

Scalable but Wasteful: Current State of Replication in the Cloud

SEBASTIAN SCHNEIDER, 03783507

1 SUMMARY

The write-up must be at least 4 pages long, with a maximum of 6 pages. The summary section should be approximately two pages in length and include the key elements from the paper. It should resemble an abstract but provide more detailed information.

- modern consensus protocols increase throughput by eliminating bottlenecks, lowering efficiency in the process. - they increase performance by utilizing resources, that would otherwise be idle. - how they do that: Leaderless, shifting most of the work - first test - setup - pure throughput analysis - efficiency metric - cpu usage of first test - new metric - results - cloud-native systems share resources - don't use dedicated resources - use multiple independent instances on the same machine - why efficiency even matters - second test - setup - results - new metric predicted relative performance of protocols in shared environment - call for stopping development of protocols optimized for dedicated resources and start development of protocols specifically meant for cloud usage

2 RELATED WORK

The related work section must incorporate at least one related paper that has not been addressed in the document. This section should compare the primary idea of the paper with those of the related works. A good starting point is to explore papers that cite the given paper. The length of this section should be about half a page.

3 CRITIQUE

Critique the paper by identifying **three strong points** and **three weaknesses**. The critique section should be at least one page long.

3.1 Strong Points

- Metric design
- stretched on 2: Focus on shifting research away from outdated technologies towards already relevant and growing topics - good highlighting of current problems - very direct criticism of current methods - good highlighting of promising directions

3.2 Weak Points

- very limited scope: only suggestion for further research - stays theoretical even in tests
- repetitive
-

4 SUGGESTIONS FOR IMPROVEMENT

Propose ways to **enhance the paper's core idea** or outline **future extensions** that are not covered in the paper. It is also acceptable to discuss **potential use cases** for the proposed idea or system that the paper does not mention.

Author's address: Sebastian Schneider, 03783507, go69coq@tum.de.

Alternatively, consider suggesting **implementation approaches** to validate the proposed scheme and either prove or disprove its effectiveness (if you believe it may not be effective). This section should be at least half a page long.