Washington Health Benefit Exchange supports 160% growth with Red Hat and Deloitte

washington healthplanfinder
powered by the Washington Health Benefit Exchange

Software

Red Hat® OpenShift®

Red Hat Integration

Red Hat 3scale
API Management

Red Hat Fuse

Red Hat AMQ

Red Hat Ansible®
Automation Platform

Services

Red Hat Consulting

Red Hat Training

Partner

Deloitte

Washington Health Benefit Exchange operates Healthplanfinder, an online insurance marketplace used by one in four state residents to find, compare, and enroll in coverage. To accommodate massive, rapid growth during the COVID-19 pandemic, the organization sought to replace its complex existing infrastructure with an integrated, microservices-based architecture. Working with Red Hat and Deloitte, the organization adopted Red Hat OpenShift to take advantage of iterative scalability on its private cloud and Red Hat Integration to connect its APIs between teams and with third-party partners. As a result, Washington Health Benefit Exchange improved virtual resource delivery times from hours to seconds and API response times by 20%.

Olympia, Washington, United States ●

Headquarters

Healthcare

120 employees

Benefits

▸ Reduced virtual machine (VM) provisioning from hours to seconds

▸ Improved transactions times by 20% with enhanced integration and faster API responses

▸ Added more than 57,000 new users—while eliminating downtime and outages

"Previously, deploying a server took over a day, because we had to get new hardware shipped and installed in our datacenter, then log on remotely to complete provisioning. Now, with Red Hat OpenShift, we can spin up services and applications in our private cloud in seconds."

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Brian Kent
Cloud Infrastructure Manager,
Washington Health Benefit Exchange

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Helping citizens access health insurance by modernizing a decade of IT

Created in 2011, Washington Health Benefit Exchange operates Washington Healthplanfinder, an online marketplace that lets state residents find, compare, and enroll in health insurance, dental insurance, and Medicaid plans. One in four Washington residents now use the online portal to compare premiums and enroll in plans.

When special enrollment periods during the COVID-19 pandemic led to a rapid increase in traffic, Washington Health Benefit Exchange realized the need to update its back-end infrastructure to continue providing an efficient, transparent experience. Its on-premise server technology environment and related software, established in 2012, was approaching end of support. Additionally, the organization needed to improve integration to support a variety of back-end and user-facing processes, such as applications, identity verification, and eligibility results.

"The more interfaces and partners we have, the more interactions we need to manage and secure," said Ashley D'Souza, Senior Manager at Deloitte, the Washington Health Benefit Exchange's technology partner. "We have to be able to connect to mainframes built in the 1990s, tools from the late 2010s, or software deployed as recently as two years ago."

Washington Health Benefit Exchange also needed to support this integrated, user-friendly experience at scale—without planned or unexpected downtime. "We decided to look for a modern container platform that could provide low-cost scalability and higher uptime to help us get residents the coverage they need, when they need it," said Brian Kent, Cloud Infrastructure Manager, Washington Health Benefit Exchange.

Establishing a container-based foundation for rapid growth with Red Hat

After assessing possible solutions and vendors with a focus on open source technology, Washington Health Benefit Exchange and Deloitte decided to adopt Red Hat Integration running on Red Hat OpenShift as the new foundation for Healthplanfinder.

"Open source is a great opportunity to benefit from a broad community of users contributing to projects, supporting the technology across architectures and infrastructures and vendors. It's an approach you wouldn't see with a closed platform," said Kent.

Red Hat Integration is a set of technologies for application programming interface (API) connectivity and management, with real-time messaging to integrate existing and new applications, data, processes, and policies. Red Hat 3scale API Management provides a gateway for sharing, controlling, and securing APIs across organizations and with third-party partners. Red Hat Fuse supports distributed, universal integration to connect everything—from APIs and legacy systems to partner networks and more. The organization also used Red Hat AMQ, a lightweight messaging platform for real-time integration, and Red Hat Ansible Automation Platform, an agentless solution for automating repetitive processes with human-readable playbooks.

Washington Health Benefit Exchange runs these solutions on Red Hat OpenShift, deployed in its on-premise Microsoft Azure private cloud. Red Hat's enterprise Kubernetes container platform delivers robust automation and security for iterative development in a microservices-based architecture.

The organization worked closely with Deloitte and Red Hat Consulting to deploy the platform, successfully migrating 75 APIs to 3scale API Management in just 100 days, followed by all system interfaces in just a few months. Its teams also engaged Red Hat Training to build their skills for transitioning from traditional servers to Red Hat OpenShift containers.

"Washington Health Benefit Exchange, Red Hat, and Deloitte have collaborated to build something that was just a vision a few months ago and deliver immediate benefits to internal teams and Washington's residents."

Ashley D'Souza
Senior Manager, Deloitte

"Red Hat's experts helped us set up the right foundation for success," said Jeff Oster, Senior Cloud Engineer, Washington Health Benefit Exchange. "The software we were using before was niche, so it was hard to get trained on it and support it. With Red Hat Training, our teams who were new to containers were able to quickly learn the basics and best practices for day-to-day operations."

Its success using enterprise open source technology to support millions of Healthplanfinder users earned Washington Health Benefit Exchange recognition as a winner of the 2022 Red Hat Innovation Awards.

Delivering critical insurance information to more Washington residents, faster

Added more than 57,000 new users—while eliminating downtime and outages

With a scalable, modular infrastructure and better API connectivity and control, Washington Health Benefit Exchange has created a more valuable, reliable experience for more than 2 million residents using Healthplanfinder to find critical insurance coverage.

"During the special enrollment period from February to August 2021, we were able to enroll 57,000 residents—a 160% increase compared to 2019 and a 117% increase compared to 2020," said D'Souza. "When you consider that almost half of Healthplanfinder users pay less than $100 for coverage, the impact of getting affordable care to more people during COVID-19 can't be overemphasized."

Despite this massive, rapid growth, the organization has eliminated maintenance downtime and outages for its website.

"It's critical that we keep Healthplanfinder up and running so residents can sign up, check their premiums, and get support through our call center," said Oster. "Adopting a container-based architecture with Red Hat OpenShift means we can complete maintenance like updates and patching without our customers noticing, because we can simply move to a different node while we take something offline to work on."

Simplified application development and management

With a modular container environment designed for efficient, self-service development work, Washington Health Benefit Exchange can quickly build, test, deploy, and manage new applications and features.

"Previously, deploying a server took over a day, because we had to get new hardware shipped and installed in our datacenter, then log on remotely to complete provisioning," said Kent. "Now, with Red Hat OpenShift, we can spin up services and applications in our private cloud in seconds."

Once resources are provisioned, dividing the monolithic Healthplanfinder into microservices lets development teams work on their separate features or components and release code in parallel, without affecting other teams' work. The Red Hat OpenShift Service Mesh component links these microservices through a distributed architecture for greater cross-team visibility. After services are deployed to production, the organization can also more easily scale to meet shifting demands—for example, at the end of the annual insurance enrollment period.

"Better insight into performance and operations through the OpenShift web console means a lot fewer people are needed to monitor our production system now, and minimal effort is needed to proactively scale resources up or down to respond to changing traffic," said D'Souza.

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Improved API response times by 20% with enhanced integration

Washington Health Benefit Exchange has significantly improved its integration capabilities between its various technologies and systems and with third-party partners, such as insurance providers.

"It's much easier and faster for us to connect with a new partner using API-based integration through Red Hat 3scale API Management and Red Hat Fuse. They give us the capacity to integrate more partners and offer more options to Washington's residents," said D'Souza. "We see an average 50% improvement in production API response times, which translates to 20% faster load times or transaction times if you're a resident using our website."

Finding opportunities for ongoing improvement with cloud and integration

After its initial success with Red Hat integration and container technologies, Washington Health Benefit Exchange continues to explore new ways to enhance its back-end and customer-facing system performance. The organization plans to adopt Microsoft Azure Red Hat OpenShift to benefit from a jointly managed and engineered cloud environment, as well as converting more of its applications and systems to microservices with 3scale API Management and Red Hat Fuse.

"We knew we needed the right tools, something that could be with us five or ten years from now and still delivering benefits, and that's something Red Hat has provided," said D'Souza. "The Washington Health Benefit Exchange, Red Hat, and Deloitte have collaborated to build something that was just a vision a few months ago and deliver immediate benefits to internal teams and Washington's residents."

About the Washington Health Benefit Exchange

The Washington Health Benefit Exchange was created in state statute in 2011 as a public-private partnership. The Exchange is responsible for the operation of Washington Healthplanfinder, an easily accessible, online marketplace for individuals and families to find, compare and enroll in Qualified Health Plans, Qualified Dental Plans and Washington Apple Health (Medicaid).
https://www.wahbexchange.org/

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

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