PERFORMANCE HORIZON GROUP MEETS CAPACITY AND PERFORMANCE CHALLENGES WITH *TokuMX*™

When established brands like Adidas, British Airways, McAfee, Westfield and Westpac start adopting your software platform, good things are going to happen. And, as Pete Cheyne, co-founder and CTO of performance marketing upstart Performance Horizon Group (PHG), can attest, some not so good things may happen too. Things like rapidly escalating hardware requirements and costs. Or, previously unrecognized application performance challenges related to rapidly growing datasets may crop up.

Luckily, Pete is not alone. In fact, many Tokutek® customers began using TokuDB® (for MySQL or MariaDB) and TokuMX™ (for MongoDB) because rapid growth and success illuminated some fundamental limitations in their underlying database infrastructures. Nearly all of today's database platforms rely upon 40-year-old B-tree indexing. While B-tree indexing is time-tested and well suited for many kinds of applications, modern application developers are quickly learning big data applications that are driven by massive amounts of high velocity data push B-tree indexing to previously untested limits, and beyond.

> TokuMX™ is an open source, high-performance distribution of MongoDB that dramatically improves application performance and operational efficiency with Fractal Tree® indexing.

Enter the Fractal Tree index. Invented by data scientists from MIT, Rutgers and Stony Brook, Fractal Tree indexes take advantage of recent advances in data science and computer science to deliver significant performance and compression gains. The technology has been commercialized by Tokutek in the form of popular open source NewSQL and NoSQL solutions that deliver these improvements to a new generation of companies building big data applications. Companies like PHG.

Testing TokuMX Performance Improvements

In the PHG case, Tokutek initially came to the company's attention when a MySQL consultant from Percona suggested they might want to look at TokuDB, the Tokutek high-performance solution for MySQL, for an archival application that was pushing MySQL to its limits. As PHG began its due diligence work on TokuDB they quickly learned Tokutek also offers a high-performance distribution of the popular NoSQL solution, MongoDB. That product is called TokuMX.

At this point Pete and his team quickly shifted their focus to TokuMX as they were encountering escalating hardware costs with the applications they'd built using basic MongoDB (which also uses B-tree indexing) and also performance concerns when the working set spilled over onto spinning disk.

Pete and his team were cautiously optimistic about the Tokutek claims of 20x to 50x performance improvements and 10x compression. Similarly, they were hopeful about the Tokutek claims of plug-and-play compatibility for applications already built with basic MongoDB. They decided then and there to download the free Community Edition of TokuMX (Tokutek products are open source too) to do their own testing.

Of course, making fundamental changes to the underlying platform used for a large proportion of reporting analysis for all clients is not something one does lightly. Pete and his team carefully crafted a multi-tier, multi-month testing strategy to prove the value of TokuMX in their own environment.

Benefits Achieved

Those tests convinced PHG that TokuMX compression would lead to a significant reduction in the number of new servers they would have to purchase in order to support the rapid, ongoing growth of data. In addition, less RAM would be required for those systems. These improvements would save the company over 100,000 £ in purchasing new hardware to support predicted growth rates. Moreover, TokuMX compression would enable PHG to keep using their existing hardware and delay the purchase of new hardware for six months.

"With TokuMX we were able to slow the purchase of new servers by a factor of eight while significantly improving the performance of our MongoDB applications."

— PETE CHEYNE

Better still, PHG customers would see dramatic performance improvements in reporting because with TokuMX compression data sets are being processed in RAM. For example, they were able to realize dramatic performance improvements across a number of standard reports. One report went from 47 seconds to generate with basic MongoDB to 7 seconds with TokuMX. Another report went from 8.6 seconds to 0.4 seconds.

"We were hitting a capacity and performance wall with MongoDB that required us to keep throwing new servers and more RAM at the problem. With TokuMX we were able to slow the purchase of new servers by a factor of eight," said Pete Cheyne, Performance Horizon Group co-founder and CTO. "And the new servers require only one half the RAM we'd have needed with MongoDB."

About Tokutek

Tokutek is a performance database company that delivers Big Data capabilities to leading open source data management platforms. Its breakthrough technology lets customers build a new class of applications that handle unprecedented amounts of incoming data and scale with the data processing needs of tomorrow. Tokutek applies Fractal Tree® indexing to increase MySQL performance and MongoDB performance, decrease database size, and minimize downtime. The company is headquartered in Lexington, MA, and has offices in New York, NY. For more information, visit Tokutek.com or follow us on Twitter @Tokutek.

About Performance Horizon Group

Performance Horizon Group (PHG) provides a world-class affiliate marketing and partner management platform that enables large enterprises to connect directly with their online and mobile publishers at scale, globally. With offices in the U.S., U.K., Japan and Australia, PHG supports its clients' performance marketing strategies in over 150 countries. PHG is backed by top-tier investors including DN Capital, Greycroft Partners and Mithril Capital Management. For further information visit www.performancehorizon.com, follow us @tweetphg and connect with us on LinkedIn at www.linkedin.com/company/performance-horizon-group.