



Security Assessment Report



Velocore

Router Intent Adapter

Version: Final ▾

Date: 29 Apr 2024

Table of Contents

Table of Contents	1
License	2
Disclaimer	3
Introduction	4
Codebases Submitted for the Audit	5
How to Read This Report	6
Overview	7
Methodology	7
Functionality Overview	7
Summary of Findings	8
Detailed Findings	9
1. No refund when adapter is called using .call	9

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Introduction

Purpose of this report

0xCommit has been engaged by **Router Protocol** to perform a security audit of several smart contract components.

The objectives of the audit are as follows:

1. Determine the correct functioning of the protocol, in accordance with the project specification.
2. Determine possible vulnerabilities, which could be exploited by an attacker.
3. Determine smart contract bugs, which might lead to unexpected behaviour.
4. Analyze whether best practices have been applied during development.
5. Make recommendations to improve code safety and readability.

This report represents a summary of the findings.

As with any code audit, there is a limit to which vulnerabilities can be found, and unexpected execution paths may still be possible. The author of this report does not guarantee complete coverage (see disclaimer).

Codebases Submitted for the Audit

The audit has been performed on the following commits:

Github Link:

<https://github.com/router-protocol/router-intents-eoa-adapters/tree/feat/v2-lp/evm/contracts/intent-adapters/lp/Velocore>

Version	Commit hash
Initial	5056f251e93b2cc856c199a82e40a14c734dd485
Final	5056f251e93b2cc856c199a82e40a14c734dd485

How to Read This Report

This report classifies the issues found into the following severity categories:

Severity	Description
Critical	A serious and exploitable vulnerability that can lead to loss of funds, unrecoverable locked funds, or catastrophic denial of service.
High	An attacker can successfully execute an attack that clearly results in operational issues for the service. This also includes any value loss of unclaimed funds permanently or temporary.
Medium	The service may be susceptible to an attacker carrying out an unintentional action, which could potentially disrupt its operation. Nonetheless, certain limitations exist that make it difficult for the attack to be successful.
Low	The service may be vulnerable to an attacker executing an unintended action, but the impact of the action is negligible or the likelihood of the attack succeeding is very low and there is no loss of value.
Informational	Comments and recommendations of design decisions or potential optimizations, that are not relevant to security. Their application may improve aspects, such as user experience or readability, but is not strictly necessary

The status of an issue can be one of the following: **Pending**, **Acknowledged**, or **Resolved**.

Note that audits are an important step to improving the security of smart contracts and can find many issues. However, auditing complex codebases has its limits and a remaining risk is present (see disclaimer).

Users of the system should exercise caution. In order to help with the evaluation of the remaining risk, we provide a measure of the following key indicators: **code complexity**, **code readability**, **level of documentation**, and **test coverage**. We include a table with these criteria below.

Note that high complexity or low test coverage does not necessarily equate to a higher risk, although certain bugs are more easily detected in unit testing than in a security audit and vice versa.

Overview

Methodology

The audit has been performed in the following steps:

1. Gaining an understanding of the code base's intended purpose by reading the available documentation.
2. Automated source code and dependency analysis.
3. Manual line by line analysis of the source code for security vulnerabilities and use of best practice guidelines, including but not limited to:
 - a. Race condition analysis
 - b. Under-/overflow issues
 - c. Key management vulnerabilities
 - d. Access Control Issues
 - e. Boundary Analysis
4. Report preparation

Functionality Overview

It is one of the Router Intent adapters which interacts with the Velocore smart contract to add liquidity into their pools. Together with the Router Nitro bridge, these adapters can be used to enable one-click cross-chain liquidity addition, thereby saving time and effort for the end user.

Summary of Findings

S.No.	Description	Severity	Status
1	Missing functions to pause/unpause the contract	Low ▾	Acknowled... ▾

Detailed Findings

1. No refund when adapter is called using .call

Severity: **Low** ▾

Contract: VelocoreMint

Description

When performing a swap on Velocore, there may be some slippage, due to which there may be some funds stuck in the contract. This is not the case when doing delegatecall via BatchTransfer function.

Remediation

Implement the refund for any excess tokens in the VelocoreMint contract.

Status

Acknowledged ▾

Router team : It is supposed to be called using batch transaction contract only