HackSafe

Smart Contract Security Audit Report

Tripio

December 2022

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
Tripio

Deployer address
0x99a8ebdfd2101dacad6313eba309620fb5f8dd37

Client contacts
Tripio Team

Blockchain
Ethereum

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 Tripio to perform an audit of smart contracts:

- https://etherscan.io/token/0x8b40761142b9aa6dc8964e61d0585995425c3d94#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 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 17.12.2022

Token Type	: DEFI
Contract name	: TripioToken
Contract address	: 0x8B40761142B9aa6dc8964e61D0585995425C3D94
Total supply	: 5,000,000,000
Token ticker	: TRIO
Decimals	: 18
Token Holders	: 18,188
Transactions count	: 76,096
Compiler version	: v0.4.21-nightly.2018.2.27+commit.415ac2ae
Contract deployer address	: 0x99a8ebdfd2101dacad6313eba309620fb5f8dd37
Owner address	: 0x99a8eBdFd2101daCad6313eba309620FB5f8dd37

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, 0 medium and 2 low.

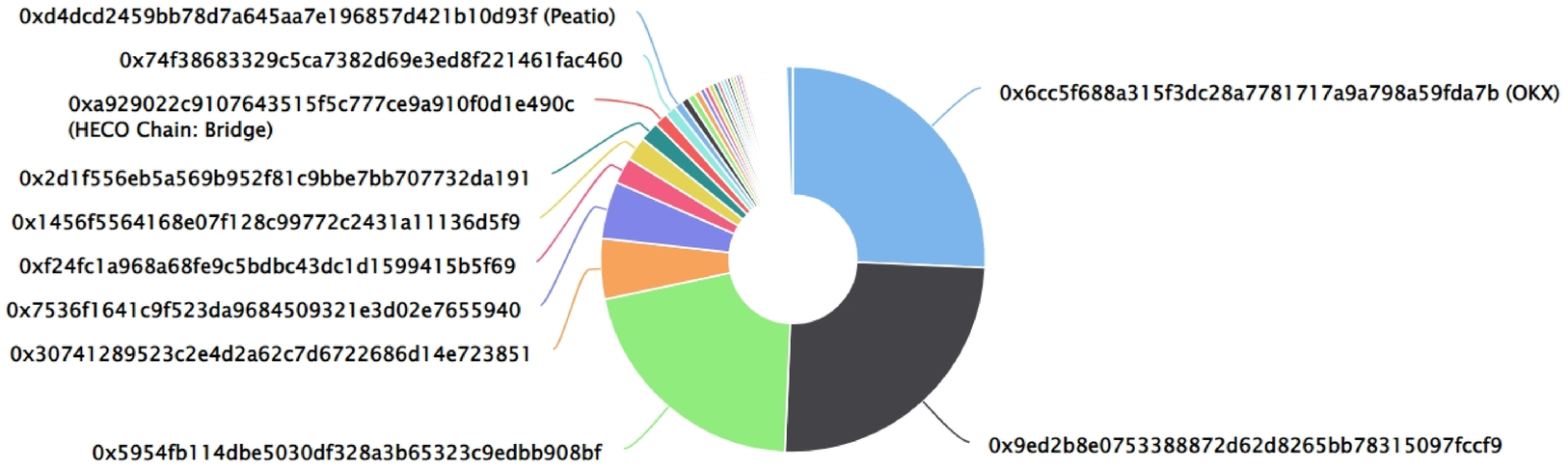
Tripio Token Distribution

The top 100 holders collectively own 99.46% (4,972,978,184.74 Tokens) of Tripio

Token Total Supply: 5,000,000,000.00 Token | Total Token Holders: 18,188

Tripio Top 100 Token Holders

Source: Etherscan.io



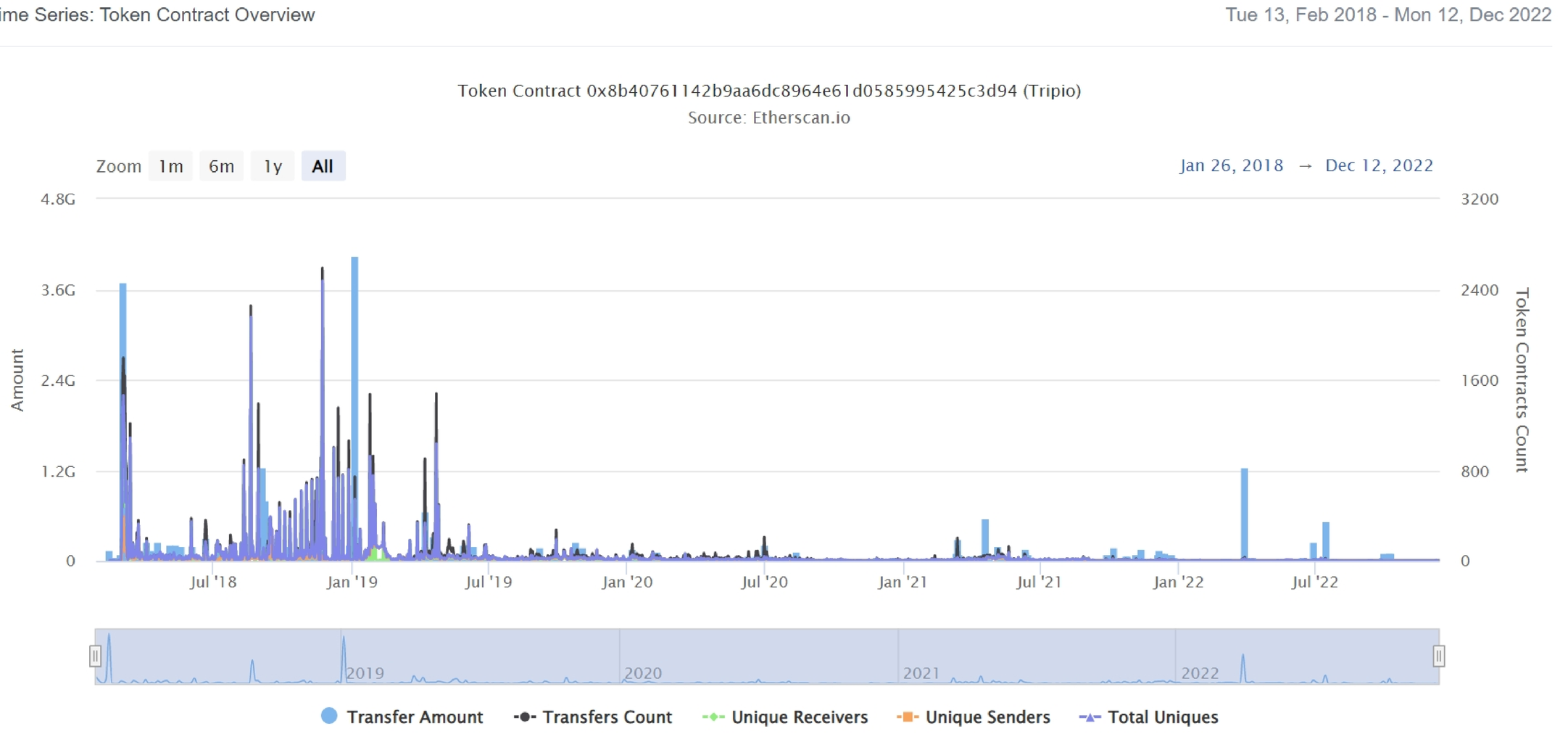
Tripio Top 20 Token Holders

(A total of 4,972,978,184.74 tokens held by the top 100 accounts from the total supply of 5,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	OKX	1,283,888,759.08039516220916847	25.6778%
2	0x9ed2b8e0753388872d62d8265bb78315097fccf9	1,250,000,000	25.0000%
3	0x5954fb114dbe5030df328a3b65323c9edbb908bf	1,050,000,000	21.0000%
4	0x30741289523c2e4d2a62c7d6722686d14e723851	254,278,250.808294468	5.0856%
5	0x7536f1641c9f523da9684509321e3d02e7655940	239,147,423.743	4.7829%
6	0xf24fc1a968a68fe9c5bdbc43dc1d1599415b5f69	111,054,984.7	2.2211%
7	0x1456f5564168e07f128c99772c2431a11136d5f9	100,068,594.128	2.0014%
8	0x2d1f556eb5a569b952f81c9bbe7bb707732da191	80,680,809.72611588	1.6136%
9	HECO Chain: Bridge	57,942,000	1.1588%
10	0x74f38683329c5ca7382d69e3ed8f221461fac460	47,550,680.2932816	0.9510%
11	Peatio	34,438,499.78945001	0.6888%
12	0xbb2a5220c08c10541e907450b90d7470ff5974c3	32,527,202.5814	0.6505%
13	Huobi 28	29,570,610.65530276	0.5914%
14	Huobi 11	26,962,933.454	0.5393%
15	0xcd2ba46f81b12a6423f1c8f5f271a579036426f3	20,507,210.65285919	0.4101%
16	0xdf8750124e43b62191c2c66459776c8bdc947248	20,000,000	0.4000%
17	0xaed1c05ad21b5e74b77609b3ad941cf2e38755c4	18,875,787.836	0.3775%
18	Huobi 1	18,352,877.547	0.3671%
19	Bitfinex 2	15,379,587.19012	0.3076%
20	0xc6c0fb16d0f97ba3204042927e8f52ad3fae804c	14,995,612.293	0.2999%

Tripio Token Distribution

Tripio Contract Overview



Contract functions details

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

+Ownable
  -[Pub] Ownable
  -[Pub] transferOwnership #
    -modifiers: onlyOwner

+Pausable (Ownable)
  -[Pub] pause #
    -modifiers: onlyOwner, whenNotPaused
  -[Pub] unpause #
    -modifiers: onlyOwner, whenPaused

+ERC20Basic
  -[Pub] totalSupply
  -[Pub] balanceOf
  -[Pub] transfer

+BasicToken (ERC20Basic)
  -[Pub] totalSupply
  -[Pub] transfer #
  -[Pub] balanceOf

+ERC20 (ERC20Basic)
  -[Pub] allowance
  -[Pub] transferFrom #
  -[Pub] approve #

+StandardToken (ERC20, BasicToken)
  -[Pub] transferFrom #
  -[Pub] approve #
  -[Pub] allowance
  -[Pub] increaseApproval #
  -[Pub] decreaseApproval #

+TripioToken (Ownable, StandardToken)
  -[Pub] TripioToken #

Contract functions details

-[Pub] burn #
-[Pub] enableTransfer #
-[Pub] disableTransfer #
-[Pub] transfer #
  -modifiers: whenTransferable
-[Pub] transferFrom #
  -modifiers: whenTransferable
-[Pub] approve #
  -modifiers: whenTransferable
-[Pub] increaseApproval #
  -modifiers: whenTransferable
-[Pub] decreaseApproval #
  -modifiers: whenTransferable

($) = 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	Low issue

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**
  Two low severity issue found.

1. Old compiler version

- **Description**
  Contract has been deployed using too old solidity version.
- **Recommendation**
  It is advisable to deploy contract using any of the latest version of solidity.

2. 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 ^0.4.13 the contract should contain the following line:

  pragma solidity 0.4.21;

Centralization

Owner privileges :

- Tripio Contract:
    - Owner can transfer ownership.
    - enable transfer after token sale and before listing.
    - disable transfer for upgrade or emergency events.
    - owner can pause/unpause transfers.

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.

- transferownership
- pause
- unpause
- enableTransfer
- disableTransfer

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.