

Studiosus adopts agile SAP-integrated microservices, replacing COBOL

Studiosus



Each year, Studiosus Reisen München GmbH helps normally around 100,000 people visit new locations and experience different cultures worldwide. Like many organizations in the tourism industry, Studiosus relied on decades-old technology. Its monolithic COBOL system was difficult to maintain without affecting operations—and COBOL development talent was both rare and costly. Modernizing its IT infrastructure using Red Hat® Enterprise Linux® and Red Hat OpenShift® has helped the company adopt a modular, microservices-based architecture for its IT systems. Studiosus can now launch new services to market—or make changes to existing services—significantly faster. In addition to migrating its legacy enterprise resource planning (ERP) system, Studiosus uses this new environment and approach to support a modern reservation system that simplifies complex processes.

Question: How have the business and technical environment changed for Studiosus?

Dr. Frank Miedreich, ITK Department Head, Studiosus Reisen München GmbH:

Flight reservations were easy 15 years ago. You went to the airport, bought a ticket, and that was it. Nowadays, flight reservations, especially for groups, have become a very complex task. You must reserve a seat in one of your plane's 10-15 service classes. Also, a difficult three years has left a lot of tourism companies in a serious financial situation, making strategic planning more important than ever.

People usually plan their vacation at least six months in advance. Thus, we need business intelligence to ensure we have the right product in the market when people start planning their holidays.

Question: How has adopting a modern IT infrastructure helped?

Miedreich: The information we need about our guests comes from various computer reservation systems, and the integrations with those systems are constantly changing. But our legacy COBOL-based enterprise resource planning (ERP) system is old, homemade, and monolithic. Any changes can introduce regressions that can have a huge impact on the business. Added to that, COBOL developers are difficult to find and quite expensive. Thus, we needed a migration path away from the COBOL monolith to where we could apply modern software development technologies and methodologies.

We decided to build an architecture that would allow us to modularize and replace components with more advanced technologies. A containerized approach will enable us to work on several projects in parallel. We can improve our system to meet business needs without a change in one place impacting the business in any other 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.](#)

Question: Why open source?

Miedreich: We decided on an open source approach because of the availability of experienced personnel. We first adopted Oracle Linux but found some licensing problems. We then tried CentOS. I was reasonably happy but quickly discovered that we needed additional support. I met some Red Hat people at a DevOps event, and they suggested [I try out the free Red Hat Enterprise Linux developer edition](#). Moving from CentOS to Red Hat Enterprise Linux was eye-opening. Software installation and updates were hassle-free. Everything was available. Everything just worked. It was fun! Our Red Hat Enterprise Linux environment currently runs on-premise in a cluster of virtual machines (VMs) located across three IT server rooms.

Question: What are the benefits of adopting an enterprise Kubernetes solution?

Miedreich: Adopting Red Hat Enterprise Linux made me appreciate the advantages of a fully maintained enterprise solution. Standard Docker Kubernetes environments do work, but maintenance would have required extra on-site personnel for support, maintenance, and updates. Red Hat enterprise solutions are tried and tested, stable, and reliable—reducing the personnel we need to run our environments. The savings we make outweigh the subscription fees.

And with IT software and cyber security becoming a more important issue, having built-in security and a strong vendor is a huge advantage. In a homemade environment, you run a lot of risks because you can never be sure you're running a standardized, stable environment. But with Red Hat, security is built in, reducing the effort you need to put in.

Question: How else are your Red Hat technologies helping the business?

Miedreich: We can run updates regularly and during normal operating hours without any business impact or downtime. The business doesn't even notice that we're running an update. In terms of time to market, a microservice architecture and supported environment mean our developers can focus on software development. The environment is simply there and stable, which allows us to develop at speed.

Also, Red Hat OpenShift supports modern methodologies. When we developed the flight reservation system, we were able to use an agile Scrum development methodology. We delivered a functional system within about six to nine months when our previous projects of much lesser scope would have taken us more than a year.

Question: How have your partner ConSol and Red Hat supported you?

Miedreich: Studiosus came from a monolithic approach. We had no idea about microservices or Kubernetes. We had no idea about DevOps. Once we got the development part working, operations were still giving us a lot of headaches. So, we handed the day-to-day maintenance of Red Hat OpenShift to ConSol to provide support, know-how, and personnel as needed. Having somebody who's specialized and experienced allowed my team to deliver business value instead of running the environment. ConSol also helped us to architect and design our Red Hat OpenShift environment. And they have provided us with new ideas on migrating more services to Red Hat OpenShift. For example, we were running a MongoDB database for our new ERP environment on a dedicated server. ConSol helped us migrate it and other services to Red Hat OpenShift.

Red Hat support has been helpful. Whenever I have encountered issues, they have provided ideas and solutions—even if the issue wasn't specifically related to Red Hat technologies. And from all the meetings I've had with Red Hat people, they're fun to work with too.

Question: What were the next steps on your Red Hat journey?

Miedreich: As part of modularizing and replacing parts of the legacy ERP system, we moved the COBOL finance component to an SAP Finance solution specifically for tourism. We use the SAP HANA® application server, which runs on Red Hat Enterprise Linux for SAP Solutions. We built our new Java™-based flight reservation system and deployed it in Red Hat OpenShift using REST-based communications between our legacy ERP and reservation systems. We're also replacing our legacy COBOL ERP system with services running on Red Hat OpenShift in our Studiosus Information System. Going forward, all Java-based services and all new developments within our ERP system will be implemented as services and deployed on our Red Hat OpenShift cluster.

Getting cloud-ready was one of the goals of adopting a microservice architecture based on Red Hat OpenShift. We have deployed a Red Hat Enterprise Linux cluster on Google Cloud Platform (GCP), and our web hosting environment will be the first system to be migrated. Next will be Backup-as-a-Service, then the ERP and the SAP systems. We will virtualize the Red Hat Enterprise Linux environment, then use a lift and shift approach to move it and those systems from on-premise to GCP.

We'll start by migrating our quality assurance (QA) environment, then our development environment, and then our production environment. Since we only need the QA and development environments when we have active development, we can run those even less than normal business hours. That's much more cost-effective than supporting on-premise hardware.

With a solid, stable, and maintained foundation for our services that work, we can focus on how we implement services for the business. The COBOL monolith was very bad at providing data for business intelligence, so we're integrating our new systems built on Red Hat technologies to provide real-time information for business intelligence. A clear and continuously updated picture of the current state of the business is essential for our strategic planning—and our future.

About BPG-IT

Founded in 1954, Studiosus Reisen is a German family owned tour operator based in Munich. The Studiosus Group offers travel experiences to more than 120 countries worldwide, enabling tourists to get to know other people and cultures. It employs around 285 people in Munich, and its trips are led by 560 tour guides, giving around 100,000 people the opportunity to visit other parts of the world each year.



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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