



Smart Contract Security Audit Report

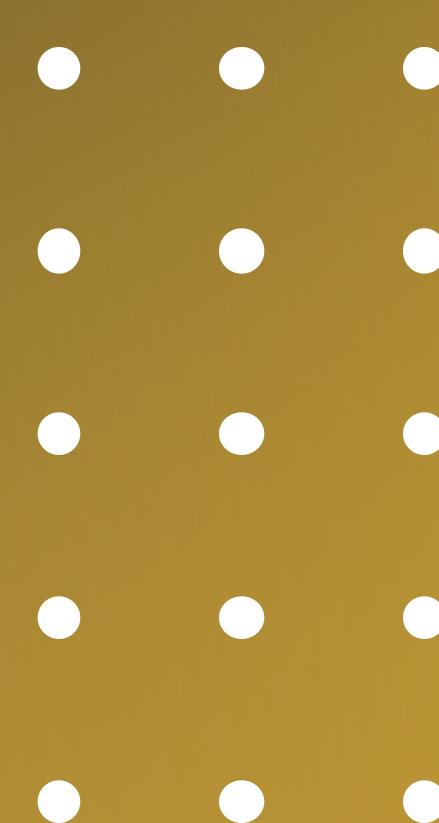
Couchain

October 2022

Security Status



www.hacksafe.io



Audit Details



Audited project

Couchain



Deployer address

0x9b6CE6b224c06a043E1F2AC57FBb944cf60D9db4



Client contacts

Couchain Team



Blockchain

Ethereum



Website

<https://couchain.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 Couchain to perform an audit of smart contracts:

- <https://etherscan.io/token/0xf091cf09c51811819db705710e9634b8bf18f164#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 understood to 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 19.10.2022

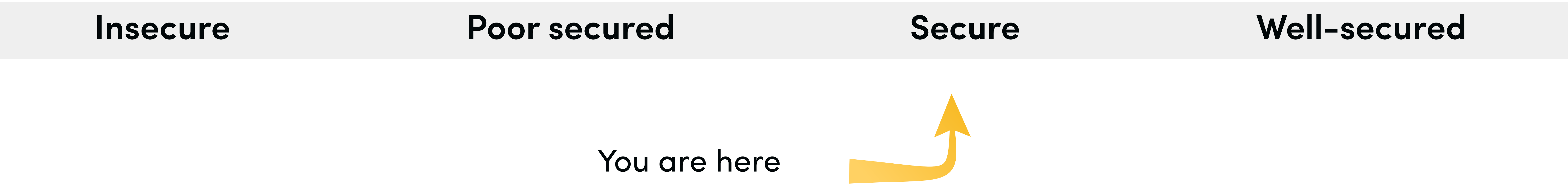
Token Type	: ERC20
Contract name	: Couchain
Contract address	: 0xf091Cf09c51811819DB705710e9634B8bf18F164
Total supply	: 23,000,000,000
Token ticker	: COU
Decimals	: 18
Token holders	: 15,487
Transactions count	: 24,530
Compiler version	: v0.4.24+commit.e67f0147
Contract deployer address	: 0x9b6CE6b224c06a043E1F2AC57FBb944cf60D9db4
Owner address	: 0x9b6CE6b224c06a043E1F2AC57FBb944cf60D9db4

Social profiles

Twitter profile	: https://twitter.com/Couchain
Coinmarketcap Profile	: https://coinmarketcap.com/currencies/couchain/
Coingecko profile	: https://www.coingecko.com/en/coins/couchain/
Telegram profile	: https://t.me/CouchainGroups

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 as owner does have control over smart contract.



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 and some very low-level issues.

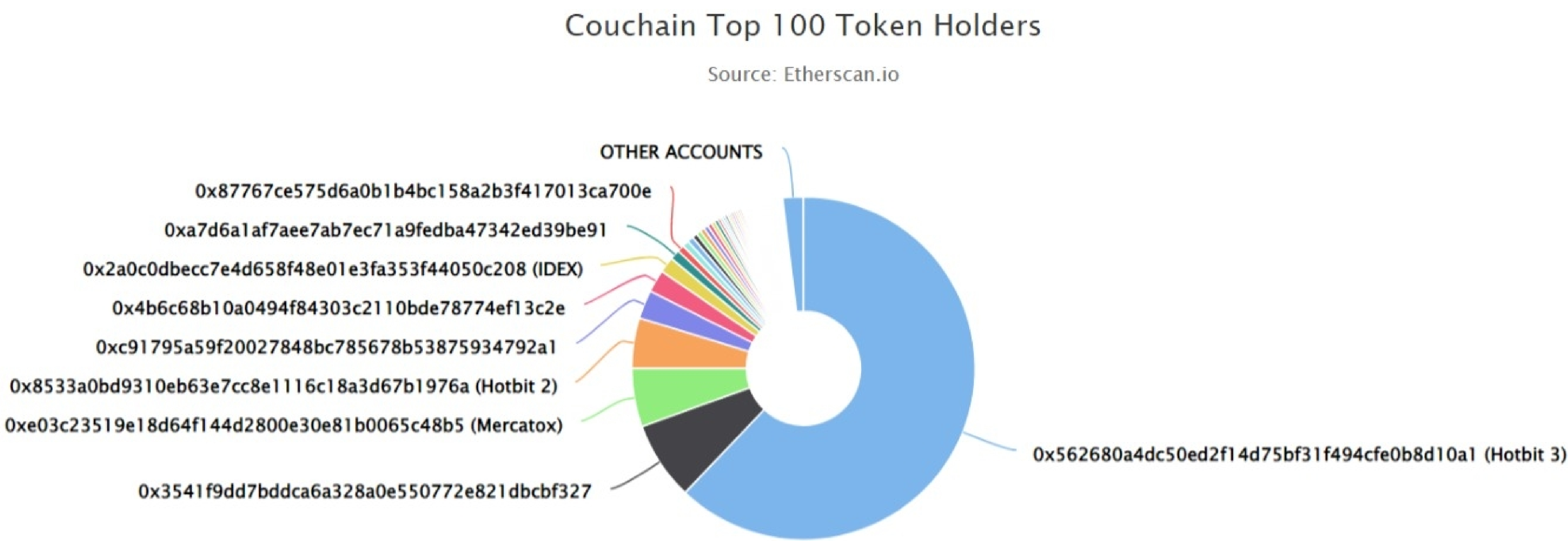
Couchain Token Distribution

 The top 100 holders collectively own 98.07% (22,556,818,794.60 Tokens) of Couchain

 Token Total Supply: 23,000,000,000.00 Token

|

Total Token Holders: 15,487



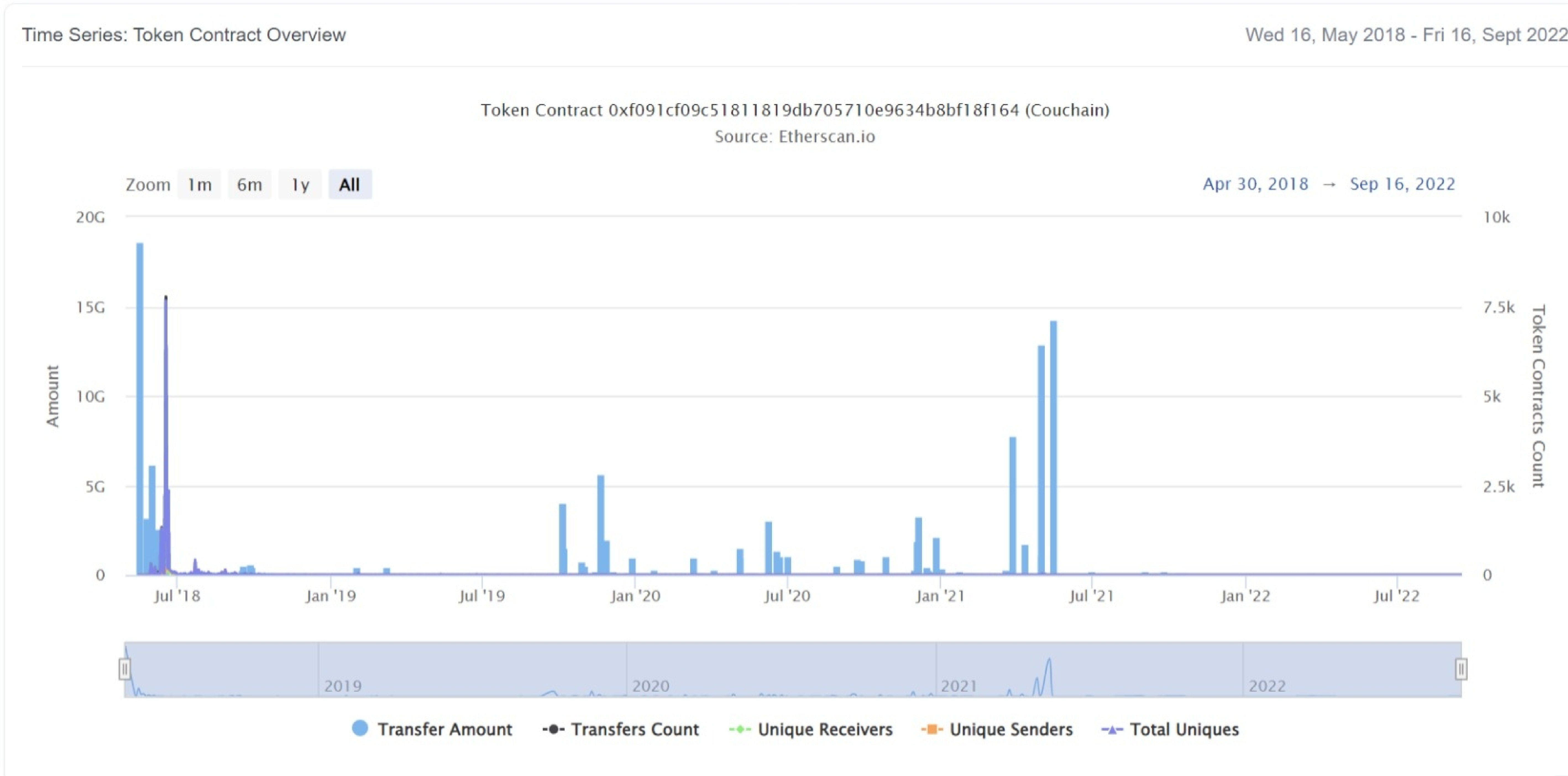
Couchain Token 20 Token Holders

(A total of 22,556,818,794.60 tokens held by the top 100 accounts from the total supply of 23,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	Hotbit 3	14,287,961,295.631376234695067546	62.1216%
2	0x3541f9dd7bddca6a328a0e550772e821dbcbf327	1,696,358,551.5	7.3755%
3	Mercatox	1,264,320,547.755362140575578326	5.4970%
4	Hotbit 2	1,094,538,762.79999996803940352	4.7589%
5	0xc91795a59f20027848bc785678b53875934792a1	616,867,588	2.6820%
6	0x4b6c68b10a0494f84303c2110bde78774ef13c2e	491,640,929.05	2.1376%
7	IDEX	340,888,207.280688436341219843	1.4821%
8	0xa7d6a1af7aee7ab7ec71a9fedba47342ed39be91	215,459,905.3	0.9368%
9	0x87767ce575d6a0b1b4bc158a2b3f417013ca700e	149,947,537.8	0.6519%
10	0x1bbec82d2160a7ae18d89e510130217143b2e412	143,754,970	0.6250%
11	0x8c29851e3238161d8761c91348c73f9cc33862c5	132,071,414	0.5742%
12	0xb8d0154cb0aef84c8907eae167c1a9a17ce619ca	109,324,214	0.4753%
13	0xf082bb457bb4987b14986941e9a723210418bd6b	100,000,000	0.4348%
14	Bounce Finance: Bounce Swap Proxy	100,000,000	0.4348%
15	0xb493e326578dc71db5b367d3399c896c9e076939	96,523,538	0.4197%
16	0x5953153207f2c979ae941b9fdb418896e024c83e	90,000,000	0.3913%
17	0xc16376c6ca3468e445b6e83cb897dbf966527d6a	78,849,646	0.3428%
18	0x36d37b17f6c2ac7b36053fae43ecb278e546e966	76,000,000	0.3304%
19	0xde52cd17c19d1164df7dca57db1b0534644744c8	60,002,003.05	0.2609%
20	0xda5e243895a39a59df4c0ebc38079e2d770f3153	56,454,644.5	0.2455%

Couchain Token Distribution

Couchain Token Contract Overview



Contract functions details

+ owned

- [Pub] owned
- [Pub] transferOwnership #
-modifiers: onlyOwner

+ [Int] tokenRecipient

- [Pub] receiveApproval

+ TokenERC20

- [Pub] TokenERC20
- [Int] _transfer #
- [Pub] transfer #
- [Pub] transferFrom #
- [Pub] approve #
- [Pub] approveAndCall #
- [Pub] burn #
- [Pub] burnFrom #

+ Couchain (owned, TokenERC20)

- [Pub] Couchain #
- [Int] _transfer #
- [Pub] freezeAccount #
-modifiers: onlyOwner
- [Pub] setPrices
-modifiers: onlyOwner
- [Pub] buy \$
- [Pub] sell #

(\$) = 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 issues found.

✔ Medium Severity Issues

No medium severity issues 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 0.4.16 the contract should contain the following line:

```
pragma solidity 0.4.24;
```


Centralization

Owner Privileges:

- Couchain Contract:
 - Owner can and transfer renounce ownership.
 - Owner can set sell and buy prices.
 - Owner can freeze account.

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. Following are Admin functions:

- Transferownership
- Freezeaccount
- Setprices

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.