Blind Slashing: Moderation of Multi-Party Interaction in Decentralized Systems with Limited Individual Information

Anonymous Author(s)
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Abstract

In decentralized cloud computing marketplaces such as the iExec marketplace, ensuring fair and efficient interactions between requesters, asset providers, and computing providers is crucial. Traditional mechanisms often fail to address the complexity of task failures due to limited visibility into individual actor behavior. This paper introduces Blind Slashing, a novel approach designed to address these challenges by implementing a penalty system that broadly affects all involved parties when a task fails, rather than isolating penalties to the computing provider alone. By leveraging a game-theoretic framework, we analyze the strategic behaviors of requesters, asset providers, and computing providers under the current system. Then using ruin theory, we show that Blind Slashing incentivizes improved behavior across all actors by creating a disincentive for faults and misbehavior, leading to a more robust and fair marketplace. This approach not only enhances the reliability of the system but also simplifies the management of task failures, providing a promising solution for decentralized environments where information is inherently limited.

Keywords: decentralized cloud computing, decentralized marketplace, monitoring, limited information, collective punishment.

1 Introduction

Look at this: [1]

2 Model & problem statement

3 Blind Slashing | Overview

4 Blind Slashing | Detailed description

5 Experimental protocol

6 Results

7 Related work

8 Conclusion

References

[1] K. G. Binmore. 2007. *Game theory : a very short introduction.* New York : Oxford University Press. http://archive.org/details/gametheoryverysh0000binm