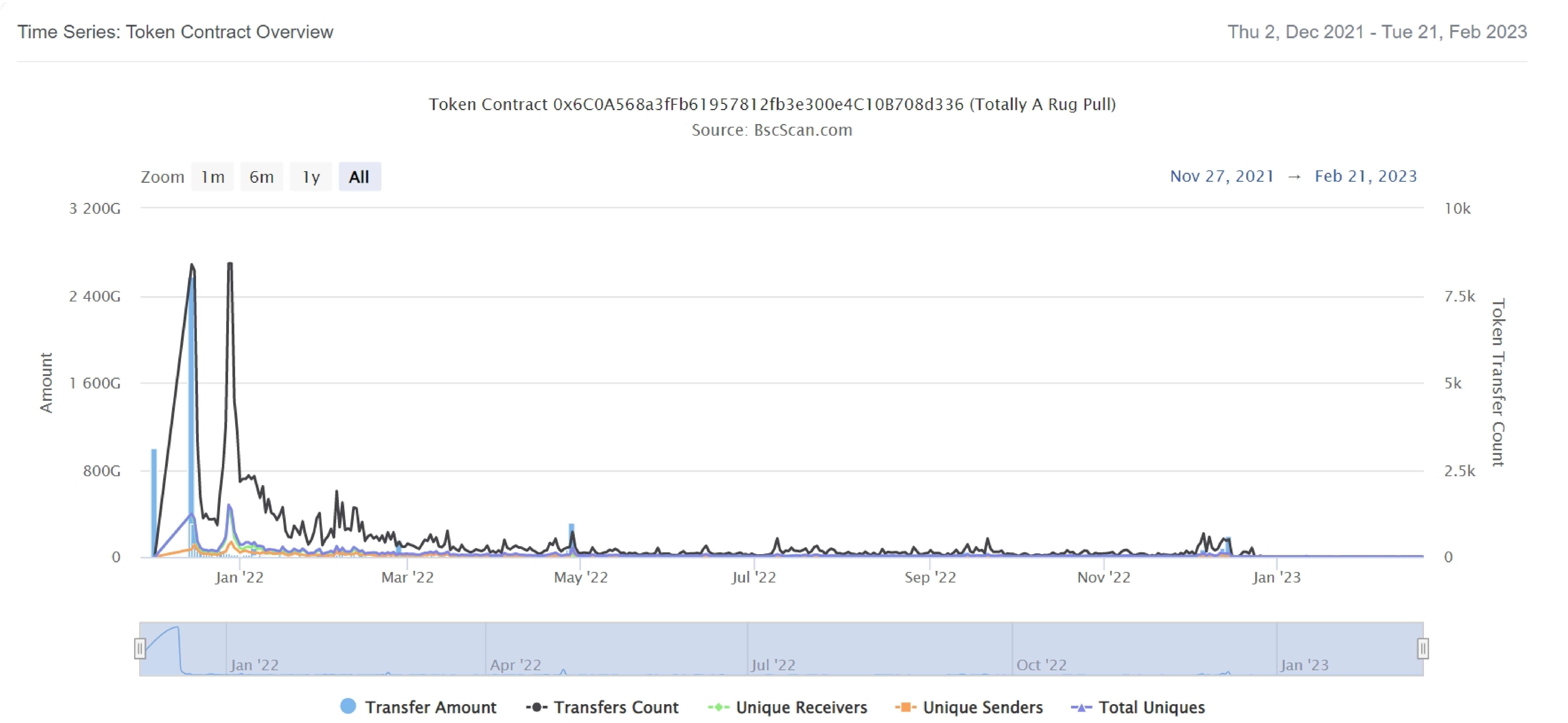
TARP Top 20 Token Holders

(A total of 752,658,020,387.33 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	Null Address: 0x000...dEaD	59,991,161,243.803739815	5.9991%
2	Tarp: Deployer	59,895,861,482.925902021	5.9896%
3	0xdddf4cd8abf8db66a586b35092fe68407ab035fed	40,313,355,936.012193089	4.0313%
4	0xadd02bc3cbbad0c9b510fa5914b628268a5b0d3f	36,768,101,646.257718944	3.6768%
5	0x2ab4430ddbc3bff890fa0367c6a6aec23d583f85	20,351,754,671.552082674	2.0352%
6	0x47e0285a1b7273bd05d786c119eacfbfb798a55f	19,864,574,183.151691312	1.9865%
7	📄 0x90c2fabcab0f98552b074928aaaad61b23f445a4	18,727,362,487.881720519	1.8727%
8	0xd24ba39934c3e5940ccc48b514ad46e03bd112f8	15,077,603,402.633807359	1.5078%
9	0xf66871979051e84ba6b969296238f23f6787ac99	15,020,109,758.730330144	1.5020%
10	0xde87907d0e1fce9570b781fdd804b55c060fdd78	14,601,285,623.565855807	1.4601%
11	0xb8ca5aedaec857dba329aeaff3886bdf83a872a7	13,895,634,101.46626762	1.3896%
12	0x9c0c56f3018a3ad6b34a633087687a9233e78d67	13,676,527,644.146404339	1.3677%
13	0xdb397bd9fc996ba9c4316c452db45dd063579edd	13,099,138,247.228008334	1.3099%
14	0x57b891194f9c638a2de07879a989bbbdb45363f3	12,637,652,524.172423007	1.2638%
15	0x41b40665194aeefbf7ccfa5434734f7e81db7e52	12,559,724,790.122002845	1.2560%
16	0x6935ac7a2c7fc8459402b23bee390e4f36ce7914	11,287,945,486.561334745	1.1288%
17	0x27c52396fbf902f804c765b6302d046479e9c9cf	10,902,103,317.707269785	1.0902%
18	0xca0051ec9220ce6c02a1dab37b1aa3b9447b5462	10,484,634,060.476914655	1.0485%
19	0x20583ba00dacc4c46f3900ea433f1bf427fbef92	10,483,550,057.137303037	1.0484%
20	0x584b5a50022103b1e975b4690c157b44b9d5b2c7	10,457,508,244.214492255	1.0458%

TARP Token Distribution

TARP Contract overview



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
- [Pvt] _setOwner #

+ [Int] IFactory

- [Ext] createPair #

+ [Int] IRouter

- [Ext] factory
- [Ext] WETH
- [Ext] addLiquidityETH (\$)
- [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

+ TARP (Context, IERC20, Ownable)

- [Pub] <Constructor> #
- [Pub] name
- [Pub] symbol
- [Pub] decimals
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #

Contract functions details

- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Pub] isExcludedFromReward
- [Pub] reflectionFromToken
- [Pub] tokenFromReflection
- [Pub] excludeFromReward #
 - modifiers: onlyOwner
- [Ext] includeInReward #
 - modifiers: onlyOwner
- [Pub] excludeFromFee #
 - modifiers: onlyOwner
- [Pub] includeInFee #
 - modifiers: onlyOwner
- [Pub] isExcludedFromFee
- [Pub] setTaxes #
 - modifiers: onlyOwner
- [Pvt] _reflectRfi #
- [Pvt] _takeLiquidity #
- [Pvt] _takeDev #
- [Pvt] _takeBurn #
- [Pvt] _getValues
- [Pvt] _getTValues
- [Pvt] _getRValues
- [Pvt] _getRate
- [Pvt] _getCurrentSupply
- [Pvt] _approve #
- [Pvt] _transfer #
- [Pvt] _tokenTransfer #
- [Pvt] swapAndLiquify #
 - modifiers: lockTheSwap
- [Pvt] addLiquidity #
- [Pvt] swapTokensForBNB #
- [Ext] updatedevWallet #
 - modifiers: onlyOwner
- [Ext] updatMaxTxAmt #
 - modifiers: onlyOwner
- [Ext] updateSwapTokensAtAmount #
 - modifiers: onlyOwner

Contract functions details

- [Ext] updateSwapEnabled #
 - modifiers: onlyOwner
- [Ext] updateCoolDownSettings #
 - modifiers: onlyOwner
- [Ext] setAntibot #
 - modifiers: onlyOwner
- [Ext] bulkAntiBot #
 - modifiers: onlyOwner
- [Ext] updateRouterAndPair #
 - modifiers: onlyOwner
- [Pub] isBot
- [Ext] rescueBNB #
 - modifiers: onlyOwner
- [Pub] rescueAnyBEP20Tokens #
 - modifiers: onlyOwner
- [Ext]< Fallback> (\$)

(\$) = 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.	Medium Issue
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

One medium severity issue found.

1. Wrong minting

- **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.

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.

The function `bulkAntiBot()` uses the loop for mark addresses as bots. It also could be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.

- **Recommendation:**

Check that the excluded array length is not too big.

✔ Low Severity Issues

No low severity issue found.

Centralization

Owner privileges :

- TARP Contract:
 - Owner can exclude from the fee.
 - Owner can change taxes.
 - Owner can change dev wallet address.
 - Owner can change the maximum transaction amount.
 - Owner can change swapTokensAtAmount.
 - Owner can enable/disable swap.
 - Owner can change cooldown settings.
 - Owner can mark addresses as bots.
 - Owner can change router and pair addresses.
 - Owner can withdraw contract tokens and BNBs.

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 create trouble as smart contract ownership has not been renounced.

Conclusion

Smart contract contains 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.