HackSafe

Smart Contract Security Audit Report

Tokyo AU Token

September 2022

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
Tokyo AU Token

Deployer address
0x9dD19e479De6d8D28FF837Ca9a00dfD7b3c3684c

Client contacts
Tokyo AU Token Team

Blockchain
Binance Smart Chain

Website
https://tokau.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 Tokyo AU Token to perform an audit of smart contracts:

- https://bscscan.com/address/0xc409ec8a33f31437ed753c82eed3c5f16d6d7e22#code

The purpose of the audit was to achieve the

- Ensutre 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 13.09.2022

Token Type	: ERC20
Contract name	: TokAu
Contract address	: 0xC409eC8a33f31437Ed753C82EEd3c5F16d6D7e22
Compiler version	: v0.8.4+commit.c7e474f2
Total supply	: 1,000,000,000,000,000
Token ticker	: TOKAU
Decimals	: 18
Token holders	: 78,188
Transactions count	: 661,173
Contract deployer address	: 0x9dD19e479De6d8D28FF837Ca9a00dfD7b3c3684c
Owner address	: No owner

Social profiles

Github profile	: https://github.com/tokau-tech
Telegram profile	: https://t.me/tokau2021
Coinmarketcap profile	: https://coinmarketcap.com/currencies/tokyo-au/
Coingecko profile	: https://www.coingecko.com/en/coins/tokyo-au/

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are “Secure”. This token contract does not contain owner control, which do make it fully decentralized as owner does not have control over smart contract.

Insecure	Poor	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 1 low and some very low-level issues. These issues are not critical ones.

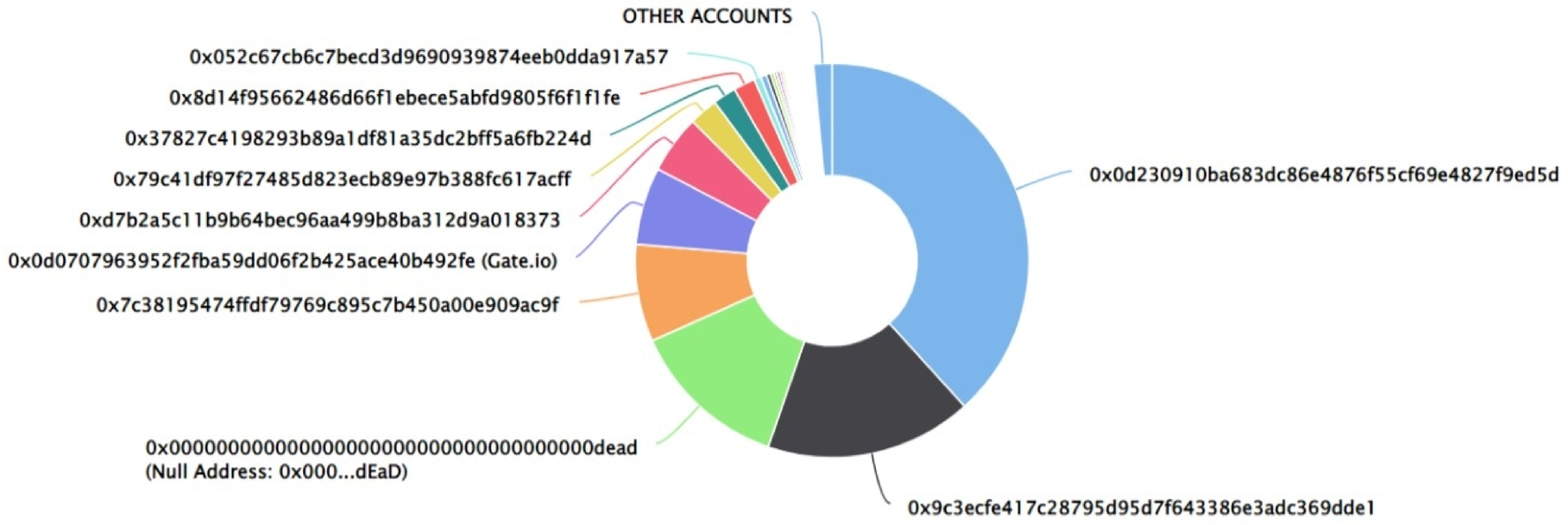
Tokyo AU Token Token Distribution

The top 100 holders collectively own 98.48% (984,760,304,716,552.00 Tokens) of Tokyo AU Token

Token Total Supply: 1,000,000,000,000,000.00 Token | Total Token Holders: 78,188

Tokyo AU Token Top 100 Token Holders

Source: BscScan.com



Tokyo AU Token Top 20 Token Holders

(A total of 984,760,304,716,552.00 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	0x0d230910ba683dc86e4876f55cf69e4827f9ed5d	382,679,881,797,498.907920824525081151	38.2680%
2	0x9c3ecfe417c28795d95d7f643386e3adc369dde1	169,999,996,840,000	17.0000%
3	Null Address: 0x000...dEaD	130,656,992,845,111.007640524041901502	13.0657%
4	0x7c38195474ffdf79769c895c7b450a00e909ac9f	80,000,000,009,001	8.0000%
5	Gate.io	63,615,655,299,485.718337223289080182	6.3616%
6	0xd7b2a5c11b9b64bec96aa499b8ba312d9a018373	47,669,692,888,286.005348	4.7670%
7	0x79c41df97f27485d823ecb89e97b388fc617acff	23,840,377,290,947.56783582674621401	2.3840%
8	0x37827c4198293b89a1df81a35dc2bff5a6fb224d	18,972,550,057,551.44	1.8973%
9	0x8d14f95662486d66f1ebece5abfd9805f6f1f1fe	17,884,204,523,408.903360979567353159	1.7884%
10	0x052c67cb6c7becd3d9690939874eeb0dda917a57	5,514,120,000,000.0000010420040001	0.5514%
11	0x636fbd4c6dced5369fac6127945575cf2c03c3c4	5,051,235,711,451	0.5051%
12	0x339b39341e8f8252f679504f1b0a83b8e8750b3f	3,205,863,720,816.305103671915175898	0.3206%
13	0x3a3d8d4867b4949a8ec789b51fb00db720614d06	2,879,000,000,000	0.2879%
14	0x349f0cb1f5413dd56a6b39e39002f80f82785c57	2,500,000,000,000	0.2500%
15	0xa9f65a288ab4c4fae59192d3867b5c27136a12a4	2,288,257,119,254.358384532330533364	0.2288%
16	0x8aabe00dc75fc03f4002b1c32789fb5745a20135	2,000,000,000,000	0.2000%
17	0x7434e448ae5665f5f3262a2440fa603dfdc30421	1,800,000,000,000	0.1800%
18	0xf58fbf089fc46945449bf56d2da1fd559d353cf3	1,500,000,000,000	0.1500%
19	0x6e9b74bdce04f36b5963da19d3424aa869b6439c	1,500,000,000,000	0.1500%
20	0xe4e4d15a07be18121e1c28d6e9614056c20b1c41	1,500,000,000,000	0.1500%

Contract functions details

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

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

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

+ERC20 (Context, IERC20, IERC20Metadata)
    -<constructor>
    -[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 #

+TokAu (ERC20)
    -<constructor>

Contract functions details

($) = 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 issues 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 0.8.4;

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.