sec3™

Security Assessment Report

Monaco Protocol v0.7.0

March 15, 2023

# Summary

The sec3 team (formerly Soteria) was engaged to do a thorough security analysis of the Monaco Protocol Solana smart contract in https://github.com/MonacoProtocol/protocol. The initial audit was done on the source code of the following version

- **Contract "monaco_protocol":**
  - v0.7.0, commit 6d49acee838f95255917b8a0a3b31b39065b703f

The following instructions that are not in use were excluded from the audit:

- create_product_config
- update_product_commission_escrow
- update_product_commission_rate
- create_multisig
- create_multisig_transaction
- set_multisig_members
- approve_multisig_transaction
- execute_multisig_transaction

No issues were identified during this review.

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# Methodology and Scope of Work

The sec3 (formerly Soteria) audit team, which consists of Computer Science professors and industrial researchers with extensive experience in Solana smart contract security, program analysis, testing and formal verification, performed a comprehensive manual code review, software static analysis and penetration testing.

Assisted by the sec3 Scanner developed in-house, the audit team particularly focused on the following work items:

- Check common security issues.
  - Missing ownership checks
  - Missing signer checks
  - Signed invocation of unverified programs
  - Solana account confusions
  - Arithmetic over- or underflows
  - Numerical precision errors
  - Loss of precision in calculation
  - Insufficient SPL-Token account verification
  - Missing rent exemption assertion
  - Casting truncation
  - Did not follow security best practices
  - Outdated dependencies
  - Redundant code
  - Unsafe Rust code

- Check program logic implementation against available design specifications.

- Check poor coding practices and unsafe behavior.

- The soundness of the economics design and algorithm is out of scope of this work

# Result Overview

In total, the audit team found the following issues.

| MONACO PROTOCOL v0.7.0 | | |
|---|---|---|
| **Issue** | **Impact** | **Status** |
| No issues found | | |

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Founded by leading academics in the field of software security and senior industrial veterans, sec3 (formerly Soteria) is a leading blockchain security company that currently focuses on Solana programs. We are also building sophisticated security tools that incorporate static analysis, penetration testing, and formal verification.

At sec3, we identify and eliminate security vulnerabilities through the most rigorous process and aided by the most advanced analysis tools.

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