CRACKEN

Smart Contract Security Audit

Project: NAGA Token

Oct 18, 2022

Contract Address

0x15e50e6d2a7dfa05c38afe60d1d0c43351d55aec

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The review does not address the compiler layer, any other areas beyond the programming language, or other programming aspects that could present security risks. If the audited source files are smart contract files, risks or issues introduced by using data feeds from off-chain sources are not extended by this review either.

Audit Review

The source code of the NAGA Token was audited in order to acquire a clear impression of how the project was implemented. The Cracken Tech audit team conducted in-depth research, analysis, and scrutiny, resulting in a series of observations. A detailed list of each issue found, and vulnerabilities in the source code will be included in the audit report. The problems and potential solutions are given in this report, we will identify common sources for such problems and comments for improvement.

The auditing process will follow a routine as special considerations by Cracken:

- Review of the specifications, sources, and instructions provided to Cracken to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Cracken describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
- Symbolic execution is analyzing a program to determine what inputs cause each part of a program to execute.
- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

Project Review

Token Summary

Parameter	Result
Token Name	**NAGA TOKEN**
Token Symbol	NAGA
Token Decimal	18
Total Supply	9,555,700,000,000,000
Platform	HECO
Buy Tax Fee	8%
Sell Tax Fee	8%
Contract Creation Date	May 08, 2022
Liquidity Status	Not Available
Liquidity Lockup Time	Not Available
Compiler Version	v0.6.12+commit.27d51765
Optimization	Yes with 200 runs
Contract Address	0xf586f0c88a8e5b6e5b7c0a2eef0cb3ae94ad91bd
Deployer Address	0x0f86869b92f525079efe39901ff0a79eac2ee544
Owner Address	0x0f86869b92f525079efe39901ff0a79eac2ee544

Source Code

CRACKEN was commissioned by NAGA Token to perform an audit based on the following smart contract:

https://www.hecoinfo.com/en-us/address/0xf586f0c88a8e5b6e5b7c0a2eef0cb3ae94ad91bd

Smart Contract Vulnerability Checks

Vulnerability	Auto-Scan	Manual-Scan	Result
Unencrypted Private Data On-Chain	Complete	Complete	Low / No Risk
Code With No Effects	Complete	Complete	Low / No Risk
Message call with hardcoded gas amount	Complete	Complete	Low / No Risk
Hash Collisions with Multiple Variable Length Arguments	Complete	Complete	Low / No Risk
Unexpected Ether balance	Complete	Complete	Low / No Risk
Presence of unused variables	Complete	Complete	Low / No Risk
Right-To-Left-Override control character (U+202E)	Complete	Complete	Low / No Risk
Typographical Error	Complete	Complete	Low / No Risk
DoS With Block Gas Limit	Complete	Complete	Low / No Risk
Arbitrary Jump with Function Type Variable	Complete	Complete	Low / No Risk
Insufficient Gas Grieving	Complete	Complete	Low / No Risk
Incorrect Inheritance Order	Complete	Complete	Low / No Risk
Write to Arbitrary Storage Location	Complete	Complete	Low / No Risk
Requirement Violation	Complete	Complete	Low / No Risk
Missing Protection against Signature Replay Attacks	Complete	Complete	Low / No Risk
Weak Sources of Randomness from Chain Attributes	Complete	Complete	Low / No Risk
Authorization through tx. origin	Complete	Complete	Low / No Risk
Delegate call to Untrusted Callee	Complete	Complete	Low / No Risk

Vulnerability	Auto-Scan	Manual-Scan	Result
Use of Deprecated Solidity Functions	Complete	Complete	Low / No Risk
Assert Violation	Complete	Complete	Low / No Risk
Reentrancy	Complete	Complete	Low / No Risk
Unprotected SELF-DESTRUCT Instruction	Complete	Complete	Low / No Risk
Unprotected Ether Withdrawal	Complete	Complete	Low / No Risk
Outdated Compiler Version	Complete	Complete	Low / No Risk
Integer Overflow and Underflow	Complete	Complete	Low / No Risk
Function Default Visibility	Complete	Complete	Low / No Risk

Manual Code Review

Classification of Issues

Severity	Description
High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
Informational	A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
High-Risk	0
Medium-Risk	0
Low-Risk	0
Informational	0
Total	0

Privileged Functions

onlyOwner

Function Name	Parameters	Visibility
approve	address spender, uint256 amount	Public
blacklistAddress	address account, bool value	External
decreaseAllowance	address spender, uint256 subtractedValue	Public
excludeFromReward	address account	External
includeInReward	address account	Public
increaseAllowance	address spender, uint256 addedValue	Public
processLP	uint256 gas	External
renounceOwnership	None	Public
setBurnMinLimit	uint256 minLimit	External
setExcludeLPProvider	address addr, bool enable	External
setMaxTxAmount	uint256 maxTxAmount	Public
setTaxFeePercent	uint256 tLocalRate_, uint256 tBlackRate_, uint256 tLPRate_, uint256 sLocalRate_, uint256 sBlackRate_, uint256 sLPRate	External
transfer	address recipient, uint256 amount	External
transferFrom	address sender,address recipient,uint256 amount	Public
transferOwnership	address newOwner	Public

Contract Ownership

The contract ownership of NAGA Token is currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The current owner is the address 0x0000000000000000000000000000000000000000 which can be viewed: HERE

The owner wallet has the power to call the functions displayed on the privileged functions list above, if the owner wallet is compromised these privileges could be exploited.

We recommend the team renounce ownership at the right time if possible, or gradually migrate to a time lock with governing functionalities in respect of transparency and safety considerations.

Liquidity Overview

Liquidity Information

Parameter	Result
Pair Address	0x38ad5ab6A025Ef532457ea9D5BDBa6E37d75B451
NAGA Reserves	146.972K NAGA
USDT Reserves	3.33M USDT
Liquidity Value	$6.65M USDT
Liquidity Ownership	0x000000000000000000000000000000000000dead

Tokenomics

Rank	Address	Quantity (Token)	Percentage
1	0x000000000000000000000000000000000000dead	6,174,192,820,013,255	65.11%
2	0x38ad5ab6a025ef532457ea9d5bdba6e37d75b451	147,028,504,907,992.8	1.55%
3	0x66cff3fd26d09f1e8650d151b82afc59aec4b60b	95,484,989,217,416.38	1.01%
4	0xf68dbb213bfbe2324e1dc50dc5035fd9e5a89bf8	82,196,918,246,074.92	0.87%
5	0x38d6241afcd52a2e58024748aec07b2af1bac48e	38,127,060,181,170.75	0.4%

Audit Conclusion

All functions cannot be changed due to the ownership being renounced.

AUDIT IS PASSED