ScyPer: A Hybrid OLTP&OLAP Distributed Main Memory Database System for Scalable Real-Time Analytics

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Motivation
- Modern hybrid main memory DBMS process > 100,000 TPC-C TX/s in a single HW thread
- Evaluation of OLAP queries on arbitrarily recent snapshots of the transactional database
- OLAP query throughput limited by the number of available hardware threads

\[\Rightarrow\text{OLTP throughput sufficient, scale-up of OLAP throughput needed}\]

ScyPer Architecture

Scalability of ScyPer

Redo Log Multicasting
- PGM-based multicasting
- \(~700\) Mbit/s throughput in 1GbE network
- 100B/log entry \(\Rightarrow\sim900,000\) entries per second

Get in touch:
http://www-db.in.tum.de/HyPer