



PLAID Leaves Latency Behind with MongoDB Atlas and Google Cloud





When you're in the business of analyzing and understanding customer behavior, you need immediate access to and insights from data. Founded in Japan in 2011, [PLAID, Inc.](#) is the maker of the KARTE portfolio of solutions, which gather and synthesize customer data beyond the internet to generate deep insights into how customers act and what they respond to. With this depth of customer knowledge, KARTE users are able to tailor experiences for their customers in real time.

Delivering this level of responsiveness demands a fast, flexible database ecosystem. Since the early stages of building KARTE, PLAID has used MongoDB, but the company is now in the process of migrating its databases to MongoDB Atlas – a fully managed database service – and specifically, to MongoDB Atlas on Google Cloud.

Daiki Matsui, senior architect at PLAID, recently shared the details of the move, including the reasons for the company's decision and the benefits of operating on Google Cloud.



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Why did you decide to stop self-managing your MongoDB databases and move to the fully managed database service, MongoDB Atlas?

There were several reasons, one of the most important being to help us maintain our development speed, even if the number of developers on our team increases. When we were running a self-hosted MongoDB, the site reliability engineers (SREs) would build and operate databases as needed. However, as the number of engineers increased and the number of databases to be managed increased, the cost of building and operating databases increased, and it became difficult to manage them. So, we migrated to MongoDB Atlas. As a result, we were able to easily build MongoDB with Terraform and check database performance on the MongoDB Atlas management console. Each team is now able to build and operate MongoDB autonomously, and development speed has increased.

KARTE has a multi-cloud infrastructure, so another reason we moved to MongoDB Atlas was to be able to use a multi-cloud cluster. With MongoDB Atlas, we can set up MongoDB in all of the clouds that KARTE uses, enabling low-latency communication from each cloud and operating a highly fault-tolerant replica set. Real-time analysis is a core function for KARTE, so low latency is a must.



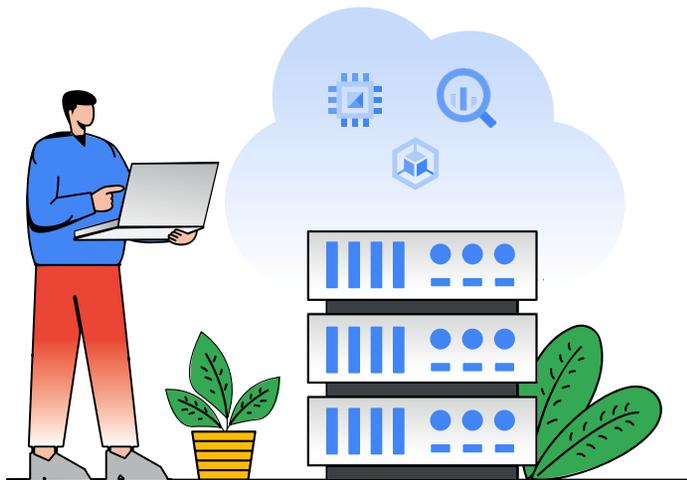
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We also switched to MongoDB Atlas to be able to get advice from MongoDB Atlas support while seeing the actual MongoDB workload in action. When we were running a self-hosted MongoDB, we used to investigate and solve any problems on our own. However, it became difficult for a small number of SREs to handle any problems as the service grew, the load increased, and the stability of the service required increased. By moving to MongoDB Atlas, I can get advice from MongoDB specialists. I've used the support many times and have been satisfied with the quality of the research and the answers. I also appreciate that I can see my workloads and the full environment visualized simply within MongoDB Atlas.



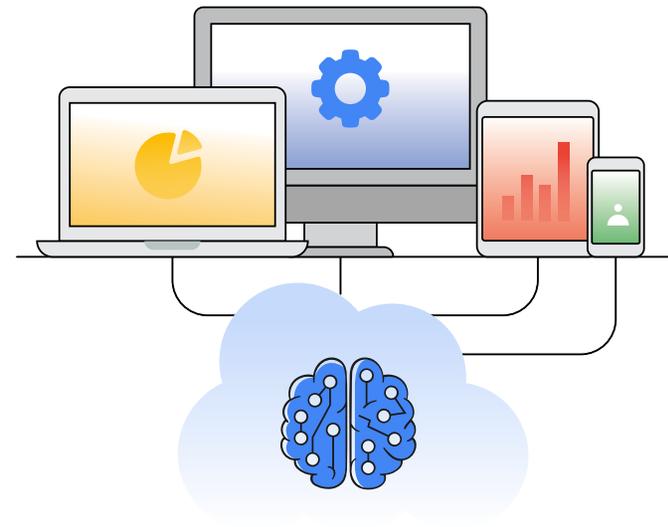
Why did you choose to run MongoDB Atlas on Google Cloud?

Of all the clouds in which PLAID operates, we primarily use Google Cloud, and we expect to work closely with Google Cloud in the future. We're currently using many Google Cloud services, including Google Kubernetes Engine, Google Compute Engine, Anthos, Cloud Bigtable, BigQuery, and Spanner, among others. Because KARTE is a service that requires high load and low latency, scalability and latency are our main KPIs — and Google Cloud's service satisfies both.



Are you integrating with any AI, business intelligence, or visualization tools?

We've integrated with Datadog to give us better visibility into the security and performance of our infrastructure. With that visibility to supplement the insights we have through Atlas and Google Cloud, we've been able to reduce costs, accelerate development, lighten our operational load, and improve the stability of our database systems. These changes are having a measurable impact on our business.



How have your developers responded to working on MongoDB Atlas on Google Cloud?

Our application engineers can now easily set up MongoDB as quickly as we need without relying on an SRE, which has increased our development speed. Since they operate MongoDB by themselves instead of relying on the SRE, they can better understand what kind of queries overload MongoDB, which gives them an opportunity to think about better data structures. It's also made it easier for them to share knowledge about MongoDB within the company.

For our SREs, the operational load of MongoDB has been reduced, allowing them to spend more time on other important tasks. When we were running a self-hosted MongoDB, we had to not only install and configure each node of a cluster manually, but manage backup of the cluster on an ongoing basis. With MongoDB Atlas, we're able to create a Terraform module to allow application engineers to deploy a correctly configured cluster in Atlas automatically. Also, the ongoing operational tasks, such as version upgrades and backup, are now automated through MongoDB Atlas. Application engineers can configure the policies in Atlas themselves, which reduces the demands on SREs, and Atlas automates the rest.



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What do you enjoy most about working with MongoDB Atlas on Google Cloud?

Being able to easily build a multi-cloud environment and operate within it has made the biggest difference for our business, and for the service we're able to provide our customers. And giving our application engineers the ability to build and operate MongoDB means we can develop faster and offer customers a more stable service. It's difficult to overstate how valuable that is for our business, given that it's our job to help our customers create exceptional experiences for their own customers.

To learn how your company can benefit from operating MongoDB Atlas on Google Cloud, visit cloud.google.com/mongodb.

