

Smart Contract Audit

Arbitrable Proxy

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Note: Some threat levels or headings might be empty if there is no vulnerability/updates/suggestions found.



Introduction

The contract audited here is/are:

<https://github.com/kleros/binary-arbitrable-proxy-contract/blob/4e0d9e1/contracts/ArbitrableProxy.sol>

Related Contracts:

<https://github.com/kleros/binary-arbitrable-proxy-contract/blob/4e0d9e182b8b8ea3983130da18e262732aa9e13b/contracts/IDisputeResolver.sol>

and was shared by Kleros for auditing purposes while working with them.

Based on the audit, we were able to find 1 High threats, no Medium threat, and no Low threat with some other changes in the optimization, readability, typos, and comments section.



High Threats

1. [Line 202](#), in the denominator, the parameters should be added together, rather than subtracted. ``(round.feeRewards + round.appealFee)`` rather than ``(round.feeRewards - round.appealFee)``.

Medium Threats

1. None

Low Threats

1. None



Optimization & Readability

1. [Governor can be set](#) in Constructor.
2. [Line 149 & 150](#) typecase ``_ruling`` to `uint`, but it is already `uint`.
3. Instead of [Line 197](#), 205 & 213, a single send function would be enough outside the if statement.
4. [Line 239](#), ``disputeIDtoRoundArray[_localDisputeID].length`` could be taken into a memory location inside the function for slight optimization.
5. Instead of [Line 283](#), 291 & 299, a modifier could be used ``onlyGovernor``.

Typo's & Comments

1. [Line 206](#) and 207 are both whitespace.

Suggestions

1. Instead of "[Not constant even if the arbitrator is not changing because arbitrator can change this fee.](#)". Better would be "Not constant as arbitrator can change this fee".