



SOLUNA Protocol Security Audit Report

Date: November 2025 **Auditor:** Yu Kurosawa (Certified Smart Contract Auditor) **Target:** SOLUNA Token & Vesting Contract **Version:** v1.0

1. Executive Summary

This report presents the findings of the security audit performed by Yu Kurosawa on the SOLUNA Protocol smart contracts. The audit aimed to verify the system's integrity, ensure logic correctness, and identify potential vulnerabilities in the vesting and token distribution mechanisms.

Conclusion: The SOLUNA Protocol contracts were found to be structured with a strong emphasis on security and transparency. No critical vulnerabilities were detected in the final revision. The logic governing the "Care Token" distribution aligns with the intended economic model.

2. Audit Scope

- **Token Contract:** ERC-20 compliant standard with custom extensions for governance.
- **Vesting Contract:** Time-lock logic for founding members and treasury allocations.
- **Admin Controls:** Ownership privileges and access control mechanisms.

3. Key Findings

- **Severity: Critical (0 Found)**
 - No exploits allowing unauthorized minting or fund draining were found.
- **Severity: High (0 Found)**
 - Access controls are correctly implemented using OpenZeppelin standards.
- **Severity: Medium (Resolved)**
 - *Initial finding:* Potential gas limit issues in bulk claiming.
 - *Resolution:* The logic was optimized to handle batch processing efficiently.
- **Severity: Low / Informational**
 - Variable naming conventions strictly follow Solidity best practices.
 - Code comments provide clear documentation for future developers.

4. Detailed Analysis

4.1 Vesting Logic The vesting schedule is strictly enforced on-chain. The mathematical formulas calculating the release of tokens based on block timestamps were verified manually and through automated testing tools.



4.2 Admin Privileges Administrative functions are limited to essential operational tasks. The "Timelock" mechanism is recommended for future governance updates to further decentralize control.

5. Disclaimer

This audit report is not investment advice. While every effort has been made to ensure the security of the code, smart contract technology carries inherent risks. Users should conduct their own due diligence.

Signed by:

Yu Kurosawa

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