HackSafe

Smart Contract Security Audit Report

EnkiX

June 2022

Security Status

★★★★½

www.hacksafe.io

Audit Details

Audited project
EnkiX

Deployer address
0xab1C912c7b41F881a60e53b727fd4Db47E2FB66A

Client contacts
EnkiX team

Blockchain
Polygon

Website
not provided by team

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 EnkiX to perform an audit of smart contracts:

- https://polygonscan.com/address/0x566664c32138605176f9d3f50c747ab417b1b256#code

Contract Details

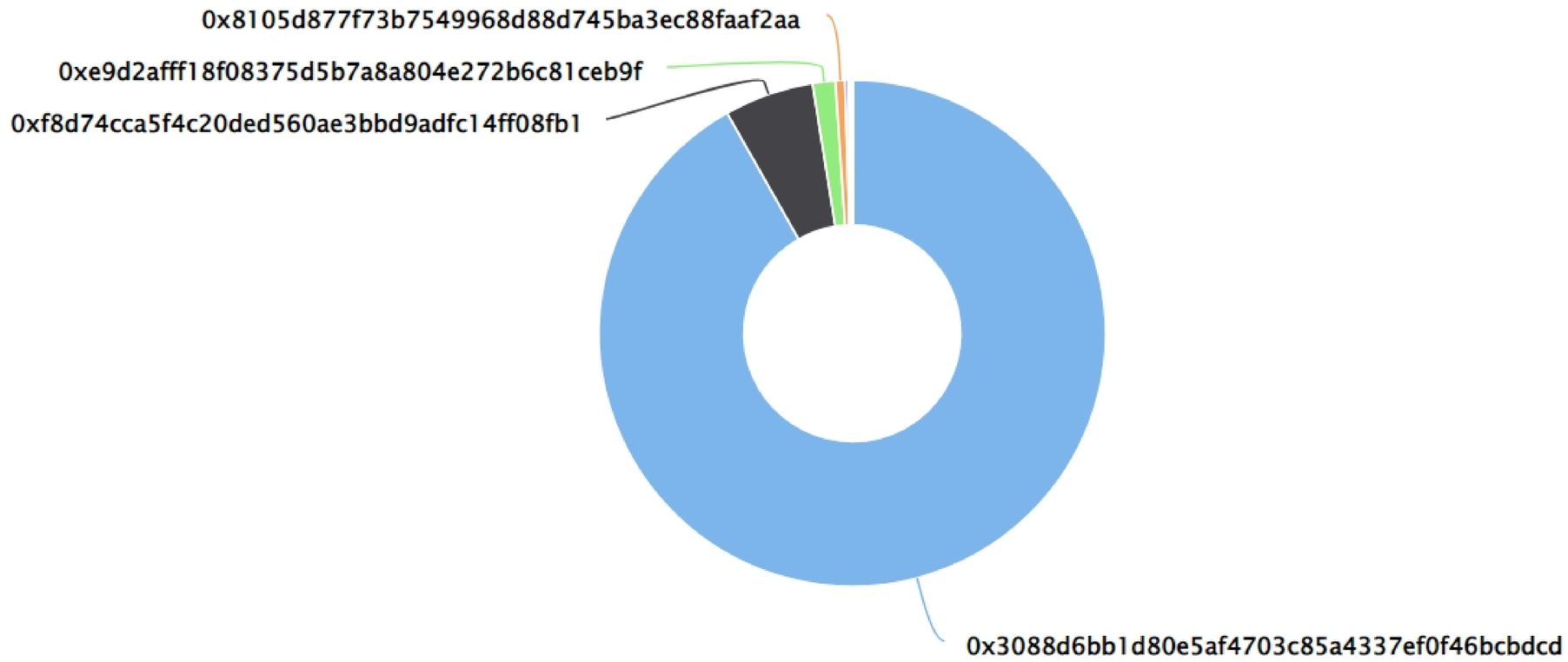
Token contract details for 02.06.2022

Contract name	: BethTestToken
Contract address	: 0x566664c32138605176F9D3f50C747aB417b1b256
Total supply	: 5,000,000
Token Ticker	: EKX
Decimals	: 18
Token Holders	: 5,101
Top 100 token holder's dominance	: 100.00%
Transactions count	: 5,771
Complier version	: v0.4.26+commit.4563c3fc
Contract deployer address	: 0xab1C912c7b41F881a60e53b727fd4Db47E2FB66A
Owner address	: No owner
Funds collection	: 0x88bb6d548caf0fc1baf27b9c222e25d157b0d002

EnkiX Token Distribution

EnkiX Top 100 Token Holders

Source: polygonscan.com

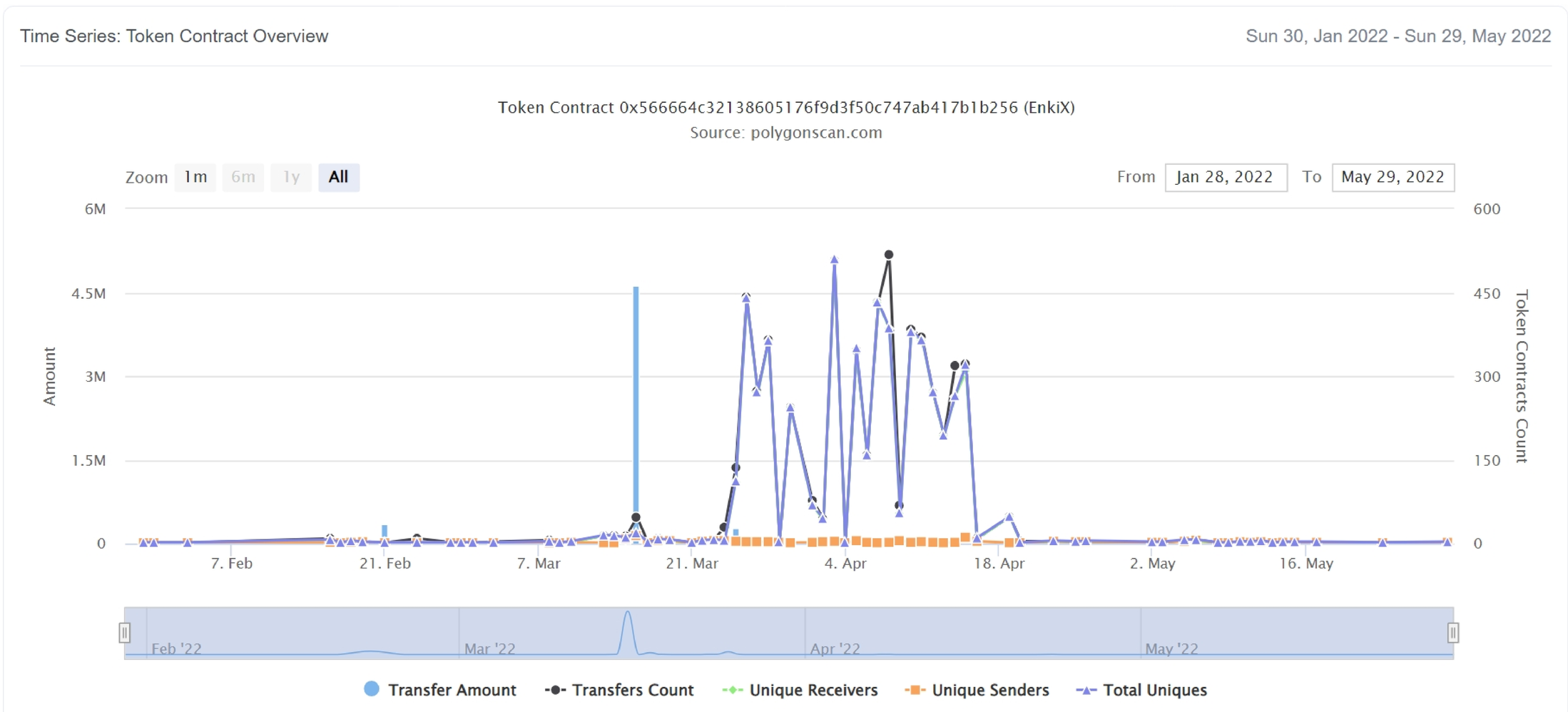


EnkiX Top 20 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x3088d6bb1d80e5af4703c85a4337ef0f46bcbdcd	4,588,972	91.7794%
2	0xf8d74cca5f4c20ded560ae3bbd9adfc14ff08fb1	286,108.589	5.7222%
3	0xe9d2afff18f08375d5b7a8a804e272b6c81ceb9f	72,409.66442156	1.4482%
4	0x8105d877f73b7549968d88d745ba3ec88faaf2aa	30,001	0.6000%
5	0x808bd7ba766435a785fdcf6446d044edd89e25c9	9,999	0.2000%
6	0x9e72d16a22263c84f18e20e868a49ff45aa4c5f8	4,375	0.0875%
7	0x72405441f6fa1d123708f8654d78295704858116	3,445	0.0689%
8	0xe0c7f6e35a130d8ab130573730c8967dc9cb9ba5	1,388	0.0278%
9	0xf149cdc63ef3370c7977b03a4462cb4259dda291	526	0.0105%
10	0x156ab3346823b651294766e23e6cf87254d68962	478.62	0.0096%
11	0x8b6bc4f5aca6560e5cc58b94b22a127e6495303e	214.88	0.0043%
12	0x6b423b07a33c6e680fafed5e56172f8f3327ee1c	211.98	0.0042%
13	0xc38cb327668a578fd9cbce1c8049e48670824ff7	203.00505	0.0041%
14	0x19cbca9c91d9443ffcf47d73ba9b62dd5515b49d	199.98	0.0040%
15	0xa4125f225cb02ad8bb4c4406060cff382c3fcabe	144.84352844	0.0029%
16	0x32fd9b71aeece9d1cd40169ec9684fe087814d51	96	0.0019%
17	0xede1754d8639a83af68b6f46e9bb849ca129b19c	70	0.0014%
18	0xcfeec04f5deea861cb1489faababe5d68f5e4c4e	69.98	0.0014%
19	0x5944e37e1112e6643ce9a5734382a963f6a75cee	69.877	0.0014%
20	0x70f179a29185e093078b165e3ef836ddbedf5785	68	0.0014%

EnkiX Token Distribution

EnkiX Contract overview



Contract functions details

+Token

- totalSupply
- balanceOf
- transfer
- transferFrom
- approve
- allowance

+ StandardToken (Token)

- transfer #
- transferFrom #
- balanceOf #
- approve #
- allowance #

+ BethTestToken

- BethTestToken
- $
- approveAndCall #

($) = 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

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 >=0.4.22 <=0.6.2 the contract should contain the following line:

  pragma solidity 0.4.26;

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.