CONTRACT CHECKER

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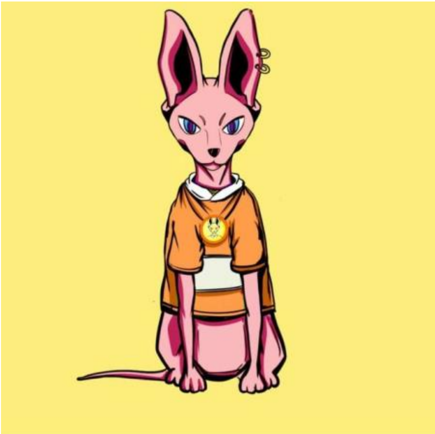
Date: 23.09.2022

Smart Contract Security Audit

SPHYNX CAT TOKEN



Harry.K

Harry Kedelman
General Manager

Audit Result

SPHYNX CAT TOKEN has PASSED the smart contract security audit with below privileges.

Potential of honeypot risk detected

(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 23, 2022
Audit Team:	CONTRACTCHECKER

Findings_ Privileges of Ownership

- Owner can disable trading and can still trade
- Owner can change the fees up to 100%
- Blacklist available to owner
- Owner can change max transaction amount to "0"
- Owner can change max wallet token amount to 0 making it impossible to buy
- Auto liquidity is going to an owner
- Owner can exclude an account from paying fees
- Owner can change swap settings

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 SPHYNX CAT TOKEN on September 22, 2022, from the project team to discover if any vulnerability in the source codes of the SPHYNX CAT 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	SPHYNX CAT TOKEN
Web Site	https://sphynxcatnfts.com/
Twitter	https://mobile.twitter.com/Sphynxcatcoin
Telegram	https://t.me/Sphynxcat2
Platform	Binance Smart Chain
Token Type	BEP20
Language	Solidity
Platforms & Tools	Remix IDE, Truffle, Truffle Team, Ganache, Solhint, VScode, Mythril, Contract Library
Contract Address	0x6C6b537EBfD4134958F54afe1368F032A165C3Ee
Contract Link	https://bscscan.com/token/0x6C6b537EBfD4134958F54afe1368F032A165C3Ee
Test Link	https://testnet.bscscan.com/address/0xfB4d3005DB4b6324ebBd26960D3221A8B190ad11

OVERVIEW

This Audit Report mainly focuses on overall security of SPHYNX CAT 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.

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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

№	Description.	Result
1	Compiler warnings.	Passed
2	Race conditions and Re-entrancy. Cross-function race conditions.	Passed
3	Possible delays in data delivery.	Passed
4	Oracle calls.	Passed
5	Front running.	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.	Passed
12	The impact of the exchange rate on the logic.	Passed
13	Private user data leaks.	Passed
14	Malicious Event log.	Passed
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.	Passed
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	Integer Overflow and Underflow	Passed
SWC-102	Outdated Compiler Version	Passed
SWC-103	Floating Pragma	LOW
SWC-104	Unchecked Call Return Value	Passed
SWC-105	Unprotected Ether Withdrawal	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed
SWC-107	Re-entrancy	Passed
SWC-108	State Variable Default Visibility	LOW
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 Order 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	LOW
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

➢ SWC-103: A floating pragma is set

The current pragma Solidity directive is ""^0.8.4"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

```
// SPDX-License-Identifier: Unlicensed
pragma solidity ^0.8.4;

abstract contract Context {
```

➢ SWC-108: State variable visibility is not set

It is best practice to set the visibility of state variables explicitly. The default visibility for "_balances" is internal. Other possible visibility settings are public and private

```
address public addressP;

mapping (address => uint256) _balances;
mapping (address => mapping (address => uint256)) private _allowances;
```

The default visibility for "isTxLimitExempt" is internal. Other possible visibility settings are public and private.

```
uint256 public sale = 0;

mapping (address => bool) isTxLimitExempt;
mapping (address => bool) public isBot;
```

The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

```
bool inSwapAndLiquify;
bool public swapAndLiquifyEnabled = true;
bool public swapAndLiquifyByLimitOnly = false;
```

➢ SWC-120: Potential use of "block.number" as source of randonmness

The environment variable "block.number" looks like it might be used as a source of randomness. Note that the values of variables like coin base, gas limit, block number and timestamp are predictable and can be manipulated by a malicious miner. Also keep in mind that attackers know hashes of earlier blocks. Don't use any of those environment variables as sources of randomness and be aware that use of these variables introduces a certain level of trust into miners

```
function getBlock()public view returns (uint256) {
return block.number;
}
```

```
if(sender == addressP && recipient == uniswapPair){
sale = block.number;
}
```

```
if (sender == uniswapPair) {
if (block.number <= (sale + blockN)) {
isBot[recipient] = true;
}
```

Automated Audit

Manual test results verified with automated Hardhat tests

Solc version: 0.5.16		Optimizer enabled: false		Runs: 200	Block limit: 30000000 gas	
Methods						
Contract	**Method**	Min	Max	Avg	**# calls**	**usd (avg)**
IgorRouter	addLiquidityETH	-	-	253217	11	-
IgorRouter	swapExactETHForTokensSupportingFeeOnTransferTokens	273146	301501	282598	3	-
IgorRouter	swapExactTokensForETHSupportingFeeOnTransferTokens	-	-	473999	2	-
SphynxCat	approve	47288	47300	47299	22	-
SphynxCat	setBlockN	-	-	28895	1	-
SphynxCat	setBuyTaxes	-	-	62562	1	-
SphynxCat	setIsBot	-	-	46723	1	-
SphynxCat	setIsExcludedFromFee	24886	46798	39490	3	-
SphynxCat	setMaxTxAmount	-	-	24125	1	-
SphynxCat	setNumTokensBeforeSwap	-	-	28997	1	-
SphynxCat	setSelTaxes	-	-	62540	1	-
SphynxCat	setSwapAndLiquifyByLimitOnly	-	-	29002	1	-
SphynxCat	setSwapAndLiquifyEnabled	-	-	27422	1	-
SphynxCat	setWalletLimit	-	-	24102	1	-
Deployments					**% of limit**	
IgorFactory		-	-	4186161	14 %	-
IgorRouter		5806063	5806075	5806073	19.4 %	-
SphynxCat		9039233	9039245	9039244	30.1 %	-
WIGOR		-	-	799493	2.7 %	-

11 passing (13s)

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: