Google Cloud non-relational databases

Now that we've introduced Google Cloud relational databases, let's explore NoSQL databases. NoSQL databases typically store data in a single table with keys and values, or in a document format such as JSON. If you're dealing with large quantities of complex and diverse data, a NoSQL database is probably the right solution.

Unlike relational databases, NoSQL databases perform faster because a query doesn't have to access several tables to deliver an answer. This makes them ideal for storing data that may change frequently or for applications that require high throughput and low latency. Google Cloud NoSQL database options include Bigtable, Firestore, and Memorystore. Spanner also has non-relational database characteristics.

Bigtable

If you're working with massive workloads generated by IoT (Internet of Things) devices, Bigtable is the NoSQL solution for you. Bigtable was designed to power many Google services, like Search, Analytics, Maps, and Gmail, ensuring high availability and throughput, and low latency typically in the single-digit milliseconds range. It is also ideal for write-heavy workloads based on its unique storage mechanism.

Use cases: Smart cities infrastructure, industrial sensor networks, and connected car telemetry. Personalized recommendations, user activity tracking, and ad serving platforms.

A database that can handle large, write-heavy workloads

Firestore

Firestore is a flexible and scalable option commonly used for mobile, web, and server development. Its flexible data model and seamless integration with Firebase make it easy to develop collaborative and engaging user experiences. In addition, its serverless nature simplifies development and deployment, allowing you to focus on building your application logic without needing to manage any infrastructure and only paying for what you use.

Use cases: Chat applications, social media feeds, online games, and collaborative document editing.

Memorystore

You can think of Memorystore like the RAM in your computer, but on a much larger scale and managed entirely by Google. It's lightning-fast and a good option for modern apps and technologies that require very low latency reads in the microseconds range.

Use cases: Caching product catalogs, user sessions, and API responses.