

# INTERMOUNTAIN HEALTHCARE SUPPORTS NO-HARM CARE WITH EFFICIENT I.T. FROM RED HAT



## SOFTWARE AND SERVICES

Red Hat® CloudForms

Red Hat Virtualization

Red Hat Ansible® Automation

Red Hat OpenShift Container Platform

Red Hat Satellite

Red Hat JBoss® AMQ

Red Hat Enterprise Linux®

Red Hat Consulting

## HARDWARE

Cisco UCS B200 M4 Blade Server

Dell PowerEdge R630 High-Density and Performance 2S/1U Rack Server

Intel Xeon E5 v3 processors



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Intermountain Healthcare, a not-for-profit health system, operates with a zero-harm policy that focuses on doing no harm to patients, whether physical, emotional, or financial. To continue to support this mission, the group sought to upgrade its aging IT environment with help from a trusted partner, Red Hat. With new software—including Red Hat Virtualization, Red Hat CloudForms, and Red Hat Ansible Automation—supported by Red Hat’s expert consultants, Intermountain optimized and automated its IT infrastructure and reduced costs. As a result, the group’s teams can better collaborate to quickly create and launch innovative patient services.



## HEALTHCARE INDUSTRY

**AROUND 1,400** PHYSICIANS  
AT **22** HOSPITALS AND 185+  
CLINICS

## BENEFITS

- Reduced IT deployment time from 2-3 weeks to about four hours and VM provisioning time from three days to just 20 minutes
- Cut IT costs by migrating to enterprise open source software from Red Hat and industry-standard Intel hardware
- Improved cross-team DevOps collaboration with flexible IT environments and enhanced access control
- Gained access to expert on-site guidance and 24x7 technical support

*“We have been incredibly successful because of the support we’ve gotten through Red Hat. We don’t feel like we’re just being sold products.”*

**PAUL STRADER**  
SUPERVISOR, OPEN SYSTEM ENGINEERING  
INTERMOUNTAIN HEALTHCARE

## SUPPORTING INNOVATIVE PATIENT CARE

Based in Salt Lake City, Utah, Intermountain Healthcare is a not-for-profit health system that offers a broad range of services, including hospitals, clinics, and health insurance plans. The group operates with a zero-harm policy towards patients, whether physical, emotional, or financial. Its IT teams support this mission by providing cost-effective, innovative capabilities to the group's doctors and other patient-facing staff.

"The community sees Intermountain as a partner, someone they rely on for the best healthcare at an appropriate cost," said Bret Lawson, director of infrastructure and operations at Intermountain Healthcare.

However, in the group's proprietary IT environment, making changes was a complex process, and provisioning delays hindered development work. In addition, using proprietary hardware and software added licensing and other IT costs.

As a result, when its virtualization and server provisioning licensing agreement was due to end, Intermountain sought a more agile, flexible solution that would help simplify their IT environment and improve costs.

## MIGRATING TO OPEN SOURCE

Intermountain turned to a long-time technology partner: Red Hat. Intermountain has used Red Hat Enterprise Linux on Intel-based servers as the foundation of its IT environment for over 10 years.

"Our work is critical to people's safety and well-being, so we need stable technology from a partner we can trust," said Paul Strader, supervisor of open system engineering at Intermountain. "When we did a proof of concept against proprietary solutions, we found Red Hat CloudForms to be a lot more flexible. In fact, we gained the same functionality as our existing proprietary software, which took a year to get running properly, in just three weeks."

After working collaboratively with Red Hat Consulting to design and deploy a new environment, Intermountain migrated to Red Hat Virtualization and Red Hat CloudForms, a multicloud management platform, as well as Red Hat Satellite for patch management. The group also deployed Red Hat OpenShift Container Platform to streamline its patient portal and Red Hat JBoss AMQ to simplify its messaging interfaces. The group uses Red Hat Ansible Automation—including Red Hat Ansible Engine and Red Hat Ansible Tower—to configure and manage its Linux and OpenShift environments.

To cost-effectively support this software, the group switched from its proprietary hardware to cost-effective Intel-based servers, processors, and systems.

Intermountain has now migrated a third of its IT infrastructure to Red Hat Virtualization, provisioned and managed via CloudForms. In addition, several components of the company's MyHealth patient app—a solution that offers access to lab results and medical records—have been migrated to OpenShift, with others planned for future migration.

## BUILDING AGILE, COST-EFFECTIVE I.T.

### MORE EFFICIENT DEVELOPMENT, DEPLOYMENT, AND MANAGEMENT

With agile, easy-to-use technology from Red Hat, Intermountain's teams can provision their own virtual machines (VMs), and container technology has reduced the need for time-consuming custom deployments. As a result, deployment time for new workloads has decreased from 2-3 weeks to about four hours, and VM provisioning time has improved from three days to just 20 minutes.

*“Our Intel and Red Hat solution has helped us reduce costs while still getting the availability, power, and performance that’s required in a clinical environment.”*

**BRET LAWSON**

DIRECTOR, INFRASTRUCTURE AND  
OPERATIONS, INTERMOUNTAIN  
HEALTHCARE

In addition, Red Hat Ansible Engine integration with CloudForms has helped Intermountain’s IT teams automate management and adhere to its zero-harm policy by mitigating human errors that might affect patient services.

“OpenShift, Ansible Automation, and CloudForms give more control to our developers, which helps them work more efficiently to create better patient health solutions,” said Gabriel Floyd, enterprise middleware manager at Intermountain Healthcare. “For example, by separately deploying the components of our MyHealth application in OpenShift, we can better isolate a component to make changes and scale as needed.”

**LOWER COSTS—FOR I.T. AND PATIENTS**

By migrating from proprietary technology to Red Hat’s enterprise open source software running on industry-standard Intel servers, Intermountain has drastically reduced its IT costs—including licensing and staffing costs.

“With Red Hat CloudForms, we’re using automation to manage entire environments without having to hire a whole workforce,” said Lawson. “And our Intel and Red Hat solution has helped us reduce costs while still getting the required availability, power, and performance.”

Red Hat’s product subscriptions include access to expert support, as well as a customer portal that offers articles, documentation, and other content. Working with Red Hat Consulting has also helped Intermountain take full advantage of its investment by providing hands-on guidance and expert troubleshooting during migration.

As a result, Intermountain can continue to maintain or decrease the cost of its services. “Products that are highly reliable at appropriate costs help us reduce healthcare costs, which in turn helps us provide more healthcare,” said Strader.

**SUPPORT FOR COLLABORATIVE DEVOPS WORK**

Intermountain’s Red Hat environment better supports its open culture and cross-team collaboration. With a DevOps approach, developers receive the resources they need, while operations can ensure those resources are secure and compliant with regulations and policies.

Ansible Tower’s multitenant environment lets Intermountain’s core IT team give other internal teams access to functions without affecting the group’s entire system, and its low-code method lets staff without programming expertise shape IT automation and management policies. The intuitive interface of CloudForms also simplifies collaborative management. “Tools like Ansible Automation, CloudForms, and OpenShift help operations be more helpful to getting software delivered,” said Richins.

**ACCESS TO EXPERT SUPPORT AND SERVICES**

As partners since 2009, Intermountain has formed a trusted relationship with Red Hat to not only gain enterprise technology, but also expert support and guidance. “We have been incredibly successful because of the support we’ve gotten through Red Hat,” said Strader. “We don’t feel like we’re just being sold products.”

With strategic guidance from Red Hat Consulting, as well as ongoing assistance and helpful resources from Red Hat Global Support Services, Intermountain can ensure its IT environment and tools support its zero-harm policy. “Our focus is on doing no harm to our patients, even indirectly. Software solutions that are robust and reliable are important to that mission,” said Lawson.

**CUSTOMER CASE STUDY** Intermountain Healthcare supports no-harm care with efficient I.T. from Red Hat**SHAPING THE FUTURE OF HEALTHCARE**

To continue to improve its patient services, Intermountain plans to migrate the majority of its IT infrastructure to Red Hat Virtualization. In addition, the group plans to work with Red Hat Consulting to automate its networking environment using Red Hat Ansible Engine Networking Add-On.

The group is also considering using Red Hat OpenStack® Platform—already included in its Red Hat Cloud Infrastructure subscription—for private cloud, moving its Oracle databases from UNIX to Red Hat Enterprise Linux on Intel hardware, and extending its Red Hat OpenShift application infrastructure.

“We’re working on virtual online hospitals and a lot of telemedicine,” said Lawson. “Exciting things are coming for healthcare IT, and Red Hat’s a part of that.”

**ABOUT INTERMOUNTAIN HEALTHCARE**

Intermountain Healthcare is a not-for-profit health system based in Salt Lake City, Utah, with 22 hospitals, a broad range of clinics and services, about 1,400 employed primary care and secondary care physicians at more than 185 clinics in the Intermountain Medical Group, and health insurance plans from SelectHealth.



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