

Japanese eCommerce Company Builds Cloud Native European Bank From Scratch With Nutanix

Nutanix Provides Rakuten Europe Bank With Secure, Scalable And Easy To Manage IT Infrastructure For Rapid Entry Into Highly Regulated Financial Market.

About Rakuten Europe Bank:

Industry: Fintech, Digital banking

Employees: 60+

Geo: Europe

Website: <https://www.bank.rakuten.eu/>

Applications

- Cloud- native application development tools
- Finance/banking applications
- Web servers
- Mail Servers
- Databases
- File sharing

Products

- [Nutanix Cloud Infrastructure](#)
- [Mine Integrated Backup](#)
- [Prism](#)
- [AHV Virtualization](#)
- [Nutanix Kubernetes Engine](#)
- [Flow Network Security](#)

Ready to get Hands-On?

[Take a Test Drive](#)

Business need

Japanese fintech Rakuten was looking to extend the reach of its eCommerce marketplace by giving European businesses access to the same market-leading digital payment and other financial services enjoyed by Japanese companies. This would be done through Rakuten Europe Bank, a wholly new venture based in Luxembourg which would require a secure, highly available, and easy to manage infrastructure, offering cloud-like on demand scalability but hosted on premise to comply with local banking regulations.

Key Benefits

Cloud with compliance

On-demand scalability and high availability to keep pace with business growth, just like a public cloud platform but on-premises and fully compliant with local banking regulations.

Minimal management

Single integrated Nutanix Prism interface allows for management of entire physical and virtual infrastructure by a small team of non-specialists.

Containers to go

Nutanix Kubernetes Engine simplifies and unifies provisioning and operating cloud-native applications by extending enterprise data services to containerized apps.



As a new venture with no legacy technologies to worry about, we could build Rakuten Europe Bank using whatever platform and technology we wanted, but for compliance it had to be on-premises. Fortunately, by choosing Nutanix we were able to comply with the regulations while still pushing ahead with plans to build modern cloud-native applications.

– Mohamed Dib,
Head of Procurement, Rakuten Europe Bank

Challenge

As a key first step towards diversification into Europe, Japanese eCommerce company Rakuten was keen to build its own secure, scalable and agile banking infrastructure free from the constraints of legacy technologies. Cloud computing was the obvious choice but regulatory compliance meant it had to be private which, in turn, meant finding an on-premises solution able to deliver the same on-demand scalability and simple operational management benefits.

“At the time we started the bank the local regulator wasn’t happy about us using a public cloud platform,” explained Mohamed Dib, Head of Procurement at Rakuten Europe Bank. “That meant finding an on-premises private cloud alternative which would be just as scalable but easy to manage by a small non-specialist team.”

High availability with rock solid DR capabilities was another must-have in order to similarly comply with the regulations. Added to which the Bank would be developing its own applications using containers and other cloud native technologies and was keen to find an infrastructure that would facilitate this approach.

Solution

After much research, Nutanix Cloud Infrastructure was identified as best able to meet all of the bank’s and the regulator’s requirements with interconnected on-premises clusters which would be located across two separate datacentres. Initially expected to host some 50 virtual machines, these would be configured to use VMware for virtualisation, with synchronous data replication between sites and rapid failover in the event of a system failure.

Nutanix Prism would allow for unified management of all physical and virtual resources from a single interface. Plus, with the Bank opting to use Kubernetes for container orchestration, it made sense to specify Nutanix Kubernetes Engine (NKE) as this provides a simple and elegant way to run

and manage traditional virtualization and cloud native, container based workloads simultaneously. Particularly as NKE also includes integration with Terraform, the Bank's preferred platform for Infrastructure as Code automation, yet another key component of its agile DevSecOps methodology.

Customer Outcome

Initial deployment went without a hitch, enabling pilot workloads to be quickly migrated to the new infrastructure with immediate performance, scalability and availability benefits, as Mohamed Dib, Rakuten Europe Bank's Head of Procurement confirms.

“Everything worked as expected and in no time at all we had a working and fully compliant setup. In fact, at our first security audit the regulator was amazed to find that we could already failover our entire infrastructure and back again in less than two hours and do that at such an early stage of the implementation process. Not least because, at that time, the support team comprised just two full-time staff!”

A change of hypervisor

Since those early days the integrated DevSecOps team has, inevitably, grown in size. Moreover, it wasn't long before it became clear that a high proportion of staff time was being spent on managing the VMware software so the decision was taken to switch to the Nutanix AHV hypervisor, included as part of the Nutanix Cloud Platform stack as standard.

“It made sense to switch to using Nutanix AHV as it can do everything the VMware hypervisor can but with much simpler management and automation of the VM lifecycle, freeing up valuable manpower as well as saving on licensing costs,” commented Dib. “There have also been unexpected and very welcome knock on benefits, including a halving of the time it takes for CoB (Close of Business) routines to complete each day.”

Kubernetes to go

With over 300 virtual machines now live and more in the pipeline, the number of clusters powering the Rakuten Europe Bank has grown, driven primarily by a relentless schedule of application development. Supporting this the bank now has eight clusters dedicated to supporting the Kubernetes/ container environment. It has also worked closely with Nutanix to help develop the Terraform provider and automate its DevSecOps automation processes.

Next Steps

In recent years the Luxembourg regulator has relaxed its stance on the use of public cloud platforms. As a result Dib and the IT team are busy finalising a move to hybrid cloud working, starting with its development environment.

“For the time being our production environment will be staying on premise,” he explained, “but Dev and Test are already going hybrid which, with Nutanix, has been easy thanks to the way we can move workloads back and forth between our datacentre and Microsoft Azure clouds with everything still managed from the same integrated control plane.”

Beyond that, the team is trialling the Nutanix Flow Network Security solution to strengthen network security and is also considering a switch from on-premises to cloud-based database servers. To this end, the company is evaluating the Nutanix Database Service (NDB) solution, a Database-as-a-Service product that automates and simplifies database management, bringing one-click simplicity and invisible operations to provisioning and lifecycle management independent of the host platform.

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