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How 17Live Powers Real-Time Streaming with Redis Enterprise and Google Cloud Marketplace

Question/Answer

Introduction

True digital transformation requires working with real-time data, but managing that continuous flow of information places demands on legacy infrastructures that they weren't built to accommodate. Redis Enterprise is a real-time database platform that allows companies to reduce latency and ensure data consistency for high-speed transactions, recommendation engines, data ingest, fraud mitigation, real-time indexing, session management, caching, and more.

Now available as a fully managed service on Google Cloud, Redis Enterprise leverages co-developed integration to streamline and automate the tasks required to deploy, manage, and scale the database. Redis Enterprise is available on Google Cloud Marketplace, so customers receive a single monthly bill based on consumption, simplifying procurement and saving money.

Taiwan-based 17Live runs Redis Enterprise on Google Cloud to provide a highly stable, available, and secure streaming interaction platform for its customers. Eric Hsu, 17Live's Vice President of Software Engineering, joined us to talk about how the company uses Redis Enterprise as a real-time database to provide its customers with a great streaming experience.

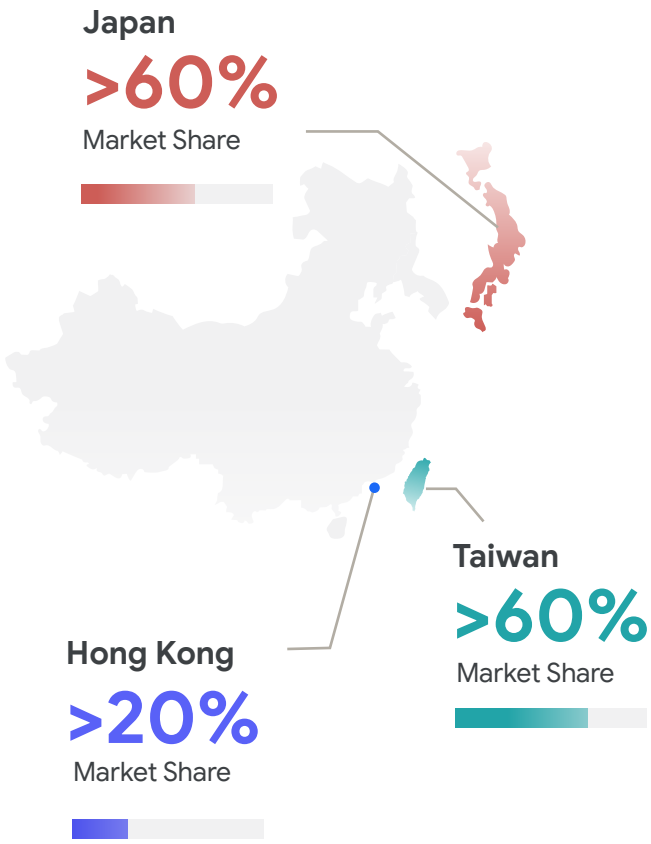
Tell us about 17Live and its users.

Eric Hsu: 17Live is a live-streaming enterprise. Our app allows users to enjoy live-streaming content from creators across much of Asia and the U.S., who we call 17Livers. The platform hosts talent from all fields, offering diversified live programming. This includes music talent, gaming sporting events, current events programming, horoscope-related content, and live ecommerce. Viewers can post comments during live streams and do so at a rate of 10 per second across the site.

It is our mission to empower artists and entertain the world. We have three core values: respect everyone, focus on goals, and break the norm. These push us to make things better for our live-streaming platform.

We have three major target markets: Taiwan, Japan, and Hong Kong. We have over 60% market share each in Taiwan and Japan — that's two times more than competitors in Taiwan — and we're the top streaming platform in Hong Kong, with over 20% market share there.

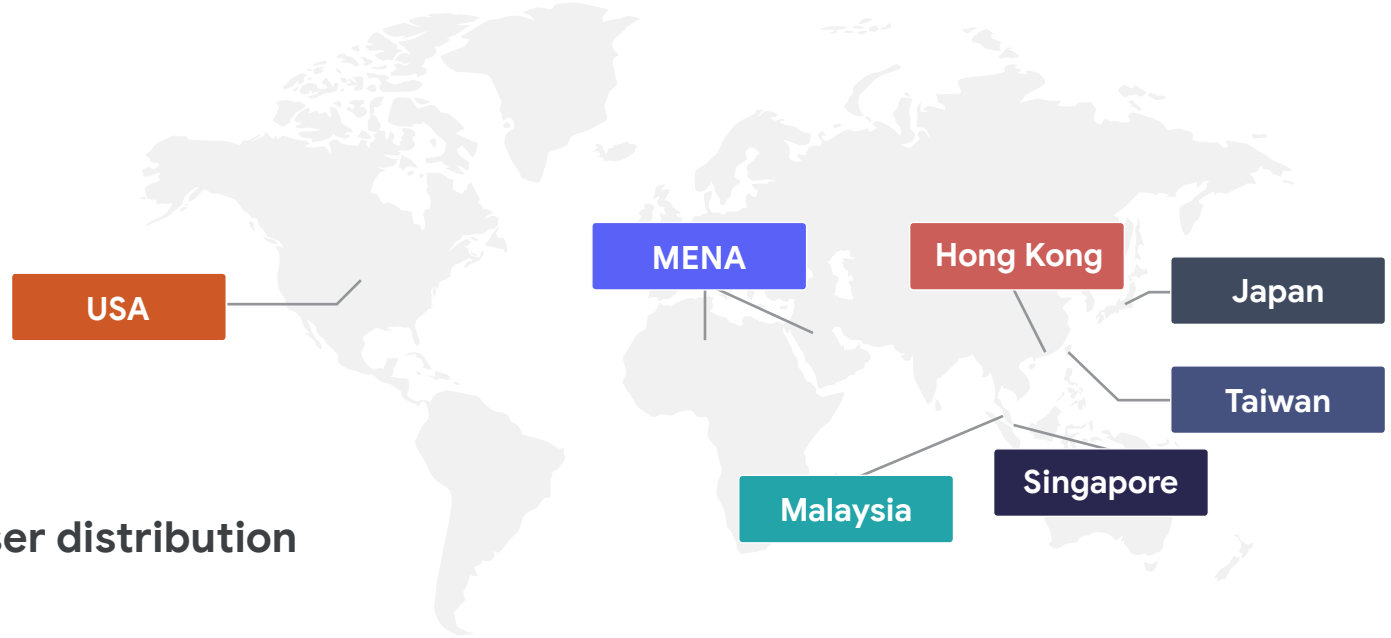
Three major target markets



Why does 17Live use a real-time database?

Hsu: 17Live is a global champion in live media, so we need a real-time database to support our core offering. As I mentioned before, our business and user distribution are spread internationally. That's why we really need a real-time database — we have a lot of streamers and a lot of users of our system, and we need to provide real-time data to them so they can immediately share and view streaming content.

Our main business has two main categories: entertainment and live ecommerce. Our entertainment business connects 17Livers with viewers and showcases 17Livers' creativity. By bringing creators and viewers together live in real time, the platform shortens the physical distances between users and lets everyone join events anytime, anywhere.

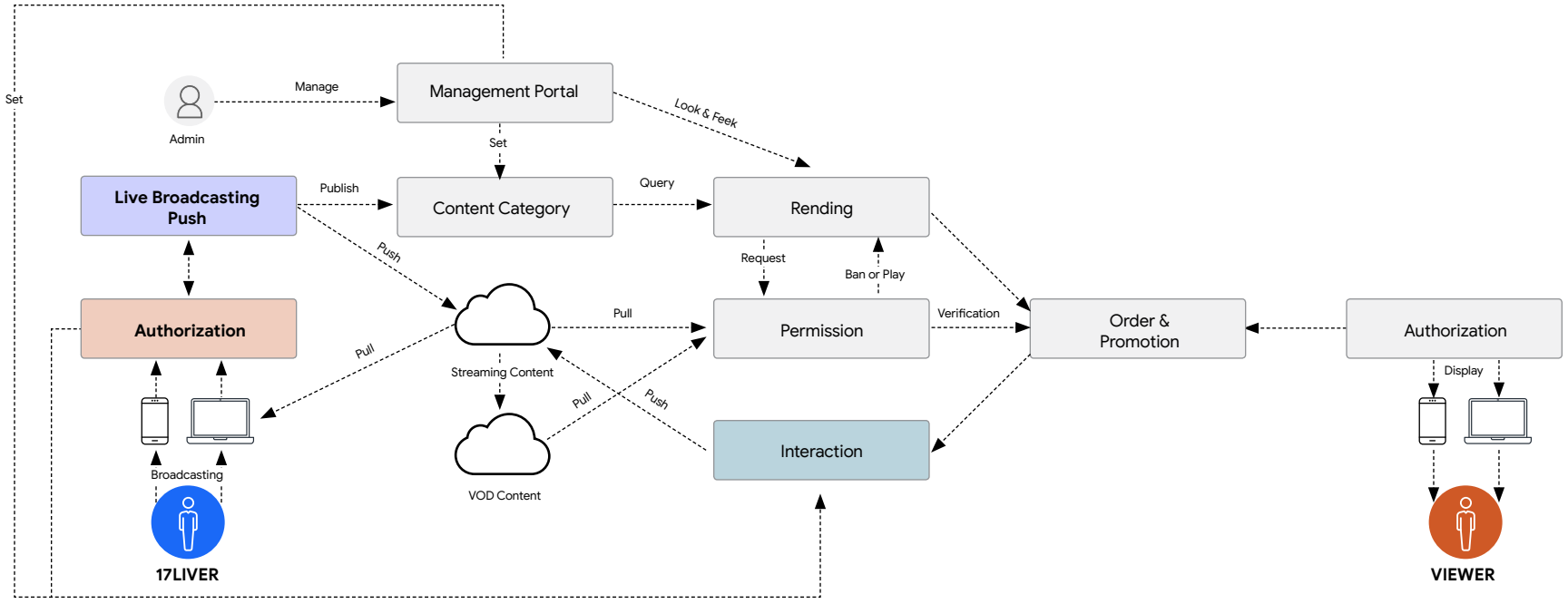


User distribution

Take us through the process of serving up live content. What are some of your main challenges?

Hsu: Let me explain the main flow of our system. As you can see below, a 17Liver will broadcast their content by using their laptop and their mobile phone. We'll push this live broadcast to our streaming platform. And then we'll have a content category to help us render the main material — the landing page the viewer will see. So, once someone uses their laptop or mobile phone to log in to our app, they're taken to their own landing page to see their favorite categories of streamers.

As I mentioned earlier, we have a large user base. We also have a lot of content we need to provide to our users. So, in our original design, we just used a SQL and NoSQL database to process that data, but it's huge and requires high compute power consumption, and the infrastructure cost is unreasonably high. So we push users' data into Redis, using it as a realtime database, which allows us to reduce latency and keep data consistency. For instance, once a user logs into our system and goes to their landing page, it loads their content really fast.

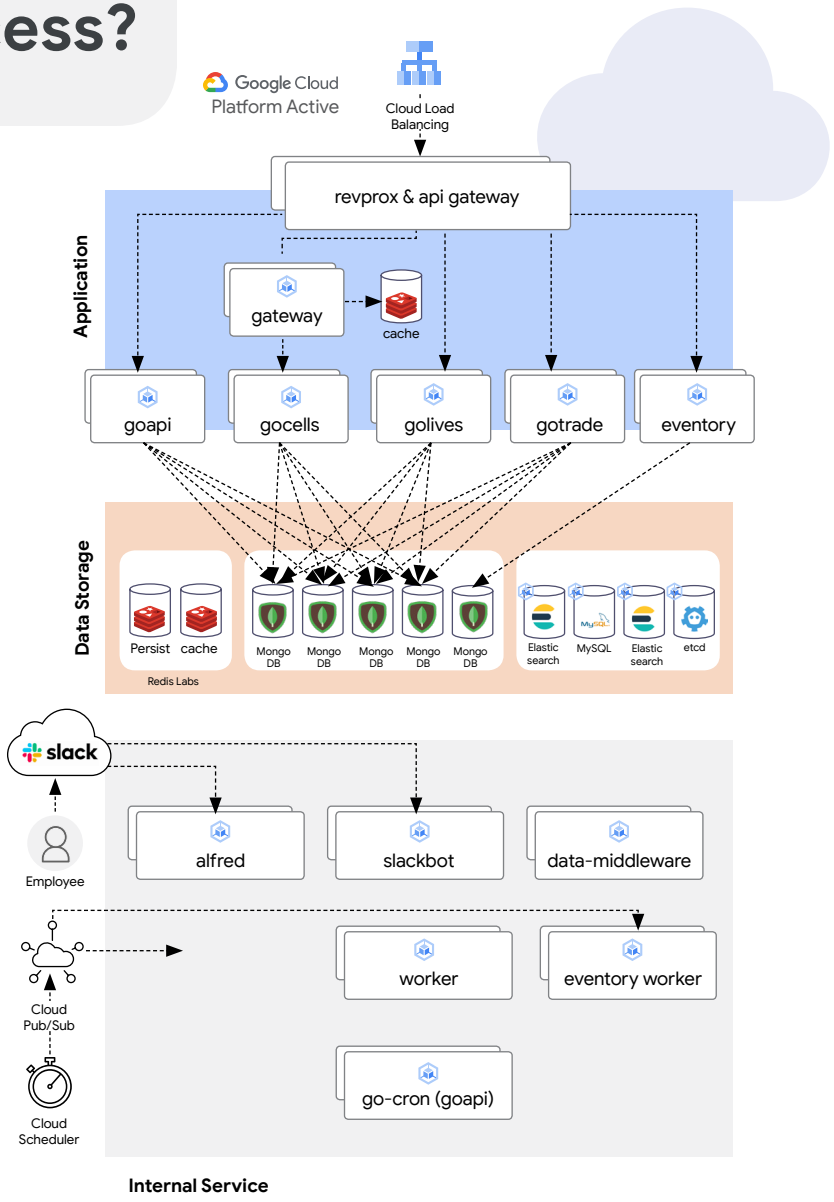


How does using the Redis Enterprise real-time database help this process?

Hsu: There are three major ways. The first is that it allows us to provide a stable first live-streaming interaction platform. The second is that Google Cloud Marketplace helps us with cost savings. And finally, Redis Labs provides security for our system.

In terms of supporting us in providing a stable first live-streaming interaction platform, we thought, “What if Redis can help the user to feel worry free about when an outage happens?” When we thought about this opportunity, we developed a new infrastructure design to help us leverage what Redis can really do and its function.

For instance, we use it just like an aggregation gateway to help us detect whether our API has an outage. If it does, we get Redis Cache immediately in response to the user. For example, if we have a landing page in our app that has some issue, the user will see an empty page — which is a terrible user experience. But on the user side, we just use an aggregation gateway to set the required material for the landing page in the Redis Cache, so that if any outage happens, we’ll respond from that Redis Cache to make the user feel as if nothing happened. Not only does this provide a seamless user experience, but it also gives us more time to recover from the outage. So, I’d say that Redis really helps us to enrich and enhance our user experience.



How does Google Cloud Marketplace help 17Live cut costs?

Hsu: Google Marketplace streamlined the procurement process for us. It's convenient for our infrastructure team to organize costs and billing and helps consolidate our IT costs. It's much easier — it's just one click to go to production, and we're able to get real-time visibility into usage. It's been a very good experience using Google Cloud Marketplace for Redis.

How does Redis Labs make your system more secure?

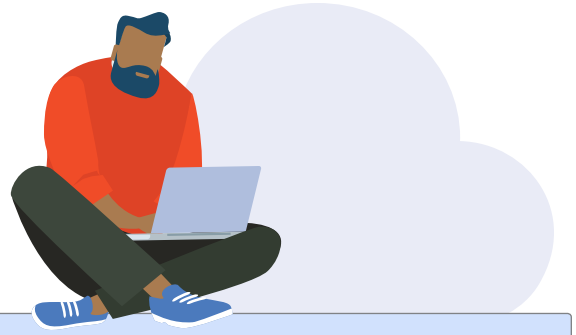
Hsu: Redis Labs has experienced engineers who can work with our SRE team to provide support at the very beginning of an outage. So, once we have an outage issue, Redis Labs helps us to recover our normal situation.

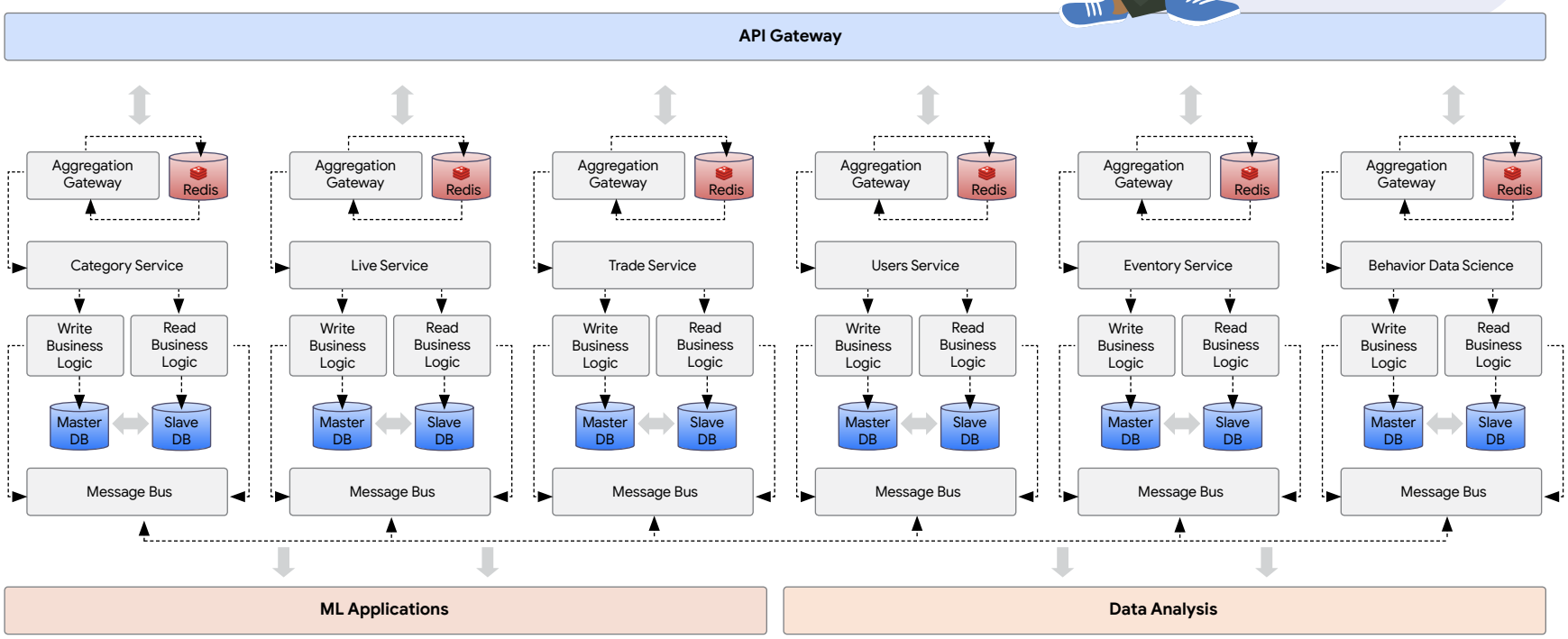
They also provide a weekly monitoring service to stop potential risks that may affect our business. Each week, Redis Labs provides a report on potential issues and discusses with us the fastest and most effective ways to stop potential risks. It's really helpful, because we don't need to worry about what happens if the aggregation gateway can't get the cache on Redis. Redis provides very good protection for us.

The manage-free Redis Enterprise database lets us focus on other tasks so we can provide a more stable 17Live platform. Their valuable support helps us stop issues — that's why we've chosen Redis Enterprise as our real-time database, because we don't need to keep up the stability of Redis, we just need to think about how to make our own platform more stable.

How are you planning to use Redis Enterprise in the future?

Hsu: Just like when I said we're using an aggregation gateway to help us get cache data from the database when there's any outage, we'll try to separate our services into microservices to decouple our systems. So, for each microservice, we'll try to leverage an aggregation gateway and every required material in Redis. That way, if any outage happens, we hope our users can feel worry-free about this new application.





Like 17Live, every enterprise is under pressure to satisfy users expectations while executing increasingly demanding workloads, managing costs, and minimizing risk. Using Redis Enterprise through Google Cloud Marketplace, 17Live has built a frictionless experience for its growing user base, successfully streamlined its Redis deployment, consolidated its IT spend, and gained real-time observability into system usage for better control.

To learn more about Redis on Google Cloud, visit https://redislabs.com/cloud-partners/google/ and explore Redis in Google Cloud Marketplace.

Google Cloud

Google Cloud is a global leader in delivering a secure, open, intelligent and transformative enterprise cloud platform. Customers across more than 150 countries trust Google Cloud's simply engineered set of tools and unparalleled technology to modernize their computing environment for today's digital world.