CASE STUDY

How Komerční Banka Modernised Its Banking Infrastructure Using Feature Flags

Meet Komerční Banka

Komerční Banka (KB) is a leading Czech Republic banking institution with over 1.6 million customers and nearly 400 branches. The bank was built on legacy systems with huge, distributed monolithic architecture. To stay competitive, KB felt the need to modernise its infrastructure and software development approach. Due to its large-scale operations, there was an urgent need to modernise its infrastructure and software development to stay competitive.

Initial Challenges

KB had over 400 developers (out of 600) managing its legacy system built on monolithic architecture. The problem? The system consisted of heavily interdependent components that led to longer development cycles, higher bug risks, and a lack of system scalability.

These issues prompted KB's COE (Center of Expertise) to improve efficiency. As a result, they launched "The New Digital Bank" initiative—a five-year project migrating their infrastructure to a microservices-based architecture.

The goal was to modernise KB's banking system and adopt an **Agile 2.0 development mindset**—resulting in better service delivery.

KB's Modernisation Hurdles

KB developed its development framework using:

- Java SDK to build cloud applications
- Jenkins and Argo CD for CI/CD pipelines
- Kubernetes to deploy and run applications

As the infrastructure was built on monolithic architecture, every feature release, update, or product launch moved at snail's pace.

For example, it took the team days to get the system back up and running whenever there was a new Kubernetes update. There was no scope for automation of updates or independent development cycles.

Plus, the current system was a massive drain on costs. They were already maintaining systems on-premise while subscribing to expensive tools like IBM. To overcome this issue, they were looking for open-source technologies as they're free and have minimal upkeep costs.

How Feature Flags Helped

The use of feature flags is common in the banking industry. Many companies, including KB, developed their own systems to manage them. KB's homegrown tool handled simple tasks like managing the configuration files because the legacy system was deployed only three times a year.

However, KB was taking an Agile approach to development. So, they needed a tool that supported the approach and fit into the new microservices architecture.

When evaluating a feature flag solution for their modernisation effort, KB tried three options: continuing with their own system, adopting Flagsmith, and adopting LaunchDarkly.

Ultimately, they chose to go with Flagsmith's solution because of its:

- Open-source software
- System's flexibility
- Excellent documentation
- Support capabilities



The Results

Before adopting Flagsmith, KB's engineers had to wait months to ship new features or product releases. Their legacy system was deployed only three times per year. But now, they deploy daily to two non-production environments. One environment is used for testing during the build and the other is used for staging.

The goal was to get to production as fast as possible by keeping these environments close to each other. By doing so they can ship as fast as they need to—inching closer to completing the New Digital Bank initiative.

From the time they've implemented Flagsmith, over 85 engineers have begun working with it in production. That's over half of the team dedicated to the program.

Flagsmith passed all their internal security checks with flying colours. When you consider how sensitive the banking industry is to such requirements, having a SOC 2-certified tool on their side only smoothened the transition.

Going forward, they can deploy features and products with confidence in a controlled environment without impacting the rest of the system.

In the future, KB plans on expanding Flagsmith's usage within the company. They will start by integrating the API with JIRA to align QA teams with product owners. It'll help them move flagging processes upstream, improving efficiency in the long run.

Find the full interview with KB here.

Conclusion

This eBook is a collaborative project between different leaders in software development, banking, and open source. Each contributor sees modernisation through a different lens, just as each financial services company chooses to modernise and release software in a different way. We started this project with transparency and collaboration in mind because there's so much we can learn from one another in the open source community, the developer community, and the banking community.

This eBook is designed to be a roadmap for modernising banking software development, covering critical areas such as feature flags, observability and open source. Using the tools and approaches laid on in each chapter, our hope is that you can unlock different ways your teams release and develop software.

Contributors

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More Information

If you'd like to find out more about any of the companies or contributors from this eBook, follow the links above.

If you have any questions about how your company can modernise their approach to software development, contact us and we can answer any questions or point you in the right direction for who to speak to.

We also invite you to stay connected with Flagsmith and each contributor on social media for updates, discussions, and additional resources.

Thank You

Thank you to each of the individual contributors and companies for your collaboration and commitment to this eBook project. Your insights and work on this project has been immensely valuable for learning more about the way the financial services industry can release software. Thank you, reader, for your interest in the eBook. We hope you found it valuable and look forward to creating more resources to help you release with confidence.

Flagsmith

Get in Touch

Flagsmith is an open source feature flag software that lets developers release with confidence. We work with banks and financial institutions across the world to help them transition to modern feature management and software development, offering on-premise deployments, security features, and technical support to cover your needs. We also partner with OpenFeature to support open standards and prevent vendor lock-in.

"Our development speed and velocity have increased. Mainly, though, I just feel good about releases. I know when I ship something to production it's going to be safe and I won't have to do a thousand tests to make sure I don't miss something. When things are behind a feature flag, I know what is and isn't enabled in production and I have the visibility I need."

Vontobel

Globally active investment firm with Swiss roots

Flagsmith.com