

E-COMMERCE

eBay Korea Modernizes Core E-Commerce Platforms with Confluent



Headquarters

South Korea

Industry

E-Commerce

Challenge

Enable continued growth across multiple e-commerce platforms that had been in place for more than 15 years

Solution

Use Confluent to help migrate from a monolithic architecture to a microservices architecture that enables more independence, greater flexibility, and improved scalability

Results

- Simplified maintenance and operations for improved productivity
- Stable, high-throughput streaming
- Rapid support
- Faster time to market

As one of the largest e-commerce companies in Korea, eBay Korea operates three online retail platforms: G-Market, Auction, and G9. With Korea's e-commerce market more than doubling over the past five years and the uptick in online shopping due to the pandemic, eBay Korea has seen a significant recent surge in growth.

While the increase in sales and revenues was welcome, the growth highlighted issues with the company's legacy e-commerce platform, which had been in place for more than 15 years. Based on a monolithic architecture with a single large application and single database, the platform was becoming increasingly difficult to develop and maintain. "When business requirements are complex, the code needed to implement them also becomes complex," says Hudson Lee, Leader of Platform Engineering at eBay Korea. "With our legacy platform, everything was interdependent, so updating the code in one area often led to unexpected problems in another."

To enable continued growth and increased development velocity, eBay Korea is overhauling its e-commerce platforms, replacing monoliths with a microservices architecture. Confluent and Apache Kafka® serve as the messaging infrastructure for this architecture, enabling low-latency communication between decoupled microservices across the enterprise. "When we started to refactor the business based on a microservices architecture, we concluded that Apache Kafka was the best technology to use because of its stability," says Lee. "Although we had some experience running open source Kafka ourselves, we recognized that we needed a trusted partner to help us resolve issues that we'd encounter with a larger-scale deployment. Confluent not only had a local office to provide that support, they also had the best known, verified solution, which was what we wanted for our mission-critical e-commerce platforms."

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eBay Korea has already optimized order processing on its Korea G9 e-commerce platform using Confluent and the new microservices architecture. Currently, the eBay Korea team is planning to expand its use of real-time data streaming to accounting and product information use cases, and they are planning to scale the entire solution horizontally to the Gmarket and Auction e-commerce platforms.



Technical Solution

Simplified maintenance and operations for improved productivity.

Using a Confluent-enabled microservices architecture, eBay Korea was able to significantly reduce dependencies between systems, making them much easier to maintain and operate and increasing overall productivity.

Stable, high-throughput streaming. eBay Korea can now handle 1 million transactions per second with no data loss. Multi-region clusters ensure full disaster recovery and service stability.

Rapid support. Before Confluent, service disruptions with self-managed Kafka often took more time to resolve than eBay Korea wanted. Now, Confluent is always right there to quickly step in and help.



Business Results

Faster time to market. "Using Confluent-designed microservices and electronic design-based applications has allowed us to cut our go-to-market time in half," says Lee. "Confluent plays a pivotal role in delivering messages between microservices-based applications and connecting all our services as a core foundation."

eBay Korea unveiled Gmarket Global in October 2021 and will open Gmarket Main between December 2021 and January 2022. As there is a massive number of modules that support purchase orders or transactions, eBay Korea is gradually making them available and 70% of all purchase order modules are completed. Since the kickoff in May 2021, eBay Korea experienced no downtime in delivering or operating services. It took only five months for the eBay Korea to build an enterprise-grade MSA and EDA platform.