Red Hat

Bank of Lithuania delivers new digital services at speed

Software and services

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Novian Technologies

The Bank of Lithuania's mission is to benefit society while seeking to foster a reliable financial system and ensure sustainable economic growth. It's also looking to increase confidence in Lithuania's central bank and financial system and encourage the stable and efficient operation of payment and securities settlement systems. But its monolithic legacy environment was hindering its ability to modernize its services. Red Hat partner Novian Technologies advised the bank to adopt a containerized microservices approach. The success of an OKD trial—the community distribution of Kubernetes—saw the bank adopt Red Hat OpenShift. Developers now have complete control of their environments and no longer need to depend on systems administrators, accelerating time-to-market. Systems administrators spend less time managing the application environment with automated self-healing and scaling, ensuring availability remains high.

Vilnius, Lithuania ●

Headquarters

"Developers get their updates and new services to market between five and ten times faster with Red Hat OpenShift."

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Levaldas Zigmantas
IT Director, Bank of Lithuania

Financial Services

Almost **700** employees

Benefits

▶ Accelerated time-to-market and performance

▶ Supported developers, talent acquisition, and retention

▶ Automated high availability to ensure a robust end-user experience

Building financial confidence in Lithuania

The Bank of Lithuania is the Republic of Lithuania's central bank and also a member of the European System of Central Banks. It is on a mission to create benefits for society while seeking to foster a reliable financial system and ensure sustainable economic growth. Also, it focuses on increasing the people of Lithuania's confidence in their central bank and the country's entire financial system by enhancing the quality and accessibility of financial services and inclusion of different social groups.

The bank wanted to improve its customers' digital experience by making its old customer interfaces more user-friendly, but monolithic legacy applications were holding it back. "Launching a new environment required a lot of manual work: creating virtual machines, creating new networks, connecting storage, and so on," said Levaldas Zigmantas, IT Director at the Bank of Lithuania. "But our organization wants a fast time-to-market."

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> **Levaldas Zigmantas**
> IT Director, Bank of Lithuania

With a focus on winning people's trust and confidence, the bank also needed to ensure its digital services were always available. But its legacy hardware was nearing resource limits, with each application requiring up to five servers. Vertical scaling was the only way to increase resources, and buying more servers always took time. "We needed an environment that would enable horizontal scaling," said Levaldas. "We also needed autoscaling to ensure our digital services always have the computing resources they need, when they need them."

Red Hat partner Novian Technologies advised the bank to move to a microservices approach to use resources more efficiently. "Microservices allow you to split services logically for load balancing, for instance," said Levaldas. "You can't do that with a monolithic application." The partner also advised the bank to adopt a container platform to speed up development and accelerate time-to-market.

Adopting a microservices approach based on an enterprise-level container platform

The bank began its journey to adopt microservices and containers with OKD, the community version of OpenShift. "Our developers, systems administrators, and architects were all new to OpenShift," said Levaldas. "So, we implemented OKD in a sandbox and built a couple of microservices; it worked well."

With the success of the OKD trial, the Bank of Lithuania moved to the enterprise version of the container platform. It adopted Red Hat OpenShift to have support directly from Red Hat.

The bank implemented several Red Hat OpenShift on-premise environments—including production, test, development, and a sandbox—with guidance from Novian Technologies. "Novian guided us from a technical perspective," said Levaldas. "They were like a big brother, always there when we needed them." Due to Red Hat Learning Subscription Premium, the adoption of the technology was smooth, providing a wealth of information throughout. And whenever the team had anything they couldn't solve, Red Hat Support jumped in, with experts from around the globe sharing their knowledge.

The Red Hat Learning Subscription Premium is a valuable resource for the bank's IT infrastructure architects and engineers who need to stay up-to-date on Red Hat products and services.

The subscription provides access to a wide range of information and resources. The materials are all in one place, helping the bank gain the skills and knowledge they need to support and develop its services.

Helping developers and system administrators meet new business demands

Accelerated time-to-market and performance

When the organization needs to see new services delivered at speed, it can deliver, thanks to Red Hat OpenShift. Self-service capabilities mean developers can now deploy new applications in less than a day – a vast improvement on the five to ten days required with the bank's legacy environment.

"Developers get their updates and new services to market between five and ten times faster with Red Hat OpenShift," said Levaldas. "They no longer need to wait for a systems administrator to become available when they want to deploy their application. Built-in automation lets developers deploy their applications easily and consistently."

Moreover, developers must no longer wait for the 'big release' necessary for launching updates to monolithic applications to see their work live. "Moving to a microservices approach with Red Hat OpenShift at the core gives us a solid foundation for CI/CD," said Levaldas. CI/CD—short for continuous integration and continuous delivery—is a method that allows organizations to deliver new services and updates to customers.

The bank also compared the performance of some of its legacy applications with their equivalents refactored as microservices and hosted in containers running in Red Hat OpenShift. "The results were amazing. Application performance had increased two- or three-fold for the applications running in Red Hat OpenShift," said Levaldas.

Supported developers, talent acquisition, and retention

Red Hat OpenShift's self-service capabilities stretch far beyond allowing developers to deploy their applications themselves—and that was exactly what the bank was looking for from its container platform.

"Red Hat OpenShift puts developers in complete alignment with their development environments," said Levaldas. "They have complete visibility of it and can update it if needed."

Developers can even update to a new framework version in just a few minutes. Creating a ticket for the service desk and then waiting for them to have some time available is a thing of the past.

With microservices and containers a hot topic in the eyes of young developers, the bank has a better chance of attracting talented specialists. "Young people want to work with new technologies after finishing their studies. This is one of the reasons why we adopted Red Hat OpenShift," said Levaldas. "Other specialists have better opportunities to work more efficiently, create high-quality products, and help the bank to benefit society."

Automated high availability to ensure a robust end-user experience

Since developers no longer rely on systems administrators to launch their code, update frameworks, or help with similar tasks, the Bank of Lithuania's IT team can achieve much more with the same number of people. The automation capabilities of Red Hat OpenShift simplify life for systems administrators. "Creating a new Red Hat OpenShift environment is very easy and very fast," said Levaldas.

Looking to a future with hybrid cloud and the edge

With the success seen to date, the Bank of Lithuania plans to refactor around 80 applications to run as containerized microservices deployed in Red Hat OpenShift. Those applications include instant payments, a critical banking feature that European System of Central Banks members must make available for their customers. "Very low latency and high availability are critical for instant payments," said Levaldas. "So, we plan to move our instant payment service to Red Hat OpenShift."

Red Hat OpenShift is also helping the bank meet requirements from the European Central Bank (ECB). And with the ECB recently changing its stance on public cloud, Red Hat OpenShift provides the perfect hybrid environment for the Bank of Lithuania. The bank plans to run applications that don't use confidential data in Red Hat OpenShift in the cloud with others in Red Hat OpenShift on-premise.

Moreover, the bank plans to implement Open Data Hub as a platform for its data science projects. Open Data Hub is an open source AI platform designed for the hybrid cloud. It blends Red Hat OpenShift with leading open source AI tools to simplify AI application development and deployment.

"Red Hat OpenShift is critical to our future success," said Levaldas. "To date, we have seen how it speeds time-to-market, improves performance, and delivers high availability. We are excited to see what our relationship with Red Hat will bring into the future."

About Bank of Lithuania

The Bank of Lithuania is anchored by core values that benefit society and enhance the public's trust in the national central bank and the domestic financial system. It relies heavily on highly qualified employees and technological resources. As part of the Eurosystem, it cooperates with the European Central Bank and other euro-area central banks.

About Novian Technologies
Novian Group combines the strengths of companies across the Baltic and Nordic regions, providing software, technology, and complex IT solutions and services. Novian Technologies is the group's main company in the technologies business area.

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.

About Red Hat
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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