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AUDIT COMPANY

Smart Contract Security Audit

TechRate

October, 2021

Audit Details

Audited project

Moniwar

Deployer address

0xa8dfc2696b69e98a127fc03a7b2fb2387b95d301

Client contacts:

Moniwar team

Blockchain

Binance Smart Chain

Project 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.

Background

TechRate was commissioned by Moniwar to perform an audit of smart contracts:
https://bscscan.com/address/0x411Ec510c85C9e56271bF4E10364Ffa909E685D9#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

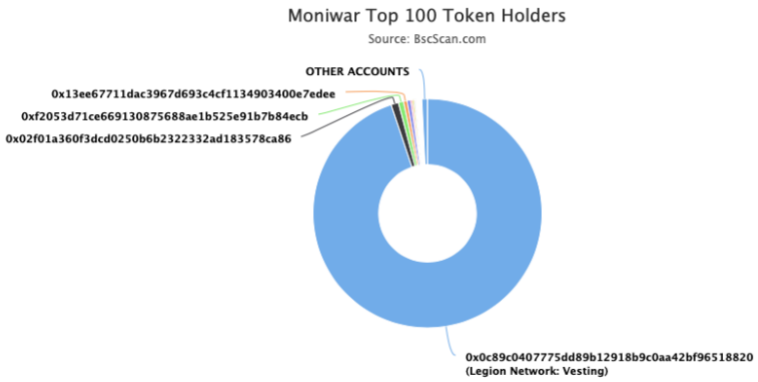
Token contract details for 20.10.2021

Contract name	Moniwar
Contract address	0x411Ec510c85C9e56271bF4E10364Ffa909E685D9
Total supply	300,000,000
Token ticker	MOWA
Decimals	18
Token holders	5,517
Transactions count	78,545
Top 100 holders dominance	99.21%
_feeTransfer	1
Fee wallet	0xa5731e0954dbfb3708848b5b09024bec5b0f7e52
Contract deployer address	0xa8dfc2696b69e98a127fc03a7b2fb2387b95d301
Contract's current owner address	0xa8dfc2696b69e98a127fc03a7b2fb2387b95d301

Moniwar Token Distribution

The top 100 holders collectively own 99.21% (297,633,978.22 Tokens) of Moniwar

Token Total Supply: 300,000,000.00 Token | Total Token Holders: 5,518

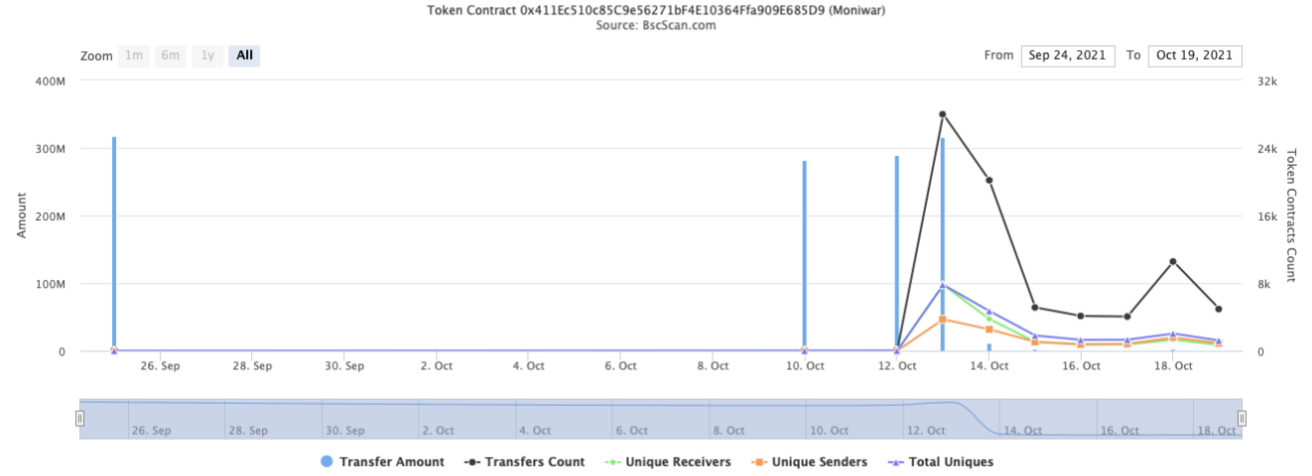


(A total of 297,633,978.22 tokens held by the top 100 accounts from the total supply of 300,000,000.00 token)

Moniwar Contract Interaction Details

Time Series: Token Contract Overview

Sat 25, Sept 2021 - Tue 19, Oct 2021



Moniwar Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	Legion Network: Vesting	284,555,700	94.8519%
2	0x02f01a360f3dcd0250b6b2322332ad183578ca86	3,169,938.010560499266393067	1.0566%
3	0xf2053d71ce669130875688ae1b525e91b7b84ecb	2,201,155.184934059600329896	0.7337%
4	0x13ee67711dac3967d693c4cf1134903400e7edee	1,505,019.571222200076368451	0.5017%
5	0xbe9bd08273c28f742b69aaa62478afb6a0767eb6	1,460,552.2	0.4869%
6	PancakeSwap V2: MOWA 31	761,066.841175614223981758	0.2537%
7	0xaa4f1cc685cbed3ee3bb80dba293ad30ff4bd19a	748,202.4	0.2494%
8	0xe7bd6d4c17183e8a9abab8ba4262e84702d071d9	535,715.142999999923631549	0.1786%
9	0x502ee6a097abbda32fa2cf5e78111250e0f10731	368,008.641972179984162427	0.1227%
10	0x5367e23445104751e95baa84947d09e907f01d93	125,000	0.0417%

Contract functions details

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

+ 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
  - [Pub] changeFeeWallet #
    - modifiers: onlyOwner
  - [Pub] changeFee #
    - modifiers: onlyOwner
  - [Pub] isExcludedFromFee
  - [Pub] excludedFromFee #
    - modifiers: onlyOwner

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

+ [Int] IERC20Metadata (IERC20)
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals

+ Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner

  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Prv] _setOwner #

+ [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

+ MONIWAR (ERC20)
  - [Pub] <Constructor> #
  - [Pub] burn #
  - [Int] _transfer #

($) = 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.	Low issues
9.	DoS with block gas limit.	Passed
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 `modifyWhiteList()` uses the loop to add and remove whitelisted addresses. Function will be aborted with `OUT_OF_GAS` exception if there will be a long addresses lists.

```
function modifyWhiteList(
    address[] memory newWhiteList⬆,
    address[] memory removedWhiteList⬆
) public onlyOwner {
    for (uint256 index; index < newWhiteList⬆.length; index++) {
        whiteList[newWhiteList⬆[index]] = true;
    }
    for (uint256 index; index < removedWhiteList⬆.length; index++) {
        whiteList[removedWhiteList⬆[index]] = false;
    }
}
```

Recommendation:

Check that the arrays' length is not too big.

Owner privileges (In the period when the owner is not renounced)

- Owner can enable and disable antibot.

```
function setAntiBot(bool _enable⬆) external onlyOwner {
    antiBotEnabled = _enable⬆;
}
```

- Owner can change fee wallet.

```
function changeFeeWallet(address feeWallet⬆) public onlyOwner {
    _feeWallet = feeWallet⬆;
}
```

- Owner can change fee value.

```
function changeFee(uint256 feeTransfer⬆) public onlyOwner {
    _feeTransfer = feeTransfer⬆;
}
```

- Owner can exclude from fees.

```
function excludedFromFee(address account⬆) public onlyOwner {
    _isExcludedFromFee[account⬆] = true;
}
```

Conclusion

Smart contracts contain 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.