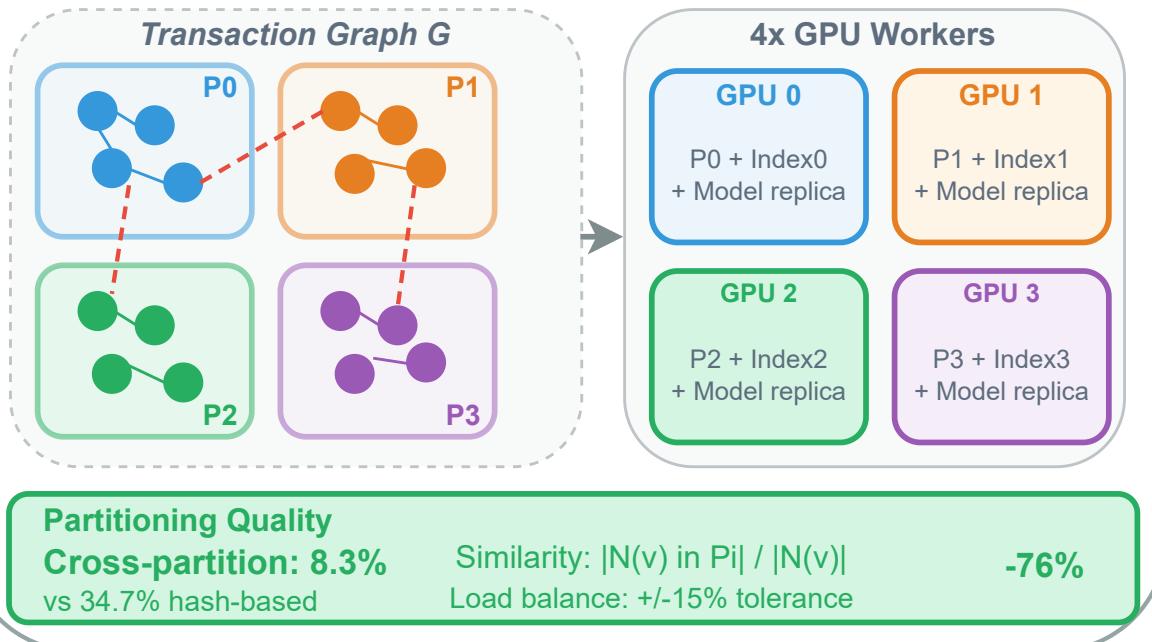
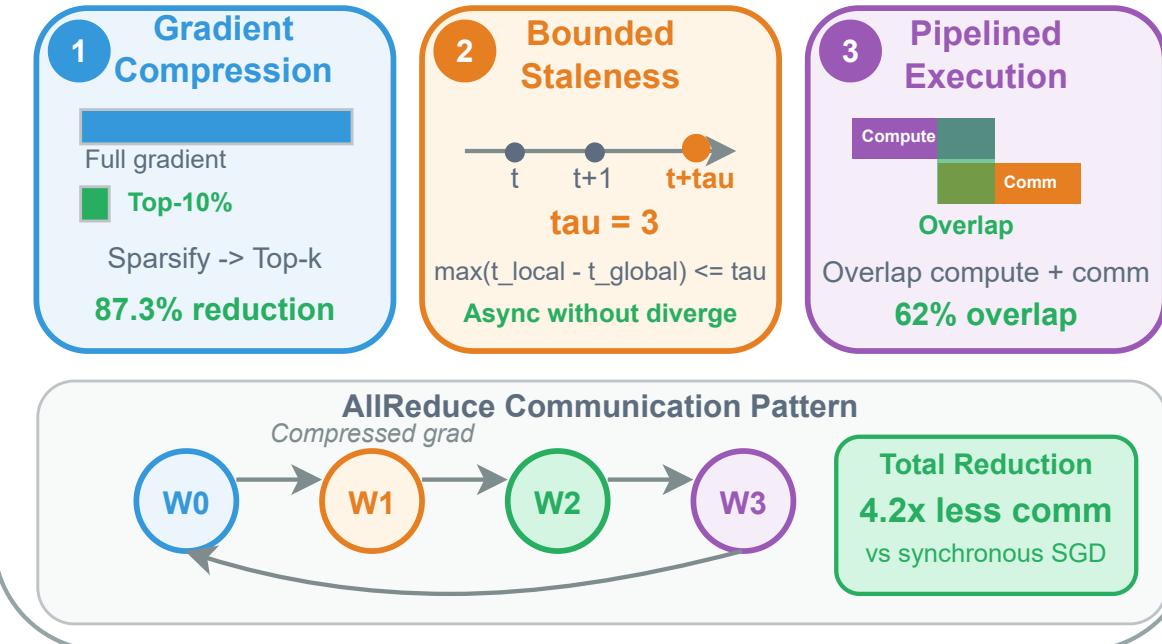


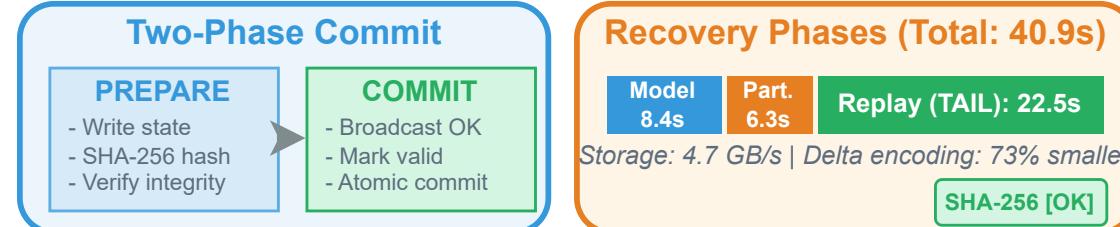
(a) Locality-Aware Graph Partitioning



(b) Communication Optimization



(c) Fault Tolerance: Two-Phase Commit Checkpointing



100% Recovery Success
Mean: 40.9s | Target: <60s [OK]

8 failure modes tested:
Worker crash, Network partition, OOM, Disk failure,
Checkpoint corruption, GPU failure, Straggler, Data
corruption

(d) Scaling Efficiency

