QuillAudits

Audit Report
March, 2024

For

Solocker

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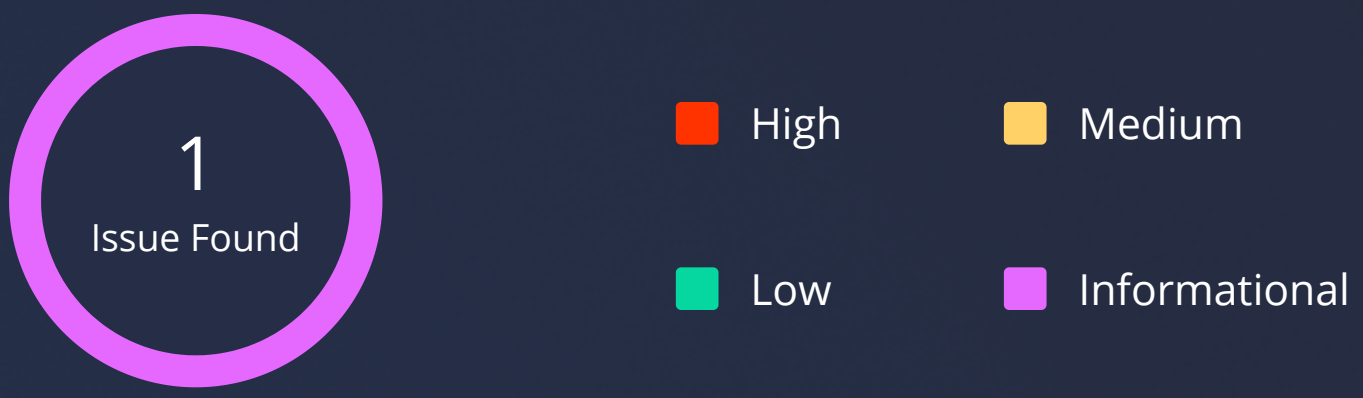
Scope of Audit

The scope of this audit was to analyze and document the Solocker-timelock codebase for quality, security, and correctness.

Number of Security Issues per Severity



	High	Medium	Low	Informational
Open Issues	0	0	0	0
Acknowledged Issues	0	0	0	1
Partially Resolved Issues	0	0	0	0
Resolved Issues	0	0	0	0

Checked Vulnerabilities

- Signer Authorization
- Account Data Matching
- Sysvar Address Checking
- Owner Checks
- Type Cosplay
- Initialization
- Arbitrary CPI
- Duplicate Mutable Accounts
- Insufficient SPL Token Account Verification
- PDA Sharing
- Incorrect Closing Accounts
- Missing Rent Exemption Checks
- Arithmetic Overflows/Underflows
- Numerical Precision Errors
- Solana Account Confusions
- Casting Truncation
- Bump Seed Canonicalization
- Signed Invocation of Unverified Programs

Techniques and Methods

Throughout the audit of smart contracts, care was taken to ensure:

- The overall quality of code.
- Use of best practices.
- Code documentation and comments match logic and expected behavior.
- Liquidity computation on ranged ticks are correct

The following techniques, methods, and tools were used to review all the smart contracts.

Structural Analysis

In this step, we have analyzed the design patterns and structure of smart contracts. A thorough check was done to ensure the smart contract is structured in a way that will not result in future problems.

Static Analysis

A static Analysis of Smart Contracts was done to identify contract vulnerabilities. In this step, a series of automated tools are used to test the security of smart contracts.

Code Review / Manual Analysis

Manual Analysis or review of code was done to identify new vulnerabilities or verify the vulnerabilities found during the static analysis. Code base were completely manually analyzed, their logic was checked and compared with the one described in the whitepaper. Besides, the results of the automated analysis were manually verified.

Issue Categories

Every issue in this report has been assigned to a severity level. There are four levels of severity, and each of them has been explained below.

High Severity Issues

A high severity issue or vulnerability means that your smart contract can be exploited. Issues on this level are critical to the smart contract's performance or functionality, and we recommend these issues be fixed before moving to a live environment.

Medium Severity Issues

The issues marked as medium severity usually arise because of errors and deficiencies in the smart contract code. Issues on this level could potentially bring problems, and they should still be fixed.

Low Severity Issues

Low-level severity issues can cause minor impact and or are just warnings that can remain unfixed for now. It would be better to fix these issues at some point in the future.

Informational

These are four severity issues that indicate an improvement request, a general question, a cosmetic or documentation error, or a request for information. There is low-to-no impact.

Introduction

Project Name	Solocker
Overview	Solocker, also known as $LOCK, is a liquidity locking protocol associated with Solana, a blockchain platform.
Timeline	11th March 2024 - 21st March 2024
Updated Code Received	NA
Second Review	NA
Method	Manual Review, Functional Testing, Automated Testing, etc. All the raised flags were manually reviewed and re-tested to identify any false positives.
Audit Scope	The scope of this audit was to analyze the solocker-timelock for quality, security, and correctness.
Source Code	*https://github.com/oasisMystre/solocker-timelock.git*
Commit Hash	7030bdcc6e461fd00458fd0d9c2113f886b5134b
Fixed In	NA

A. Solocker-timelock

Issues Found – Code Review / Manual Testing

Informational Issues

A.1 No coverage report in the test-suite

Description

The test suite exhibits a failure of executing tests,however it's not due to poorly written test but due to complicated environment requirements. Additionally, the absence of a coverage report implies a lack of information regarding test coverage.

Remediation

To rectify this issue, the recommended steps involve to dockerize the test suite and integrating a library such as ***cargo-llvm-cov or tarpaulin*** to generate a comprehensive coverage report.

Status

Acknowledged

Automated Tests

Dylint:

No major issues were found. Some false positive errors were reported by the tool. All the other issues have been categorized above according to their level of severity.

Closing Summary

No instances of Integer Overflow and Underflow vulnerabilities are found in the contract.

Nothing Critical has been found in the audit, code quality is good.

Disclaimer

QuillAudits Smart contract security audit provides services to help identify and mitigate potential security risks in Solocker timelock. However, it is important to understand that no security audit can guarantee complete protection against all possible security threats. QuillAudits audit reports are based on the information provided to us at the time of the audit, and we cannot guarantee the accuracy or completeness of this information. Additionally, the security landscape is constantly evolving, and new security threats may emerge after the audit has been completed.

Therefore, it is recommended that multiple audits and bug bounty programs be conducted to ensure the ongoing security of Solocker timelock. One audit is not enough to guarantee complete protection against all possible security threats. It is important to implement proper risk management strategies and stay vigilant in monitoring your smart contracts for potential security risks.

QuillAudits cannot be held liable for any security breaches or losses that may occur subsequent to and despite using our audit services. It is the responsibility of the Solocker timelock to implement the recommendations provided in our audit reports and to take appropriate steps to mitigate potential security risks.

About QuillAudits

QuillAudits is a secure smart contracts audit platform designed by QuillHash Technologies. We are a team of dedicated blockchain security experts and smart contract auditors determined to ensure that Smart Contract-based Web3 projects can avail the latest and best security solutions to operate in a trustworthy and risk-free ecosystem.

1000+
Audits Completed

$30B
Secured

1M
Lines of Code Audited

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Canada, India, Singapore, UAE, UK

www.quillaudits.com

audits@quillhash.com