HackSafe

Smart Contract Security Audit Report

SYNCNODE

March 2023

Security Status

★★★★☆

www.hacksafe.io

Audit Details

Audited project
SYNCNODE

Deployer address
0xf29c5cb22ed4eab69ab75e6ef258f5849f3d12d9

Client contacts
SYNCNODE Team

Blockchain
Binance smart chain

Website
https://syncnode.com/

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 SYNCNODE to perform an audit of smart contracts:

- https://bscscan.com/address/0x4E4Fa20d038ebf55223a51858e0143b8B85f8C06

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 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 30.03.2023

Type	: Storage
Contract name	: SyncNodeBuy
Contract address	: 0x4E4Fa20d038ebf55223a51858e0143b8B85f8C06
Compiler version	: v0.8.10+commit.fc410830
Contract deployer address	: 0xf29c5cb22ed4eab69ab75e6ef258f5849f3d12d9
owner address	: 0xf29c5cb22ed4eab69ab75e6ef258f5849f3d12d9

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.

Insecure	Poor secured	Secure	Well-secured

You are here 

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, 2 medium and 0 low.

Contract functions details

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

+[Lib] Address
    -[Int] isContract

+Context
    -[Int] _msgSender

+[Lib] Strings
    -[Int] toString
    -[Int] toHexString
    -[Int] toHexString

+[Lib] Counters
    -[Int] current
    -[Int] increment
    -[Int] decrement

+[Lib] SafeMath
    -[Int] add
    -[Int] sub
    -[Int] mul
    -[Int] div
    -[Int] mod
    -[Int] sub
    -[Int] div
    -[Int] mod

+Ownable (Context)
    -<constructor> #
    -[Pub] owner
    -[Pub] renounceOwnership #
      -modifiers: onlyOwner
    -[Pub] transferOwnership #
      -modifiers: onlyOwner
    -[Int] _transferOwnership #

Contract functions details

+[Int] AggregatorV3Interface
  -[Ext] decimals
  -[Ext] description
  -[Ext] version
  -[Ext] getRoundData
  -[Ext] latestRoundData

+SyncNodeBuy (Ownable)
  -<constructor> #
  -[Pub] assignLeader #
  -[Pub] getLatestPrice
  -[Pub] getprice
  -[Pub] GetAllData
  -[Pub] BUYR $
  -[Pub] lostget #
  -[Pub] changeAdmin #
    -modifires: onlyOwner
  -[Pub] Givemetoken #
    -modifires: onlyOwner
  -[Pub] Givemetoken #
    -modifires: onlyOwner
  -[Ext] <receive> $

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Compiler error	Passed
2.	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.	Medium issue
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

Two medium severity issue found.

1. Out of gas

- **Issue:**

  • The function assignLeader () uses the loop to assign status to addresses. Function will be aborted with OUT_OF_GAS exception if there will be a long _address or _status list.

  • The function lostget() uses the loop. Function will be aborted with OUT_OF_GAS exception if there will be a long _ref list.

- **Recommendation**

  Check that the excluded array length is not too big.

2. Timestamp dependency.

- **Issue:**

  This smart contract contain following functions BUYR which uses block.timestamp means function or contract can be manipulated by miners if they have some incentive to do so as miners can adjust the timestamp.

- **Recommendation**

  It is advisable that Block timestamps/now should not be used for entropy or generating random numbers – i.e. they should not be the deciding factor (either directly or through some derivation) for changing an important state (if assumed to be random). This can be unnecessary if contracts aren't particularly concerned with miner manipulations of the block timestamp, but it is something to be aware of when developing contracts.

Low Severity Issues

No low severity issue found.

Centralization

Owner Privileges :

- SYNCNODE Contract:
    - Owner can assign leaders.
    - Owner can change admin.
    - Owner can transfer ERC20 tokens and BNB .

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.