



Smart Contract Security Audit Report

Moniwar

November 2022

Security Status



www.hacksafe.io



Audit Details



Audited project

Moniwar



Deployer address

0xA8dFC2696B69E98A127Fc03a7b2fb2387b95d301



Client contacts

Moniwar Team



Blockchain

Binance smart chain



Website

<https://moniwar.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.

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 Moniwar to perform an audit of smart contracts:

- <https://bscscan.com/token/0x411Ec510c85C9e56271bF4E10364Ffa909E685D9#readContract>

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 17.11.2022

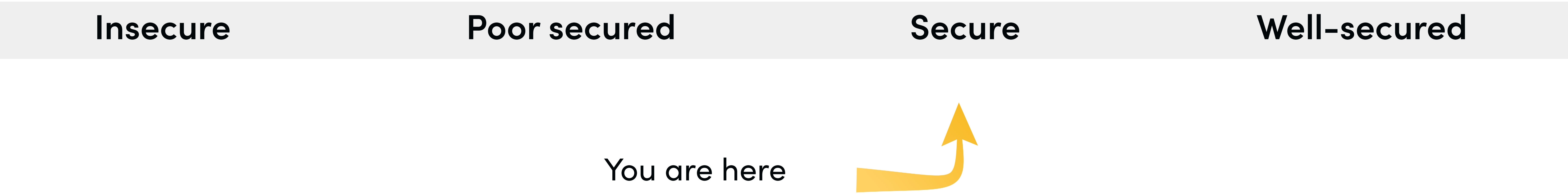
Token Type	: Gaming
Contract name	: MONIWAR
Contract address	: 0x411Ec510c85C9e56271bF4E10364Ffa909E685D9
Total supply	: 298,600,000
Token Ticker	: MOWA
Decimals	: 18
Token Holders	: 9,721
Transactions count	: 377,248
Compiler version	: v0.8.7+commit.e28d00a7
Contract deployer address	: 0xA8dFC2696B69E98A127Fc03a7b2fb2387b95d301
Owner address	: 0x171a1639aa7fe24b406c098c8d91198d625791e9

Social profiles

Facebook profile	: https://www.facebook.com/MoniwarOfficial
Twitter profile	: https://twitter.com/moniwat_game
Telegram profile	: https://t.me/MoniwarAnnouncements
linkedin profile	: https://www.linkedin.com/in/bao-pham-9936b079/

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 as owner does have control over smart contract.



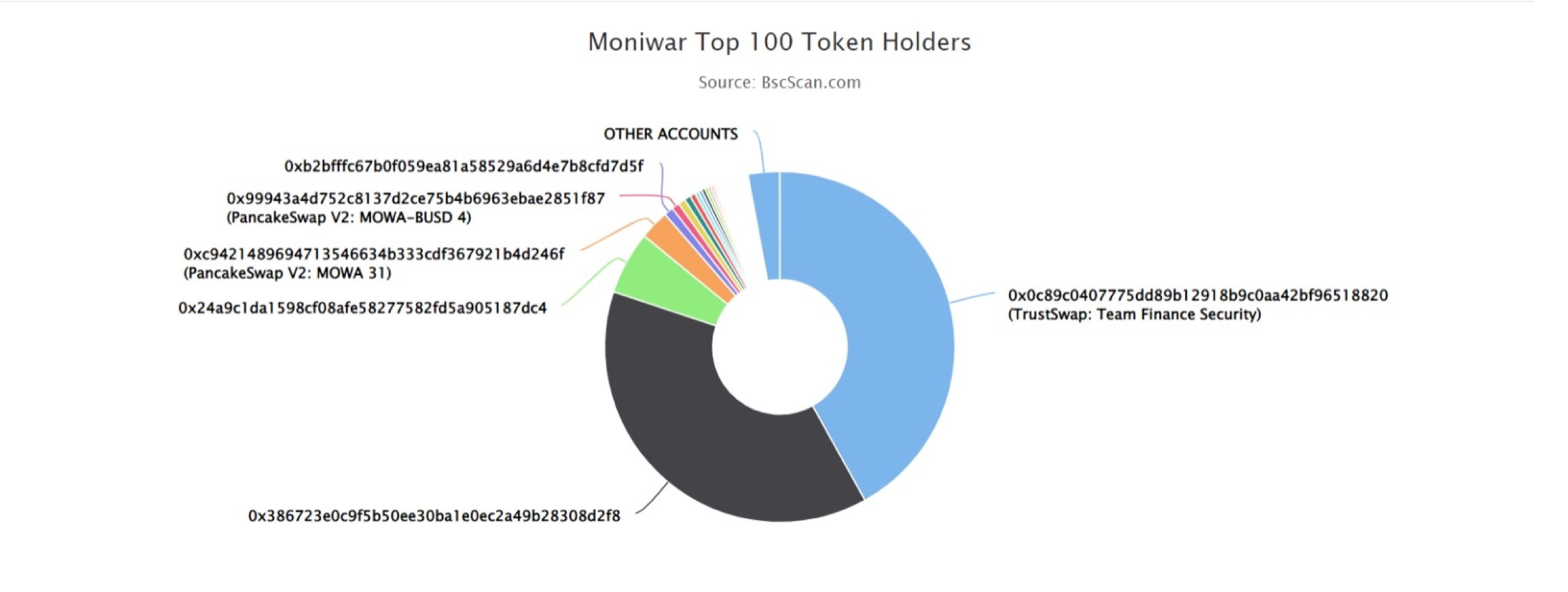
We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 0 medium and 1 low.

Moniwar Distribution











The top 100 holders collectively own 97.09% (289,906,045.23 Tokens) of Moniwar

Token Total Supply: 298,600,000.00 Token | Total Token Holders: 9,721



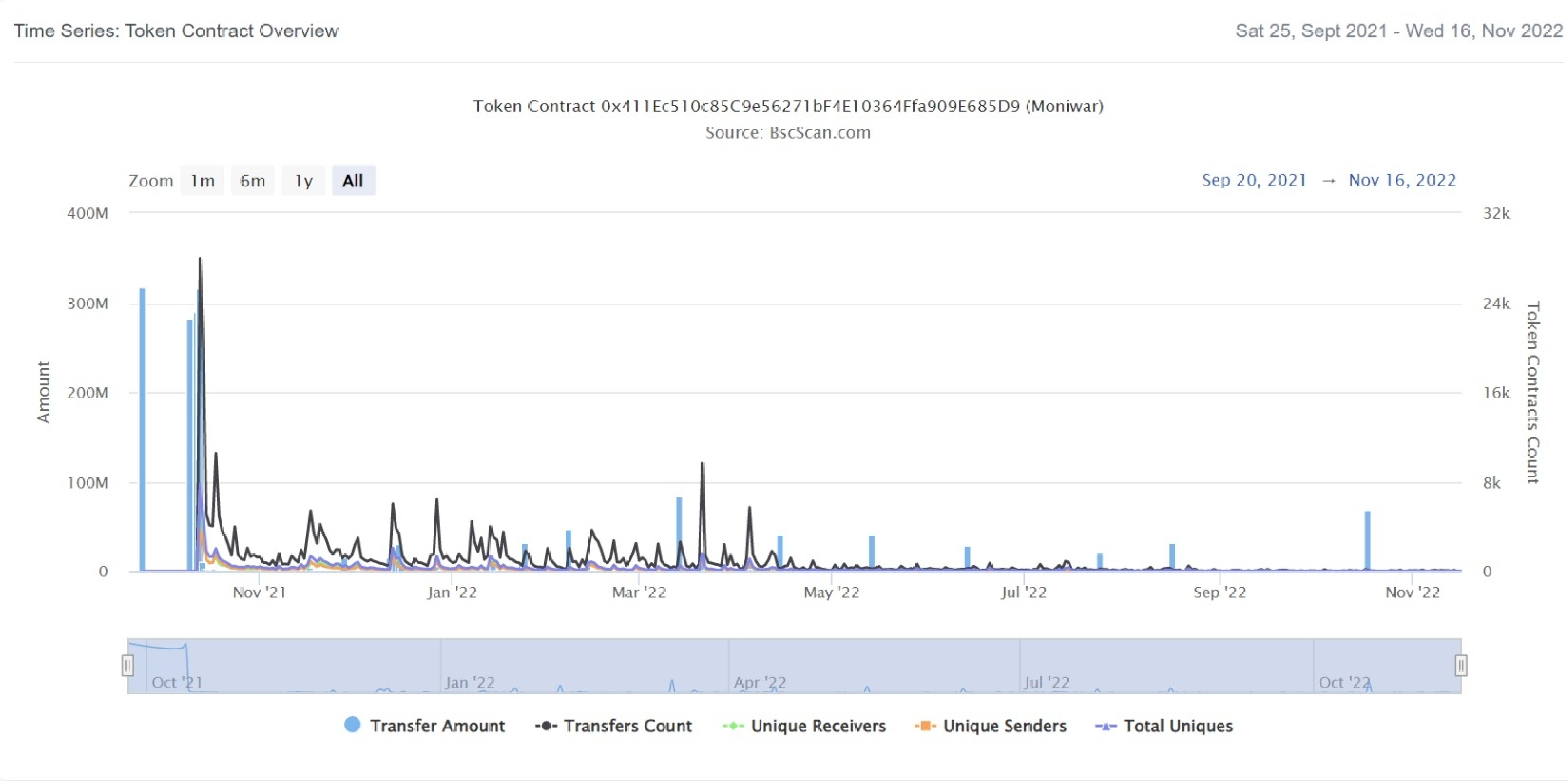
Moniwar Top 20 Token Holders

(A total of 289,906,045.23 tokens held by the top 100 accounts from the total supply of 298,600,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	 TrustSwap: Team Finance Security	125,215,200	41.9341%
2	 0x386723e0c9f5b50ee30ba1e0ec2a49b28308d2f8	113,974,495.57	38.1696%
3	 0x24a9c1da1598cf08afe58277582fd5a905187dc4	17,348,067.014537205334951391	5.8098%
4	 PancakeSwap V2: MOWA 31	8,107,650.112306152848053845	2.7152%
5	 0xb2bffc67b0f059ea81a58529a6d4e7b8cfd7d5f	2,577,172.704016400076368451	0.8631%
6	 PancakeSwap V2: MOWA-BUSD 4	2,122,207.069922095158789574	0.7107%
7	0x87b2d88be2fe6e529f8b20972e2e0d7b15de23e8	2,007,674.502810624048822068	0.6724%
8	 0xcbbc9899ef6a6b8b1f5a94aaec7ab921d4ee61d36	1,714,669.383937631086774963	0.5742%
9	0xaa4f1cc685cbcd3ee3bb80dba293ad30ff4bd19a	1,457,670.06	0.4882%
10	 0xe22d360816d6dddf7aca6f0c689caf802d40823e	1,104,000.89	0.3697%
11	 0x91090ab1f98ee7aba0582213875605c7dc232852	955,029.423518909405950658	0.3198%
12	0x8e16f98db442f718534ca6720341fe69b362bec1	914,265.699126721585562617	0.3062%
13	0xb840369403cfde51cde2cb8586585c2b572510df	816,411.590167432160378613	0.2734%
14	0xb41946030f5c3e75a48bd1e418c9e787dfef3f4	719,220.5856	0.2409%
15	0x6d91e35bd978b63cae3a98e744a1e5fe93e76acf	544,682.188344897224174571	0.1824%
16	0xddba314f96c62bff8745b23a44a22c540108cb7a	515,780.750447897320599946	0.1727%
17	0xa5731e0954dbfb3708848b5b09024bec5b0f7e52	483,391.165933469172544766	0.1619%
18	 0xa3f9b0e4a235d35918bc77278810f687d82f9623	403,527.216078057789202707	0.1351%
19	0x13ee67711dac3967d693c4cf1134903400e7edee	374,129.489542656111716168	0.1253%
20	0x7c06609a55e610486dd299ebaf68af28c5a7d182	358,750	0.1201%

Moniwar Distribution

Moniwar Contract Overview



Contract functions details

Context.sol

+Context

-[Int] _msgSender

-[Int] _msgData

ERC20.sol

+ERC20 (Context, IERC20, IERC20Metadata, Ownable)

-[Int] _initializeMoniwar #

-[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] _beforeTokenTransfer #

-[Int] _afterTokenTransfer #

-[Pub] modifyWhiteList #

-modifiers: onlyOwner

-[Ext] setAntiBot #

-modifiers: onlyOwner

-[Ext] changeFeeWallet #

-modifiers: onlyOwner

-[Ext] changeFee #

-modifiers: onlyOwner

-[Ext] isExcludedFromFee

-[Ext] excludedFromFee #

-modifiers: onlyOwner

Contract functions details

IERC20.sol

+[Int] IERC20

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

IERC20Metadata.sol

+[Int] IERC20Metadata (IERC20)

- [Ext]** name
- [Ext]** symbol
- [Ext]** decimals

Moniwar.sol

+MONIWAR (ERC20)

- <constructor>**
- [Pub]** burn **#**
- [Int]** _transfer **#**

Ownable.sol

+Ownable (Context)

- <constructor>**
- [Pub]** owner
- [Pub]** renounceOwnership **#**
 - modifiers: onlyOwner
- [Pub]** transferOwnership **#**
 - modifiers: onlyOwner
- [Pvt]** _setOwner **#**

SafeMath.sol

+[Lib] SafeMath

- [Int]** tryAdd
- [Int]** trySub
- [Int]** tryMul
- [Int]** tryDiv
- [Int]** tryMod
- [Int]** add

Contract functions details

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

(\$) = payable function

= non-constant function

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Low issue
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

One low severity issue found.

1. Unlocked Compiler Version.

- **Description**

The contract utilizes an unlocked compiler version. An unlocked compiler version in the contract's source code permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to differing compiler version numbers. This can lead to ambiguity when debugging as compiler-specific bugs may occur in the codebase that would be difficult to identify over a span of multiple compiler versions rather than a specific one.

- **Recommendation**

It is advisable that the compiler version is alternatively locked at the lowest version possible so that the contract can be compiled. For example, for version ^0.8.0 the contract should contain the following line:

```
pragma solidity 0.8.7;
```


Centralization

Owner Privileges :

- Moniwar Contract:
 - Owner can transfer and renounce ownership.
 - Owner can set antibot.
 - Owner can change fee and fee wallet.
 - Owner can modify white list.

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. Following are Admin functions :

- Modifywhitelist
- Setantibot
- Changefeewallet
- Changefee
- Excludedfromfee
- Renounceownership
- Transferownership

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.