KBTG builds scalable, automated IT foundation to support mobile banking for millions

Kasikorn Business-Technology Group (KBTG) is the IT division of Kasikornbank (KBank), a leader in Thailand's financial services market. Its KInfra team provides operational support for KBank's online services, including KPlus, Thailand's first mobile banking platform. To ensure reliable access to new, innovative services for millions of users, KBTG adopted a scalable yet stable container-based IT infrastructure foundation using Red Hat OpenShift. After migrating from Red Hat OpenShift 3 to 4, KBTG can now takes advantage of advanced features like automated provisioning, patch management, and scaling to simplify application development, speed delivery, and improve operational efficiency.

Software and services

Red Hat® OpenShift®

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"Red Hat OpenShift gives us the cost efficiency and reliability we need at the scale to support millions of mobile banking app users."

Mongkol Uechitanantakul
Deputy Managing Director,
KInfra, KBTG

Financial services

2,000 employees

Benefits

- Reduced provisioning times from a week to just days
- Improved scalability to meet changing demand
- Eliminated downtime for customer-facing services with advanced monitoring and management

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Supporting digital banking innovation with responsive IT infrastructure

Kasikornbank (KBank), a leader in Thailand's financial services market, combines a customer-first focus with the right talent and technology to deliver new, innovative personal and business services. KBank introduced the first ATM, mobile banking, and internet banking services in Thailand. As a pioneer in the country's fintech market, KBank aims to lead digital banking, giving customers access to complete any financial tasks easily and securely.

Its IT division, Kasikorn Business-Technology Group (KBTG), maintains a variety of internal and customer-facing services to help promote business growth and improve the customer and employee experience. A key service it supports is KPlus, Thailand's leading mobile banking platform with 20 million users. However, to help maintain this leadership, KBTG's KInfra team must ensure KPlus delivers a convenient, reliable experience—even when processing demands reach a minimum of 40,000 transactions per minute.

"KBank is currently the leading provider of mobile banking in Thailand, but staying on top means continuing to innovate and provide new digital experiences and services," said Mongkol Uechitanantakul, Deputy Managing Director, KInfra, KBTG. "To do so, we need IT infrastructure that is scalable yet reliable."

> "With Red Hat OpenShift 4, we can now provision a system within a few days, rather than a whole week. Faster provisioning means developers can focus on building and delivering new, engaging features and services."
>
> **Surapan Chaimahapruek**
> Assistant Managing Director, KInfra, KBTG

Building a cloud-native container environment with enterprise open source

KBTG decided to adopt a container- and microservices-based development approach, supported by a cloud-native architecture. To take advantage of ongoing feature innovation combined with enterprise reliability and scalability, the organization chose Red Hat OpenShift as its new container platform.

"The open source approach, where people develop together to make the world better, gives us new insight and capabilities to support our operations," said Mr. Uechitanantakul. "Red Hat is now an industry standard for enterprise open source, and Red Hat OpenShift gives us the cost efficiency and reliability we need at the scale to support millions of mobile banking app users."

Red Hat OpenShift is an enterprise Kubernetes container platform that provides comprehensive automation and security capabilities across on-premise, cloud, and hybrid environments. It lets teams work with their choice of supported languages, frameworks, and databases with Kuberentes-native workflows to speed the entire development and deployment process.

After initial success with Red Hat OpenShift 3—including reducing development times by 50% and scaling to process 5,000 transactions per second—KBTG adopted Red Hat OpenShift 4 soon after its release. This version adds new services and tools to help developers code with agility, as well as more flexibility and efficiency for IT operations.

Before, during, and after its upgrade, KBTG worked closely with Red Hat Consulting to maintain healthy OpenShift clusters and optimize new Kubernetes features. The organization has now successfully migrated around half of its mobile banking applications to Red Hat OpenShift.

"Red Hat Consulting provides us with excellent support for all of our Red Hat technologies," said Mr. Uechitanantakul.

Automating IT processes to deliver reliable services faster

Reduced provisioning times from a week to days

Previously provisioning a new IT system took KBTG an entire week. Using Red Hat OpenShift Pipelines, a component of Red Hat OpenShift for cloud-native continuous integration and continuous delivery (CI/CD), the company's developers can use self service to quickly access automatically provisioned, container-based application builds and environments.

"With Red Hat OpenShift 4, we can now provision a system within a few days, rather than a whole week," said Surapan Chaimahapruek, Assistant Managing Director, KInfra, KBTG. "Faster provisioning means developers can focus on building and delivering new, engaging features and services for KPlus and our users. This process improvement is just one demonstration of the vital role automation plays in building and maintaining a competitive advantage."

Eliminated downtime for customer-facing services

New health management capabilities built into Red Hat OpenShift 4 such as over-the-air patching and upgrades for its container environment have helped KBTG improve the stability of KPlus's infrastructure.

"With our legacy environment, manual patch management was time-consuming and complex. Now, with Red Hat OpenShift 4, we can complete the same work via rolling upgrades based on an automated script," said Mr. Chaimahapruek.

KBTG has now not only reduced operations management time and effort, but also eliminated downtime for customer-facing services.

"We were the only bank in Thailand to have zero downtime last year, and that was because of the monitoring, patch management, self-healing capabilities, and easier upgrade process provided by our enterprise container platform," said Tawan Jihavech, Chief Technology Officer (CTO), KBTG. "We have significantly improved our system stability to continue providing the reliable banking experience our users expect."

Improved scalability to meet demand

KBTG's legacy, virtual machine (VM)-based service environment lacked the easy scalability to respond to changing demands for KPlus and other KBank services. With the autoscaling capabilities of Red Hat OpenShift 4, the organization's IT environment automatically adapts to demand by commissioning or decommissioning containers and clusters quickly, as needed.

"Enterprise capabilities like autoscaling are a key reason we chose Red Hat OpenShift," said Mr. Chaimahapruek. "In combination with health management, autoscaling has helped simplify our operations and improve our efficiency."

Applying enterprise container capabilities to support new regional business

KBTG plans to build on its success by expanding its use of Red Hat OpenShift 4. In the near future, the organization will complete migration of KBank's mobile banking applications to the platform and is evaluating expanding operations automation beyond its datacenter to its regional offices. KBTG is also considering improving integration between its payments hub and internal applications with AMQ streams, part of Red Hat AMQ.

"As we expand across Southeast Asia, specifically to Vietnam and Indonesia, Red Hat OpenShift will play an increasingly critical role at KBTG," said Mr. Uechitanantakul. "The operational efficiencies and go-to-market acceleration enabled by Red Hat will provide the scalable, reliable foundation for successful regional expansion."

About Kasikorn Business-Technology Group (KBTG)

KBTG is the IT division of leading Thai financial services provider Kasikornbank (KBank). It is helping the bank achieve its vision of becoming Thailand's most innovative, proactive, and customer-centric financial institution by providing a robust and stable digital foundation for the bank's wide range of online banking innovations. Those innovations include KPlus, Thailand's leading mobile banking platform. www.kbtg.tech

Red Hat Innovators in the Open

About Red Hat Innovators in the Open

Innovation is the core of open source. Red Hat customers use open source technologies to change not only their own organizations, but also entire industries and markets. Red Hat Innovators in the Open proudly showcases how our customers use enterprise open source solutions to solve their toughest business challenges. Want to share your story? Learn more.

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Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. A trusted adviser to the Fortune 500, Red Hat provides award-winning support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

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