VPS Securities containerizes critical core trading applications

As the leader in the Vietnam securities market, VPS Securities (VPS) needed to release new applications and features to maintain its position; however, its monolithic core application system was holding it back. Adopting Red Hat OpenShift and upskilling its team around DevOps best practices has halved time to market, increased system availability, and mitigated risk by minimizing vulnerabilities.

Industry

Financial Services

Headquarters

Hanoi, Vietnam

Size

2000 employees

"We can now release new applications and features 50% faster."

Mr. Mai Tat Thang
CIO
VPS Securities
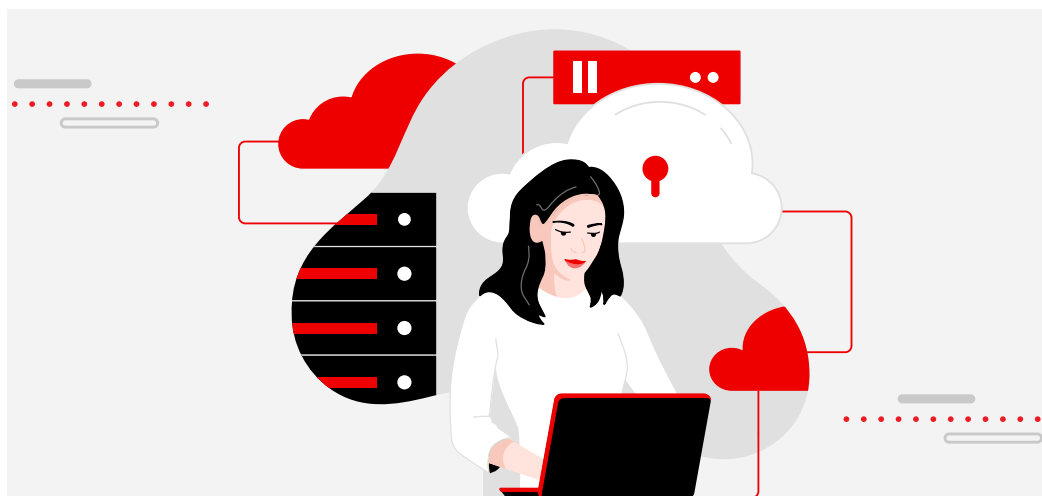
Software and services

Red Hat® OpenShift®
Red Hat Consulting

Partner

Amigo Technologies

Benefits

▸ Shortened time to market while safeguarding release timeframes

▸ Increased system reliability and availability

▸ Reduced risk with built-in security features and verified patches

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.

Leading the security market in Vietnam for half a decade

As a leading securities firm, VPS Securities (VPS) provides a comprehensive set of products and services to institutions and individuals. Its key business areas include securities brokerage and trading, financial services, investment banking, finance advisory, and research. VPS also provides a wide range of professional advisory services in equity and debt capital markets, mergers and acquisitions (M&A), and corporate restructuring.

"VPS has been in the securities market in Vietnam for 5 years," said Mr. Mai Tat Thang, Chief Information Officer (CIO), VPS. "To retain that position, we needed to shorten time to market for new applications and features."

To achieve this, VPS needed to modernize its applications and development processes. Its core trading application system was a brittle, monolithic application made up of several different open source components, making management, updates, and dependencies challenging. And its in-house CI/CD development processes were slow and manual.

With an aging application lifecycle model holding VPS back by restricting agility, the company realized that it needed to migrate core applications—its core trading applications in particular—to a containerized microservices architecture.

VPS was already familiar with microservices and containers, having used OKD, the upstream open source community distribution of Kubernetes that serves as the foundation for Red Hat OpenShift.

"Adopting an approach based on microservices and containers and upskilling our in-house development and operations teams around DevOps best practices would help our business to grow," said Mr. Thang. "It would also facilitate agility and innovation, particularly for complex and critical core trading applications."

Adopting the market-leading container platform

VPS turned to technology partner Amigo Technologies (Amigo)—the first and only Premier Red Hat Partner in Vietnam—for support. Amigo recommended Red Hat OpenShift as an enterprise-ready alternative to OKD.

"We recommended Red Hat OpenShift as it's the market leader and a firm favorite among our enterprise customers looking to containerize their critical applications," said Mr. Alex Nguyen, CTO, Amigo Technologies.

With the project to modernize VPS's core application increasingly seen as critical, the partner reached out to Red Hat.

"Red Hat Consulting showed us a clear path forward for our modernization journey," said Mr. Nguyen Tat Dung, DevOps Lead, VPS Securities. "The team described the Red Hat enterprise-focused container platform in detail, and we quickly understood the value it would bring."

The joint discussions between VPS, Amigo, and Red Hat took the form of discovery workshops, in which the three companies delved deep into understanding the core application and where VPS wanted to take it. Red Hat Consulting shared best practices and provided guidance during the design, architecture, and implementation phases of the project to build the new Red Hat OpenShift environment. Beyond the technologies, Red Hat also helped VPS to adopt DevOps methodologies.

With the container environment up and running, VPS was able to turn its attention to refactoring the legacy core application into containerized microservices to run on Red Hat OpenShift. "Red Hat Consulting took the lead in rearchitecting the monolith and onboarding the newly refactored application onto Red Hat OpenShift," said Mr. Nguyen.

VPS received hands-on training throughout the adoption journey. "Red Hat Consulting and the Red Hat certified engineers from Amigo introduced us to a new development framework and showed us implementation best practices," said Mr. Nguyen Tat Dung. "We learned a lot through face-to-face collaboration with the Red Hat experts. The knowledge sharing was always practical and immediately applicable."

Speeding up release while raising availability and security levels

Reduced time to market by 50% while safeguarding release timeframes

With Red Hat OpenShift, VPS has achieved its ambition of shortening time to market. "Having adopted Red Hat OpenShift and sharpened our DevOps skills with help from our partners Red Hat Consulting and Amigo Technologies, we can now release new applications and features 50% faster," said Mr. Thang. "Our application development cycles are around 1 to 2 weeks."

For Mr. Dzung, having a high level of confidence in the release timeline was one of the biggest gains. "We now release on time, every time," he said. "It means we can plan our releases so they have a minimal impact on our customers—overnight for example—and we know they will complete in that timeframe."

Increased system reliability and availability

Having migrated to Red Hat OpenShift, VPS is also seeing improved availability, rising from 99%-99.5% prior to the project to 99.99% after its completion. "Uptime is much better in our Red Hat OpenShift environment compared with our previous monolithic system," said Mr. Thang.

The improved reliability is the result of several factors. These include the enterprise-level support from Red Hat and Amigo Technologies, which ensures that issues are resolved quickly, and Red Hat OpenShift automated scaling, ensuring that the core trading application has the containers and compute resources necessary, and as needed.

Reduced risk with built-in security features and verified patches

Migrating from the community version of OpenShift to the enterprise-grade Red Hat OpenShift mitigates significant risk for VPS. "The built-in features that come with Red Hat OpenShift ensure that there are no critical vulnerabilities," said Mr. Nguyen. "VPS can come to Amigo with any concerns and we will raise a ticket with Red Hat."

VPS can also take comfort in knowing that every upgrade is fully verified and tested by product experts. Prior to adopting Red Hat OpenShift, VPS managed its OKD environment itself, but with it being a community version of OpenShift, the company had no vendor backup and lack of specific responsibility for building patches when vulnerabilities emerged. VPS would also have to upgrade every component itself whenever patches appeared—a highly time-consuming and potentially risky process.

About Amigo Technologies

As a pioneer in Vietnam's IT sector for over 20 years, AMIGO has established itself as a leading provider of integrated system solutions and technology services.

Investing in a future-ready solution

The migration to Red Hat OpenShift has already put VPS on a more secure footing with a future-oriented perspective. Plans include upgrading to Red Hat OpenShift Platform Plus to take advantage of Red Hat Advanced Cluster Management for Kubernetes (RHACM) and Red Hat Advanced Cluster Security for Kubernetes (ACS).

"As VPS migrates more applications to Red Hat OpenShift, RHACM will ease compliance by allowing VPS to write and enforce governance policies consistently," said Mr. Nguyen. "ACS will equip VPS to build, deploy, and run cloud-native applications with more security by protecting the containerized applications."

VPS is also exploring other technologies in the Red Hat OpenShift ecosystem:

▸ **Red Hat OpenShift Pipelines**, a cloud-native continuous integration and continuous deployment (CI/CD) solution, automates application delivery and can further reduce time to market for applications running on Red Hat OpenShift.

▸ **Red Hat Ansible Automation Platform** automates application monitoring on and deployment to Red Hat OpenShift. VPS currently uses this versatile technology to automate its infrastructure.

▸ **Red Hat OpenShift AI**, a flexible and scalable AI and machine learning platform, can access graphics processing units (GPUs) to process data for big data workloads running on Red Hat OpenShift.

"At VPS, we look forward to a successful future thanks to our long-term strategic partnership with Red Hat and Amigo Technologies," said Mr. Thang.

About VPS Securities

VPS Securities was founded in 2006, a few years after the launch of the Ho Chi Minh and Hanoi Stock Exchanges. The undisputed market leader in modern investment platforms in Vietnam has been the number one market share broker every quarter since April 2021. VPS positions itself as a comprehensive platform for investors, contributing to Vietnam's national development and capital market upgrade.

About Red Hat

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