RunKeeper

Shaping up with lean administration and superior user experience

Overview

The need
Fitness startup RunKeeper's existing database was unable to scale easily to support the company's expansion. As new users joined, this limitation threatened to bring growth to a wheezing halt.

The solution
RunKeeper chose IBM® Cloudant® Dedicated Cluster as its new data layer, gaining a database-as-a-service solution running on an elastic and highly scalable global cloud.

The benefit
Provides a concise, always-on app experience to a growing user base. Eliminates database administration, freeing up staff to focus on user experience. Offers fast and practically unlimited scalability.

Founded in 2008, RunKeeper offers fitness applications for iOS and Android devices, enabling users to log wellness and performance data related to outdoor activities. Its apps are used by 30 million people, and integrate with more than 100 third-party devices and services. Privately owned, the company is based in Boston, MA.

Fit for success

The RunKeeper mobile phone application lets users turn an iPhone or Android smartphone into a personal trainer that records their details for walking, running, cycling and other outdoor activities – enabling users to monitor their progress towards fitness targets.

The company initially built its app on top of a PostgreSQL database, which provided a free, lightweight, fast-start option that was perfect for a startup company. However, as RunKeeper went from strength to strength, the database layer began to fall off the pace.

RunKeeper was delighted with the service provided by the IBM Cloudant engineering and support team. "We were impressed by the wealth of experience that the IBM team were able to draw on to adapt the solution to meet our business needs. Overall, the team were super-friendly, highly professional and very solutions-minded," says Joe Bondi, CTO and Co-founder of RunKeeper.

Solution components

Software

- IBM® Cloudant® Dedicated Cluster

Joe Bondi, CTO and Co-founder of RunKeeper, recalls: "Our database layer became increasingly difficult to scale and manage as the volume of user-generated data grew. As we had deployed the database on a single server, performance was becoming an issue for users, and having a single point of failure gave us concerns around reliability."

RunKeeper wanted to eliminate performance bottlenecks and reduce the time and effort spent on database administration. Achieving this goal would help the company focus its attention and resources on developing new data-driven features and applications – as well as helping users to access and analyze their data faster and more reliably.

Moving up a gear

After evaluating a range of NoSQL options, RunKeeper chose to replace its existing database with IBM Cloudant Dedicated Cluster, an always-on database-as-a-service that stores data as self-describing JSON documents. The solution is optimized to handle extremely high numbers of concurrent reads and writes – exactly what RunKeeper needs to track every detail of its users' fitness activities. Data is automatically stored, indexed and distributed across an elastic database cluster that can span multiple racks, data centers or cloud providers to offer superior scalability, providing headroom for growth.

"We were using JSON elsewhere in our infrastructure, so that approach immediately made sense," says Bondi. "We also liked the clustered architecture of the Cloudant offering, which eliminates single points of failure and also enables faster scaling. Finally, the ability to speak directly to the technical team gave us confidence that this was the right solution for RunKeeper."

RunKeeper is taking advantage of the Apache Lucene Full Text Search capability offered through the IBM Cloudant API, using it to accelerate user queries. "Lucene is great for things like time-series queries: for example, where a user wants to see how their body measurements have changed over time," says Bondi.

Enhanced user experience

IBM Cloudant Dedicated Cluster gives RunKeeper a fully managed, high-performance database layer in the cloud. Because RunKeeper's own IT staff no longer need to manage and maintain a database, they can focus on developing new mobile applications and enhancing existing apps – ultimately to improve the end-user experience.

"Before we adopted Cloudant, we sometimes saw bottlenecks when numerous users were uploading data at the same time," says Bondi. "Today, the load is balanced across the nodes of the cluster, and the solution can easily handle as much data as our users can throw at it."

"The Cloudant team were extremely friendly, highly professional and very solutions-minded."

— Joe Bondi, CTO and Co-founder, RunKeeper

With no schema to manage, and with all administration and optimization handled by the IBM Cloudant team, RunKeeper can focus entirely on its apps rather than on the database layer. Bondi says: "We can use the time we previously spent on database administration to develop new features. In fact, we have reassigned one team member from a full-time DBA role to focus on the user experience."

Crucially, the IBM Cloudant solution will scale seamlessly and easily, allowing RunKeeper to keep pace with rapidly increasing data volumes as it acquires more users and launches new services.

Bondi concludes: "The scalability is beautiful – we can just send an email and ramp up the capacity almost instantly. With Cloudant, we're no longer constrained by our database layer."

For more information

To learn more about IBM Cloudant solutions, contact your IBM representative or IBM Business Partner, or visit the following website: **ibm.com**/software/data/cloudant

To learn more about RunKeeper, visit: runkeeper.com

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