

Skymap Token

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INTRODUCTION

CoinMercenary provides comprehensive, independent smart contract auditing.

We help stakeholders confirm the quality and security of their smart contracts using our comprehensive and standardized audit process. Each audit is unbiased and verified by multiple reputable auditors.

The scope of this audit was to analyze and document the Skymap token contract.

This audit provides practical assurance of the logic and implementation of the contract.

AUDIT METHODOLOGY

CoinMercenary audits consist of four categories of analysis.

Design Patterns

We first inspect the overall structure of the smart contract, including both manual and automated analysis.

The design pattern analysis checks appropriate test coverage, utilizes a linter to ensure consistent style and composition, and code comments are reviewed. Overall architecture and safe usage of third party smart contracts are checked to ensure the contract is structured in a way that will not result in future issues.

Static Analysis

The static analysis portion of our audit is performed using a series of automated tools, purposefully designed to test the security of the contract. These tools include:

- **Manticore** - Dynamic binary analysis tool with EVM support.
- **Mythril** - Reversing and bug hunting framework for the Ethereum blockchain.
- **Oyente** - Analyzes Solidity code to find common vulnerabilities.
- **Solgraph** - DOT graph creation for visualizing function control flow of a Solidity contract to highlight potential security vulnerabilities.

Data flow and control flow are also analyzed to identify vulnerabilities.

Manual Analysis

Performing a hands on review of the smart contract to identify common vulnerabilities is the most intensive portion of our audit. Checks for race conditions, transaction-ordering dependence, timestamp dependence, and denial of service attacks are part of our standardized process.

Network Behavior

In addition to our design pattern check, we also specifically look at network behavior. We model how the smart contract will operate once in production,

then determine the answers to questions such as: how much gas will be used, are there any optimizations, how will the contract interact?

Contracts Reviewed

On August 31st, 2018 using git hash d03c8676a40cdc3611eff9645d68c1670f1c07cd the following contract files and their respective SHA256 fingerprints were reviewed:

Filename	SHA256 Fingerprint
SkymapToken.flat.sol	aebc89a14bd6cabb72cb655136f64865fd4a5a076cc3644bc41fe9f4cbd9321c

AUDIT SUMMARY

The contracts have been found to be free of security issues.

Analysis Results

	Initial Audit	Remediation Audit
Design Patterns	Passed	
Static Analysis	Passed	
Manual Analysis	Passed	
Token Allocation	Passed	
Network Behavior	Passed	

Test Results

- No unit test coverage available.

Token Allocation Results

- Symbol: SKYM
- Decimal: 18
- Total Supply: 350,000,000

Explicit Vulnerability Check Results

Known Vulnerability	Results
Parity Multisig Bug 2	Not vulnerable
Callstack Depth Attack	Not vulnerable
Transaction-Ordering Dependence	Not vulnerable
Timestamp Dependency	Not vulnerable
Re-Entrancy Vulnerability	Not vulnerable
Proxy and Buffer Overflow	Not vulnerable

ISSUES DISCOVERED

Issues below are listed from most critical to least critical. Severity is determined by an assessment of the risk of exploitation or otherwise unsafe behavior.

Severity Levels

- **Informational** - No impact on the contract.
- **Low** - Minimal impact on operational ability.
- **Medium** - Affects the ability of the contract to operate.
- **High** - Affects the ability of the contract to work as designed in a significant way.
- **Critical** - Funds may be allocated incorrectly, lost or otherwise result in a significant loss.

Issues

SKY-1 / Low: Use latest Solidity compiler version

Present in SkymapToken.sol

Explanation

Update all contract files to use the latest version of Solidity compiler in order to ensure the latest performance enhancements, features and bug fixes are available.

Resolution

Not yet resolved.

CONCLUSION

The reviewed smart contracts are free of security issues and well crafted.

We look forward to seeing the success of Skymap and appreciate the opportunity to be a part of their story.