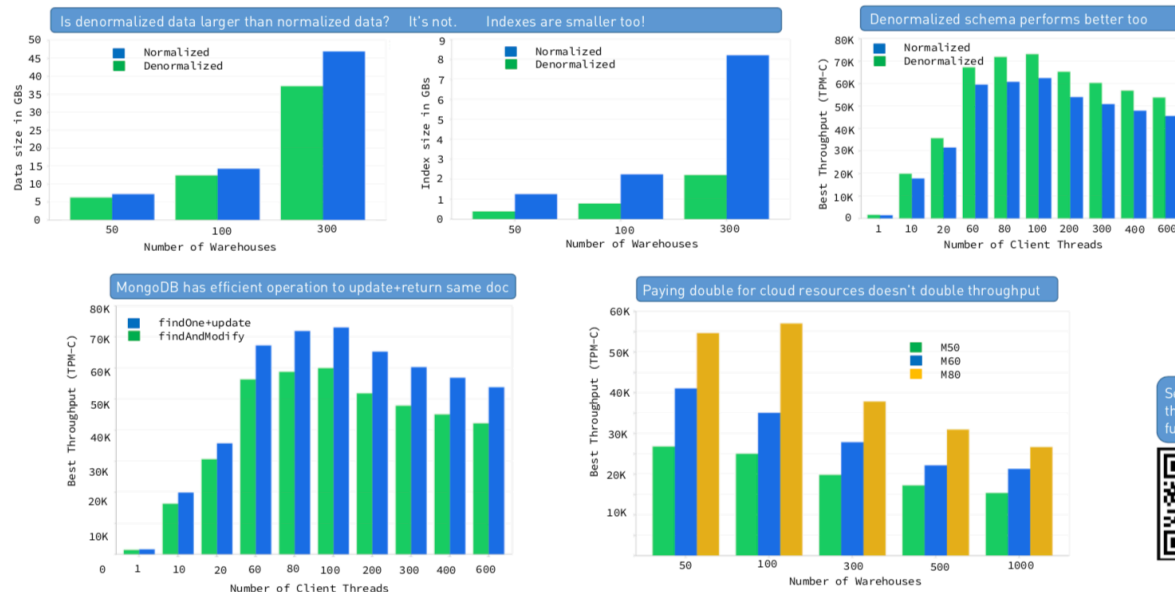


Benchmarking is HARD!

Comparing noSQL to RDBMS is extra hard: you must accept inherent differences in approaches

Adapting TPC-C Benchmark to Measure Performance of Multi-Document Transactions in mongoDB.

Asya Kamsky, MongoDB Inc.



THE WHAT

MongoDB has more in common with traditional RDBMS systems than key-values stores it's lumped together with. We wanted to test newly added multi-document transactions.

THE WHY

There are no meaningful accepted noSQL benchmarks that exercise the full set of capabilities that MongoDB supports. YCSB is a simplistic key-value one-op at a time benchmark.

THE HOW

- Adapted existing Python implementation of TPCC for noSQL. Made improvements and updates for best performance.
- Better denormalized document schema (no over-embedding)
 - More appropriate (compound) secondary indexes
 - Support MongoDB read/write preference/concern options
 - Use MongoDB native operations
i.e. `findAndModify` instead of `update+select`
 - Measured & Compared everything

Conclusions

Good noSQL benchmarks should be created and discussed.

If you take a relational benchmark and run it "as is" you won't get good results. Adapting it to a different data model requires understanding how it works.

P.S. Everything ran in the cloud so you can reproduce results. Use code VLDB2019 to get \$150 credit to try MongoDB Atlas

See the paper, the code & full results:

