

ArbitrageBot v0.6.6+commit.8df45f5f

v0.6.6+commit.8df45f5f

★Low-Risk

Low-risk code

→ Medium-Risk

Medium-risk code

+ High-Risk

High-risk code

ArbitrageBot

[Disclaimer

Executive Summary

Contract Name

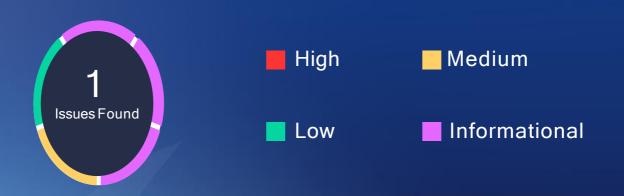
ArbitrageBot

Method

Manual Review, Functional Testing, Automated Testing etc.

Scope of Audit

The scope of this audit was to analyze the contract codebase for quality, security, and correctness.



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

Types of Severities

High

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

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

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 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.

Techniques and Methods

The overall quality of code.

- · Use of best practices.
- · Code documentation and comments match logic and expected behavior.
- Token distribution and calculations are as per the intended behavior mentioned in the whitepaper.
- implementation of ERC-20 token standards.
- · Efficient use of gas.
- · Code is safe from re-entrance and other vulnerabilities.

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

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. Contracts were completely manually analyzed, and their logic was checked and compared with the one described in the whitepaper. Besides, the results of the automated analysis were manually verified.

Gas Consumption

In this step, we have checked the behavior of smart contracts in production. Checks were done to know how much gas gets consumed and the possibilities of optimization of code to reduce gas consumption.

Tools and Platforms Used for Audit

Remix IDE, Truffle, Truffle Team, Solhint, Mythril, Slither, Solidity statistic analysis.

Phase 1

Contract - ArbitrageBot

High Severity Issues

No issues found

Medium Severity Issues

No issues found

Low Severity Issues

1. Autology-or-contradiction

```
function toHexDigit(uint8 d) pure internal returns (byte) {
   if (0 <= d && d <= 9) {
      return byte(uint8(byte('0')) + d);
   } else if (10 <= uint8(d) && uint8(d) <= 15) {
      return byte(uint8(byte('a')) + d - 10);
   }
   // revert("Invalid hex digit");
   revert();
}</pre>
```

Description

Our auditor found this issue manually. It is a bug or vulnerability. We simply acknowledge that the Detects expressions that are tautologies or contradictions. For example

x is a uint256, so $x \ge 0$ will be always true. y is a uint8, so y <512 will be always true.

Recommendation

Fixes the incorrect comparison by changing the value type or the comparison.

Status

Acknowledged

Informational Severity Issues

No issues found

Smart Contract Weakness Classification (SWC) Vulnerabilities for Attacks

Re-entrancy	Tautology or contradiction
✓ Timestamp Dependence	Missing Zero Address Validation
Gas Limit and Loops	Return values of low-level calls
Exception Disorder	Revert/require functions
✓ Gasless Send	Private modifier
Use of tx.origin	Using block.timestamp
Compiler version not fixed	Multiple Sends
✓ Address hardcoded	Using SHA3
Divide before multiply	Using suicide
Integer overflow/underflow	Using throw
Dangerous strict equalities	Using inline assembly

Phase 2

```
ArbitrageBot.orderContractsByLiquidity(ArbitrageBot.slice)
        - INLINE ASM (contracts/bot.sol#251)
        - INLINE ASM (contracts/bot.sol#450)
Reference: https://github.com/crytic/slither/wiki/Detector-
INFO:Detectors:
Different versions of Solidity are used:
        - >=0.5.0 (contracts/bot.sol#24)
        - ^0.6.6 (contracts/bot.sol#33)
Reference: https://github.com/crytic/slither/wiki/Detector-
<u>Documentation#different-pragma-directives-are-used</u>
INFO:Detectors:
ArbitrageBot.orderContractsByLiquidity(ArbitrageBot.slice)
Reference: https://github.com/crytic/slither/wiki/Detector-
```

Documentation#dead-code

Closing Summary

In this report, we have considered the security of ArbitrageBot. We performed our audit according to the procedure described above.

Several issues were identified during the audit process, and their severity levels have been classified. Recommendations and best practices have also been provided to enhance code quality and security posture. The team has acknowledged all identified issues.

Disclaimer

Scrysec does not provide security warranties, investment advice, or endorsements of any platform. This audit does not guarantee the security or correctness of the audited smart contracts. The statements made in this document should not be interpreted as investment or legal advice. The authors are not liable for any decisions made based on the information in this document. Securing smart contracts is an ongoing process. A single audit is not sufficient. We recommend that the platform's development team implement a bug bounty program to encourage further analysis of the smart contract by other third parties

Scrysec By Auditblock

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