

Executive Summary

Altoros Benchmark Study

COUCHBASE CAPELLA™ VS. MONGODB™ ATLAS

Companies are under more pressure than ever to lower costs and drive profitability. We often hear from customers about their IT challenges related to the costs of their cloud applications and the databases that feed them, especially as usage and data volumes grow. Often this is due to legacy systems that were put into the cloud, but not designed for the cloud.

Couchbase's memory-first, cloud-native architecture is designed to ensure customers achieve high performance for their most important applications.

Overview

This executive summary highlights key takeaways from a recently published thirdparty industry benchmark conducted by IT services and research firm Altoros, commissioned by Couchbase. The benchmark study compared industry-leading NoSQL database technologies Couchbase Capella™ and MongoDB™ Atlas. The data platforms were matched head to head to test several use case workloads against different growing infrastructure configurations.

The results show that across use case workloads Couchbase Capella delivers the best price performance, especially for larger data needs and hardware configurations. Price performance is important because customers can get similar or better results from another vendor for less money. Additionally, a more performant system can run on smaller hardware, which also saves money. As an example, Couchbase Capella on 6 nodes outperformed MongoDB Atlas on 18 nodes for every use case workload in the Altoros tests.



Before jumping into the new price performance results, it is important to note that customers often choose Couchbase to not only improve performance but also to lower their total cost of ownership (TCO). In a survey performed by TechValidate of Couchbase customers, more than half stated that by moving to Couchbase they were able to lower their TCO by greater than 50%.

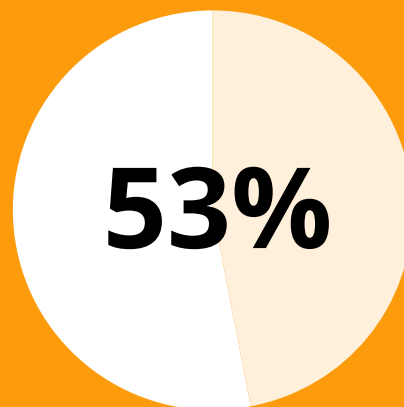
COUCHBASE CUSTOMER STATISTIC

53% of surveyed organizations lowered total cost of ownership by 50% or more since working with Couchbase



Couchbase

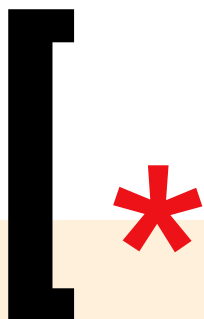
TechValidate
by SurveyMonkey



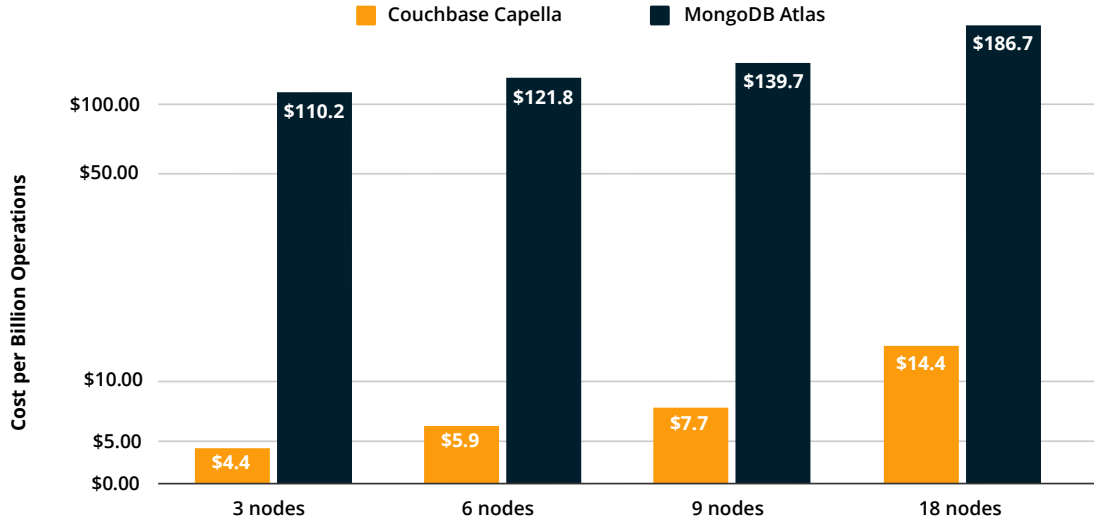
Industry-leading price performance

To examine the price performance metric, the Altoros study compares costs for each vendor to perform 1 billion operations within different hardware configurations. Tests were conducted to measure database operations per second. Using the known monthly costs to operate each vendor, Altoros was able to extrapolate costs per billion operations. Tests were conducted using 3, 6, 9, and 18-node Amazon EC2 instances, with larger data volumes for the bigger configurations.

The most common benchmark test for NoSQL database technology is the Yahoo! Cloud Serving Benchmark, Workload A. In this test, 50% of the operational workload reads from the database platform and 50% writes new information to the database. Below is the price performance graph from Altoros for YCSB Workload A. Lower figures are better, showing that the vendor can do a billion operations for less money.



Cost per 1 Billion Operations Workload A



Savings through consolidation

As a broad database platform, Couchbase supports a wide variety of use cases in a single technology. This allows customers to consolidate several database technology vendors to Couchbase and save costs not only in licensing, but also in areas like infrastructure, storage, integration, training, and support. Two examples are [BroadJump](#) and [Facet Digital](#), who both consolidated from three vendors to solely Couchbase, drastically reducing TCO. Beyond their savings, these customers eliminated unnecessary complexity in their designs, which improved both quality and innovation speed. Couchbase's platform includes an analytics service, utilized by companies like [Domino's](#), and the industry's most mature NoSQL mobile database solution, used by companies like [PepsiCo](#). Additionally, Couchbase services can individually be aligned to specific hardware, making it possible to fine-tune environments to optimize resource utilization even further.

Lowering operational costs

Couchbase Capella is a fully managed Database-as-a-Service (DBaaS) that eliminates many administrative tasks from customers so they can focus on more important work. Capella automates database setup, infrastructure setup, scaling, maintenance, and much more. The burden lifted from customers leads to a reduction of costs in several areas, including hardware costs like cloud instances, storage, networking, and security. Operational costs go down due to a reduction in effort supporting upgrades, failover, backup, and monitoring to name a few. Reduction in operation efforts also drives down costs in areas like the cloud developer operations team, DBAs, and/or thirdparty vendor management.



Summary

With the growing pressures on IT teams to spend budgets wisely, it is critical to choose the right technologies that not only perform effectively and support modern needs, but also keep costs down. Another financial metric from TechValidate's survey of Couchbase customers shows that the vast majority of them achieved a return on investment in less than one year. This is why customers turn to Couchbase.

COUCHBASE CUSTOMER STATISTIC

81% of surveyed organizations saw returned value within 9-12 months or sooner after implementing Couchbase.

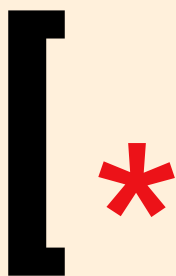


Couchbase

TechValidate
by SurveyMonkey



81%



Couchbase helps customers tackle difficult application data challenges with a modern cloud database. The Altoros study shows that Capella's industry-leading price performance means customers can achieve better results with less hardware and software, lowering both technology and cloud costs. As a broad data platform, Capella can be leveraged across a wide variety of use cases that help customers while consolidating the number of data technologies they use, further saving money. Finally, as a service, Capella automates hundreds of database management tasks that alleviate customers' operational tasks and costs, allowing them to focus on more important goals.

Where to go next?

- Get the full technical [Altoros report](#)
- Watch the [TCO webinar](#) with customer examples
- [Find out more](#) about how Couchbase lowers TCO
- [Contact](#) the Couchbase team

Modern customer experiences need a flexible database platform that can power applications spanning from cloud to edge and everything in between. Couchbase's mission is to simplify how developers and architects develop, deploy and run modern applications wherever they are. We have reimagined the database with our fast, flexible and affordable cloud database platform Capella, allowing organizations to quickly build applications that deliver premium experiences to their customers – all with best-in-class price performance. More than 30% of the Fortune 100 trust Couchbase to power their modern applications. For more information, [visit www.couchbase.com](http://www.couchbase.com) and follow us on X (formerly Twitter) @couchbase.

