#HashEx
BLOCKCHAIN SECURITY

Avata Sale Marketplace

smart contracts
final audit report

May 2022


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Contents

1. Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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2. Overview

HashEx was commissioned by the Avata team to perform an audit of their smart contract. The audit was conducted between 24/05/2022 and 24/05/2022.

The purpose of this audit was to achieve the following:

- Identify potential security issues with smart contracts
- Formally check the logic behind given smart contracts.

Information in this report should be used for understanding the risk exposure of smart contracts, and as a guide to improving the security posture of smart contracts by remediating the issues that were identified.

The code has been transferred as a file. The MD5 sum of the file is f0a9b1a4667976a0215a9ee962600fec.Update: the Avata team has responded to this report. The updated code is located in the GitHub repository after the commit 23a8bfe.

2.1 Summary

Project name	Avata Sale Marketplace
URL	https://avata.network/
Platform	Avalanche Network
Language	Solidity

2.2 Contracts

Name	Address
SaleMarketplace	

3. Found issues

Low	2 (100%)

C1. SaleMarketplace

ID	Severity	Title	Status
C1-01	Low	Gas optimization	Resolved
C1-02	Low	Unused variable	Acknowledged

4. Contracts

C1. SaleMarketplace

Overview

The contract allows to sell the tokens that support the inherited ISale interface. With this contract, users can create, accept and remove lots for sale.

The contract does not support tokens with transfer fees.

Issues

C1-01 Gas optimization

Low Resolved

a. It is not necessary to use Safemath in contracts written in Solidity version 0.8 and above.b. In L8, the `SaleLibrary` library is imported, which is not used anywhere.

C1-02 Unused variable

Low Acknowledged

The `sellingWhitelist` variable is not used in the contract. This can worsen the readability of the code, and also increases the gas consumption during the deployment of the contract.

Recommendation

It is recommended to remove this variable or add logic to work with it in the contract function.

5. Conclusion

2 low severity issues were found.1 low severity issue have been resolved in the update.

We strongly suggest adding unit and functional tests for the contract.

This audit includes recommendations on improving the code and preventing potential attacks.

Appendix A. Issues' severity classification

- **Critical.** Issues that may cause an unlimited loss of funds or entirely break the contract workflow. Malicious code (including malicious modification of libraries) is also treated as a critical severity issue. These issues must be fixed before deployments or fixed in already running projects as soon as possible.
- **High.** Issues that may lead to a limited loss of funds, break interaction with users, or other contracts under specific conditions. Also, issues in a smart contract, that allow a privileged account the ability to steal or block other users' funds.
- **Medium.** Issues that do not lead to a loss of funds directly, but break the contract logic. May lead to failures in contracts operation.
- **Low.** Issues that are of a non-optimal code character, for instance, gas optimization tips, unused variables, errors in messages.
- **Informational.** Issues that do not impact the contract operation. Usually, informational severity issues are related to code best practices, e.g. style guide.

Appendix B. List of examined issue types

- Business logic overview
- Functionality checks
- Following best practices
- Access control and authorization
- Reentrancy attacks
- Front-run attacks
- DoS with (unexpected) revert
- DoS with block gas limit
- Transaction-ordering dependence
- ERC/BEP and other standards violation
- Unchecked math
- Implicit visibility levels
- Excessive gas usage
- Timestamp dependence
- Forcibly sending ether to a contract
- Weak sources of randomness
- Shadowing state variables
- Usage of deprecated code

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