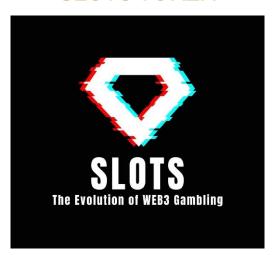




Date: 26.09.2022

Smart Contract Security Audit

SLOTS TOKEN



Harry Kedelman
General Manager



Audit Result

SLOTS TOKEN has PASSED the smart contract security audit with below listed privileges.

(Other unknown security vulnerabilities are not included in the audit responsibility scope)

Audit Result: PASSED

Ownership: Not renounced yet

KYC Verification: NA at the date of report edition

Audit Date: September 26, 2022

Audit Team: CONTRACTCHECKER

Findings Privileges of Ownership

Owner can change Slot Machine contract

Auto liquidity is going to an externally owned account

▲ Owner can exclude an account from paying fees

⚠ Owner can change the fees up to 25%

Owner can change max transaction amount within reasonable limits

⚠ Owner can change swap settings

Recommendations

Slot Machine contract should be fixed with main contract and audited together to determine its safety

Important Notice for Investors

As Contract Checker team we are mainly auditing the contract code to find out how it will be functioning, and risks which are hidden in the code if any.

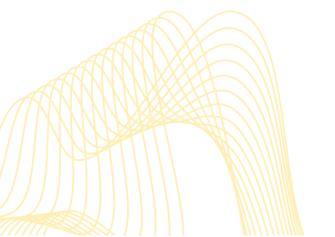
There are many factors must be taken into consideration before investing to a project, like: ownership status, project team approach, marketing, general market condition, liquidity, token holdings etc.

Investors must always do their own research and manage their risk considering different factors which can affect the success of a project.



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SUMMARY

CONTRACTCHECKER received an application for smart contract security audit of SLOTS TOKEN on September 24, 2022, from the project team to discover if any vulnerability in the source codes of the SLOTS TOKEN as well as any contract dependencies. Detailed test has been performed using Static Analysis and Manual Review techniques.

The auditing process focuses to the following considerations with collaboration of an expert team

- Functionality test of the Smart Contract to determine if proper logic has been followed throughout the whole process.
- Manually detailed examination of the code line by line by experts.
- Live test by multiple clients using Testnet.
- Analysing failure preparations to check how the Smart Contract performs in case of any bugs and vulnerabilities.
- Checking whether all the libraries used in the code are on the latest version.
- Analysing the security of the on-chain data.

Project Summary

Token Name SLOTS TOKEN

Web Site http://web3slots.io

Platform Binance Smart Chain

Token Type BEP20

Language Solidity

Platforms & Tools Remix IDE, Truffle, Truffle Team, Ganache, Solhint, VScode, Mythril, Contract Library

Testnet Link https://testnet.bscscan.com/token/0x4E1f4CC01A96CCF456C46422aA823ACCbA774C37

Audited Codebase







OVERVIEW

This Audit Report mainly focuses on overall security of SLOTS TOKEN smart contract. Contract Checker team scanned the contract and assessed overall system architecture and the smart contract codebase against vulnerabilities, exploitations, hacks, and back-doors to ensure its reliability and correctness.

Auditing Approach and Applied Methodologies

Contract Checker team has performed rigorous test procedures of the project

- ➤ Code design patterns analysis in which smart contract architecture is reviewed to ensure it is structured according to industry standards and safe use of third-party smart contracts and libraries.
- Line-by-line inspection of the Smart Contract to find any potential vulnerability like race conditions, transaction-ordering dependence, timestamp dependence, and denial of service attacks.
- Unit testing Phase, we coded/conducted custom unit tests written for each function in the contract to verify that each function works as expected.
- Automated Test performed with our in-house developed tools to identify vulnerabilities and security flaws of the Smart Contract.

The focus of the audit was to verify that the Smart Contract System is secure, resilient, and working according to the specifications. The audit activities can be grouped in the following three categories:

Security

Identifying security related issues within each contract and the system of contract.

Sound Architecture

Evaluation of the architecture of this system through the lens of established smart contract best practices and general software best practices.

Code Correctness and Quality

A full review of the contract source code. The primary areas of focus include:

- Accuracy
- Readability
- Sections of code with high complexity
- Quantity and quality of test coverage

Risk Classification

Vulnerabilities are classified in 3 main levels as below based on possible effect to the contract.



High level vulnerability

Vulnerabilities on this level must be fixed immediately as they might lead to fund and data loss and open to manipulation. Any High-level finding will be highlighted with **RED** text

Medium level vulnerability

Vulnerabilities on this level also important to fix as they have potential risk of future exploit and manipulation. Any Medium-level finding will be highlighted with **ORANGE** text

Low level vulnerability

Vulnerabilities on this level are minor and may not affect the smart contract execution. Any Low-level finding will be highlighted with **BLUE** text

Vulnerability Checklist

Νō	Description.	Result			
1	Compiler warnings.	Passed			
2	Race conditions and Re-entrancy. Cross-function race conditions.				
3	Possible delays in data delivery.				
4	Oracle calls.				
5	Front running.				
6	Timestamp dependence.				
7	Integer Overflow and Underflow.				
8	DoS with Revert.	Passed			
9	DoS with block gas limit.				
10	Methods execution permissions.				
11	Economy model.				
12	The impact of the exchange rate on the logic.				
13	Private user data leaks.				
14	Malicious Event log.				
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 Zeppelin module.				
21	Fallback function security.	Passed			

Manual Audit:

For this section the code was tested/read line by line by our developers. Additionally, Remix IDE's JavaScript VM and Kovan networks used to test the contract functionality.



Smart Contract SWC Attack Test

SWC ID	Description	Test Result	
SWC-100	Function Visibility	Passed	
SWC-101			
SWC-102	3		
SWC-103			
SWC-104	3 3		
SWC-105	05 Unprotected Ether Withdrawal		
SWC-106			
SWC-107			
SWC-108	,		
SWC-109	Uninitialized Storage Pointer	Passed	
SWC-110	Assert Violation	Passed	
SWC-111	Use of Deprecated Solidity Functions	Passed	
SWC-112	Delegate Call to Untrusted Callee	Passed	
SWC-113	DoS with Failed Call	Passed	
SWC-114	Transaction O <mark>rder</mark> Dependence	Passed	
SWC-115	Authorization through tx.origin	Passed	
SWC-116	Block values as a proxy for time	Passed	
SWC-117	Signature Malleability	Passed	
SWC-118	Incorrect Constructor Name	Passed	
SWC-119	Shadowing State Variables	Passed	
SWC-120	Weak Sources of Randomness from Chain Attributes	Passed	
SWC-121	Missing Protection against Signature Replay Attacks	Passed	
SWC-122	Lack of Proper Signature Verification	Passed	
SWC-123	Requirement Violation	Passed	
SWC-124	Write to Arbitrary Storage Location	Passed	
SWC-125	Incorrect Inheritance Order	Passed	
SWC-126	Insufficient Gas Griefing	Passed	
SWC-127	Arbitrary Jump with Function Type Variable	Passed	
SWC-128	DoS With Block Gas Limit	Passed	
SWC-129	Typographical Error	Passed	
SWC-130	Right-To-Left-Override control character (U+202E)	Passed	
SWC-131	Presence of unused variables	Passed	
SWC-132	Unexpected Ether balance	Passed	
SWC-133	Hash Collisions with Multiple Variable Length Arguments	Passed	
SWC-134	Message call with hardcoded gas amount	Passed	
SWC-135	Code With No Effects (Irrelevant/Dead Code)	Passed	
SWC-136	Unencrypted Private Data On-Chain	Passed	





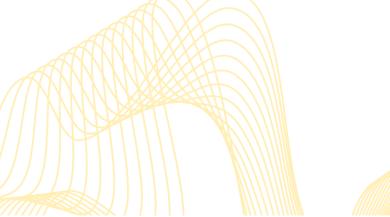
▲ 13 LOW level vulnerability detected at SWC test

ID	Severity	Name	File	Location
SWC-103.	Low	A floating pragma is set.	IERC165.sol	L: 2 C: 1
SWC-103	Low	A floating pragma is set.	IERC165.sol	L: 10 C: 35
SWC-103	Low	A floating pragma is set.	IERC165.sol	L: 26 C: 4425
SWC-103	Low	A floating pragma is set.	IERC165.sol	L: 26 C: 5213
SWC-103.	Low	A floating pragma is set.	IERC165.sol	L: 26 C: 14334
SWC-103	Low	A floating pragma is set.	IERC165.sol	L: 26 C: 17238
SWC-103	Low	A floating pragma is set.	IERC165.sol	L: 26 C: 19156
SWC-103	Low	A floating pragma is set.	IERC165.sol	L: 26 C: 19475
SWC-103	Low	A floating pragma is set.	IERC165.sol	L: 26 C: 42935
SWC-108	Low	State variable visibility is not set.	IERC165.sol	L: 26 C: 852
SWC-108	Low	State variable visibility is not set.	IERC165.sol	L: 26 C: 1039
SWC-108	Low	State variable visibility is not set.	IERC165.sol	L: 26 C: 1091
SWC-108	Low	State variable visibility is not set.	IERC165.sol	L: 26 C: 21613

Automated Audit

Remix Compiler Warnings

It throws warnings by Solidity's compiler. No issues found.







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. 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 based on 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. If you have any doubt about the Genuity for this document, please check QR code:

