Reist unifies VM and container worlds with virtualization

REIST
IT SOLUTIONS FOR TODAY & TOMORROW

Headquarters

IT consulting and services

Industry

Zurich, Switzerland

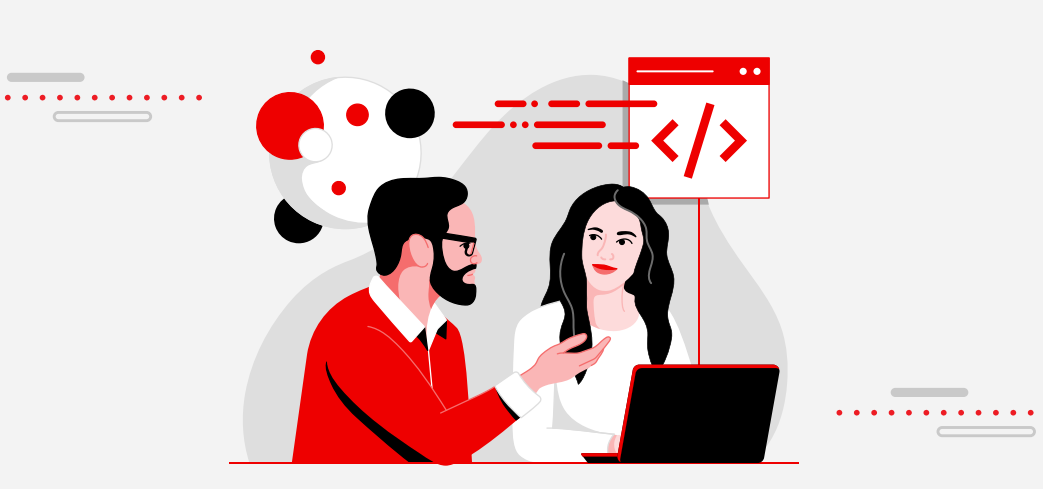
Size

70+ employees

"Red Hat OpenShift Virtualization brings together the benefits of the VM and container worlds."

Patric Siegrist
Chief Architect
Reist Telecom AG

Swiss IT managed services company Reist Telecom AG (Reist) wanted to adopt an enterprise-level Kubernetes platform to build its Identity and Access Management solution. Its customers were also looking to modernize their technology with an approach based on microservices and containers. Reist selected Red Hat OpenShift for its openness and on premise application platform. Adopting Red Hat OpenShift Virtualization was then simple when the company needed to migrate from its legacy virtualization environment to a modern infrastructure platform that would satisfy immediate and future needs. OpenShift Virtualization halves licensing costs, integrates virtualization and container worlds, and allows for a DevOps approach.



Software and services

Red Hat® OpenShift®
Red Hat OpenShift Virtualization

Partners

Puzzle ITC

Benefits

- Halved virtual machine licensing costs
- Unified VM and container worlds
- Strengthened security with version control and a single source of truth
- Prevented code releases from interrupting end-user experience

"Red Hat OpenShift Virtualization is providing a shared platform for our different technologies and increasing collaboration between our teams."

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Providing a professionally managed secure private cloud

Founded in 2001, Reist Telecom AG initially provided consultancy in the field of telecommunication, gradually expanding its areas of expertise. From the beginning, the Swiss company has provided a professionally managed, secure private cloud for internet-based customers, mainly in the airline and manufacturing industries and customers that require all data to remain in Switzerland. Their service operates from 2 geo-redundant datacenters and a separate datacenter for backups, all in Switzerland. Its managed services span a mix of server environments—including both Windows and Linux—running on virtual machines (VMs) and dedicated servers.

The company has also built an Identity and Access Management (IAM) solution, called MAYI ID©, which is on the market both as a managed service and a standalone 'software-as-a-service' offering. Reist's IAM solution uses Red Hat's single sign-on (SSO) technology, and its datacenters have been using Red Hat Enterprise Linux® as their primary operating system for many years.

"We initially built MAYI ID© on a virtualized infrastructure but quickly realized containerized microservices were the future, so we set up a vanilla Kubernetes environment," said Patric Siegrist, Chief Architect, Reist Telecom AG.

With customers also seeking to become cloud-ready by moving to a containerized environment, Reist began searching for a supported enterprise-level Kubernetes solution, initially looking at the Kubernetes solution offered by its virtualization provider. "Extending our virtualization infrastructure to include containers made perfect sense, but licensing discussions became complicated, so we looked for other options," said Siegrist.

Embarking on a modernization journey with Red Hat

Reist joined the Red Hat Certified Cloud and Service Provider (CCSP) Program for companies delivering hosted or managed services based on Red Hat's industry-leading Kubernetes and Linux open source technologies. Since Reist and its customers liked the Red Hat products already in place, the company turned to Red Hat OpenShift for its on premise application platform. "The openness of OpenShift would allow us to implement best-practice security measures," said Siegrist. "And we liked the OpenShift tools as they would give us a quick start on a single platform. OpenShift really is a good, stable application platform."

To get started quickly, Reist engaged Red Hat partner Puzzle ITC for 2 days of consultancy each month. "Puzzle ITC collaborated closely with our IT team who, although being well-versed in our previous Red Hat technologies, appreciated learning OpenShift best practices." The Red Hat CCSP Program provided access to OpenShift online training for Reist's core OpenShift team, which is also currently working towards certification, with 2 administrators certified to date.

Working closely with Reist's networking, Linux, and storage teams, the engineering team initially implemented OpenShift on bare metal in its datacenters. At Reist, OpenShift integrates with critical infrastructure services; for example, the NetApp Trident controller integrates directly with OpenShift, allowing for interoperable compatibility with NetApp storage.

Reist began by containerizing infrastructure services, both internal infrastructure services and infrastructure provided to customers as VMs or on dedicated servers. "We started by containerizing mail servers, proxy servers, web servers, and DNS servers," said Siegrist. "We re-engineered, containerized, and then migrated them to OpenShift."

With OpenShift on bare metal, it has been easier for Reist to implement OpenShift Virtualization, an operator included with any OpenShift subscription. "You just install OpenShift Virtualization on top of OpenShift on bare metal, and you're ready to use OpenShift as a VM platform," said Siegrist.

The migration from the legacy VMs to OpenShift Virtualization has a fixed deadline and must be completed within 6 months. Reist is, at the same time, moving its OpenShift clusters to a new datacenter. "Red Hat's migration toolkit for virtualization is working really well for the migration of our VMs to OpenShift," said Siegrist; the included operator allows for consistent, at-scale migration of VMs to OpenShift Virtualization in a few steps.

The new platform and DevOps approach have brought Reist's IT teams together. Working in isolated team structures is a thing of the past. For instance, developers working on MAYI ID© now collaborate more closely with the operational teams. "OpenShift Virtualization provides a shared platform for our different technologies and is increasing collaboration internally," said Siegrist. "I expect the collaboration to intensify once we have migrated all our VMs to OpenShift and started containerizing more and more applications."

Cutting costs by running VMs and containers on a common platform

Halved VM licensing costs by moving to Red Hat OpenShift Virtualization

From a virtualization perspective, migrating from the legacy VM environment to OpenShift has halved Reist's licensing costs. "Moving our Red Hat Enterprise Linux VMs to OpenShift Virtualization means we no longer need to buy runtime licenses," said Siegrist. "Moving Red Hat's SSO technology or the Red Hat build of KeyCloak to OpenShift Virtualization will significantly reduce our infrastructure costs."

In addition, migrating VMs to OpenShift Virtualization frees up the legacy servers for Reist to reuse as worker nodes in the OpenShift cluster, extending the value of previous hardware investments. "Overall, an OpenShift worker node is much more economical than what we had before," said Siegrist.

Unified VM and container worlds

Reist now has a common platform for its VMs and containers. "Red Hat OpenShift Virtualization platform brings together the benefits of the VM and container worlds," said Siegrist. "We can build images and make templates for VMs while also using continuous integration and continuous delivery (CI/CD) processes with Argo CD or OpenShift GitOps operator, for instance."

Linux operators are actively using synergies for proxy servers, amongst other things, while also making manual processes a thing of the past. "OpenShift Virtualization allows our Linux team to rapidly deploy new proxy configurations and align them with our monitoring. The tight integration between the VM and container worlds, bringing the networking stack and routing together in one infrastructure, makes sure we have a streamlined process."

Strengthened security with version control and a single source of truth

Using GitOps to create repeatable processes for managing OpenShift clusters provides version control and a single source of truth for increased security. "The Red Hat OpenShift GitOps operator ensures our infrastructure stays true to the state defined by the DevOps team," said Siegrist. "A GitOps approach also makes processes more efficient."

Storing and versioning the declarative code that defines the infrastructure in Git helps standardization, traceability, and visibility. The team can preview changes, detect configuration drifts, and take action. They can also capture any changes through Git history.

Prevented code releases from interrupting end-user experience

Moving to a containerized and integrated world with CI/CD processes means Reist can roll out releases without interrupting the services it provides to customers, which is a huge benefit. Developers previously employed manual processes when releasing code for a customer or the shared platform. They would have to stop services, replace components, restart services, and do regression testing, leading to significant downtime for customers.

"For customers that need our solution on premise or hosted in their datacenter, such as private banks or international customers with specific governance requirements, the transition to OpenShift was particularly essential," said Siegrist. "With OpenShift, we can create Helm charts and ensure an identical deployment with no interruption—whether in our datacenter, theirs, or even in an Azure cloud—and still have the same deployment. This was not possible before."

Building on success with advanced capabilities

Building on Reist's successes with OpenShift Virtualization, the company is now offering customers new services, such as namespace-as-a-Service (NSaaS). "We create an OpenShift namespace to provide an OpenShift environment for our customers to manage themselves," said Siegrist. "And if they require assistance, we can offer consulting services."

Reist has also recently upgraded to Red Hat OpenShift Platform Plus to take advantage of included feature Red Hat Advanced Cluster Security for Kubernetes in the most cost-effective way for its vulnerability scanning capabilities. "Vulnerability scanning is essential for ISO20000 and ISO27000 certification," said Siegrist. "Our new container world has completely new requirements for vulnerability management. Red Hat Advanced Cluster Security will provide that for us."

The vulnerability management capabilities in Red Hat Advanced Cluster Security allow companies to identify and prioritize vulnerabilities for quick remediation. Reist is also investigating standardizing and centralizing its container registry using Red Hat Quay – the scalable central registry that is also included with OpenShift Platform Plus.

"Our customers are increasingly looking to adopt modern technologies such as microservices and containers," said Siegrist. "We look forward to continuing our modernization journey with Red Hat so we can in turn support our customers on their modernization journeys."

About Puzzle ITC GmbH

Puzzle ITC focuses on open standards and technologies around Java, Ruby, the free operating system, Linux, and the container orchestration system, Kubernetes. They form the core of the services offered and range from the agile development of cloud-native software to the CI/CD pipelines used in the DevOps process and the automation of IT infrastructures.

About Reist Telecom AG

Reist Telecom is a private telecommunications and information technology company that provides flexible solutions for its customers. The company offers a range of services, including secure Cloud solutions, MAYI ID© – the Identity and Access Management product suite – as well as Network and Cybersecurity services.

North America
1 888 REDHAT1
www.redhat.com

Europe, Middle East, and Africa
00800 7334 2835
europe@redhat.com

Asia Pacific
+65 6490 4200
apac@redhat.com

Latin America
+54 11 4329 7300
info-latam@redhat.com

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