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Kakao Games Uses Confluent to Track In-Game Abuse in Real Time

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Headquarters

Seongnam-si, South Korea

Industry

Gaming

Challenge

Build a pipeline that standardizes real-time game log data across various gaming studios for better analysis to track in-game abuse, accelerate time to market, and ultimately enrich the gaming experience.

Solution

Confluent Platform for rapid event stream processing and richer gaming experiences powered by data in motion.

Results

- Real-time data tracking and analysis
- Faster time to market
- Increase in active users and revenue thanks to a better gaming experience

Kakao Games is a South Korea-based video game publisher specializing in games across a wide array of genres for PC, mobile, and VR platforms. As both a publisher and developer, Kakao Games continually secures a diverse range of gaming content and IP. On a mission to become a global gaming industry leader, Kakao Games continues to refine its internal development capabilities through partnerships with leading game companies in Korea and around the world.

One of Kakao Games' most highly prioritized initiatives is to standardize its current publishing business, but this has proven to be a challenge because they offer outsourced games purchased via third-party game studios, and each game has its own unique log with its own standard. Being able to analyze game logs in real time is critical for preventing and remediating threats or suspicious actions from users, but doing this efficiently is very difficult without a shared standard between the different game developers.

To solve this issue, Kakao Games began to look into Confluent and other solutions as a technological foundation for an event streaming platform that could support game log standardization projects. After evaluating several options, including Pulsar and Amazon, they chose Confluent Platform because of its ease of use and also because they knew they could get it up and running quickly to create an agile stream processing platform that could support a broad portfolio of games.

"In-game abuse is what we were needing to proactively track because it demotivates game users and eventually increases the churn rate," says Eugene Lee, Director of Infrastructure Division, Kakao Games. "We needed real-time data analysis to become agile and flexible for identifying potential risks."

"We had no technologies to replace or augment because we'd never used event streaming technology before. Some of our members from different groups had experience handling Apache Kafka, but they weren't part of the bigger project to build a data streaming platform. Confluent had an ability to immediately offer enterprise-level support and that's why we decided to team up with them."

— Eugene Lee, Director of Infrastructure Division, Kakao Games

Technical Solution

Kakao Games went live with Confluent Platform in June 2021 and immediately began using Confluent for real-time game log analysis. Thanks to Confluent, they now have a pipeline that collects all the user-generated game log data so that Kakao Games can track and address in-game abuses in real time.

Apache Kafka® and Confluent collect the logs, while KSQLDB handles the stream processing, including the in-game abuse detection. Specifically, KSQLDB helps with anomaly detection, so if they detect any unusual activity across the various gaming platforms, it will flag the operation team. The pipeline handles roughly six terabytes of filtered game log data per week. Kakao Games' database team operates, manages, and runs 80 databases covering hundreds of games.

"What Confluent did for Kakao Games was brilliant," says Lee. "Not only was the engineering team proactive around resolving technical issues, but they also shared clear guidelines for building a platform. We were fully satisfied with what Confluent's engineering and professional services team did for us."

Business Results

Faster time to market. "It is crystal clear that Confluent helped us save time to market thanks to the real-time game log analysis," says Lee. "A lot of game publishers today are facing challenges with real-time analysis because the data size is massive and logs often follow a standard. We learned our lessons from the past and Confluent has helped us innovate faster and ultimately enrich the gaming experience."

Real-time data tracking and analysis. "The database team used to spend several days performing the data analysis, and even worse, the data would sit in the queue for up to 24 hours," says Lee. "It was nearly impossible for us to ensure the analysis results were up to date. Now we can track and analyze the data in real time and our response times to the developers or operation teams requesting the data analysis is faster than ever, and we can share the most up-to-date insights with stakeholders through a single view from Confluent Platform."

Increase in active users and revenue thanks to a better gaming experience. "We believe the Confluent-based event streaming is one of the key factors that helped Kakao Games become successful," says Lee. "We're not allowed to provide specific numbers, but we do see a great increase in the number of active users thanks to Confluent, ... [and] are proud to say that the game log analysis through Confluent helped Kakao Game achieve enormous success. New revenue growth was one of the outstanding results, but we believe Confluent was the major driver for increasing customer satisfaction and maintaining the user retention rate."

The Future

Kakao Games is brainstorming new ways to put data in motion in use for their gaming platform, with the goal of making key applications for gaming services more flexible.

"The next step is to expand the real-time log analysis toward all 300 games," says Lee. "We are also considering leveraging Confluent for real-time payment and transaction messaging services."

Learn More About Kakao Games

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