

# Efficient and Stable Quorum-based Log Replication and Replay for Modern Cluster-Databases

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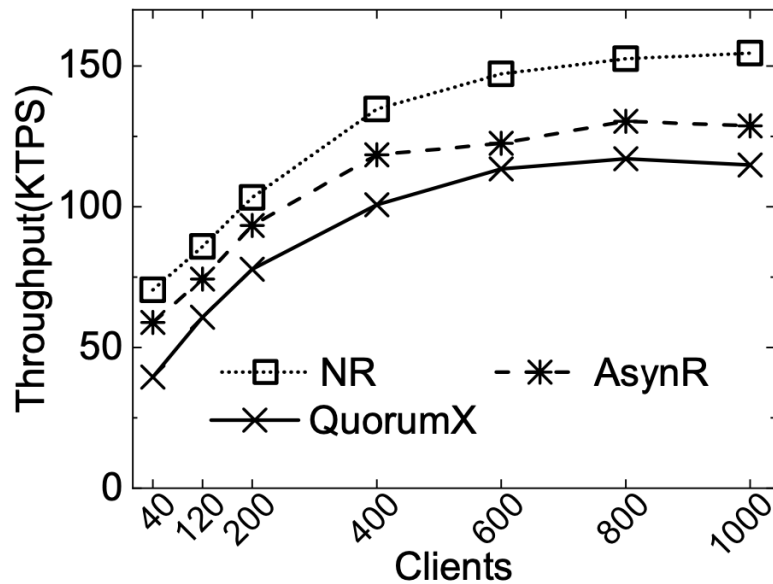
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# Problems & Ideas

- Challenges of replicating fast IMDB using Quorum-based protocols under heavy OLTP workloads
  - Performance impact on the transaction processing;
  - High level of visibility gap;
  - Cluster of commodity machines connected by low configuration networks, in which the network anomalies often happen.
- Ideas: QuorumX
  - Propose a combined batching mechanism to provide an adaptive log propagation;
  - A safe and coordination-free log replay scheme to minimize the visibility gap between the leader and follower;
  - Careful design to the process in the follower under different scenarios.

# Main Contributions

- **Throughput of YCSB**



- **Visibility Gap**

