

# University Health Network improves care provider and researcher data access



Toronto-based University Health Network (UHN) is the largest hospital-based research center in Canada. To securely and efficiently integrate more than 170 platforms and systems across its programs and facilities, UHN sought to adopt a highly available, scalable integration solution. With Red Hat Fuse, the organization has improved data collection, delivery, and scalability, with less server downtime and integration management effort needed.

**Software**  
Red Hat® Fuse

**Healthcare**



**15** programs and hospitals

**Benefits**

- ▶ Enhanced data collection and delivery
- ▶ Reduced server downtime with self-managed failover
- ▶ Improved scalability
- ▶ Reduced integration management time

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**Leon Goonaratne**  
Senior Director of IT,  
University Healthcare Network (UHN)

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—  
**Marco Pagura**

Technical Specialist,

University Healthcare Network (UHN)

## Connecting IT systems in a complex healthcare environment

In healthcare organizations, IT tasks can be especially complex: staff work with many different departments and facilities, and securing patient information and other sensitive data is critical.

Toronto’s University Health Network (UHN) is a healthcare and medical research organization with a mission to transform lives and communities through excellence in care, discovery, and learning. UHN operates the largest hospital-based research program in Canada. When its legacy IT systems neared end of life, UHN saw an opportunity to improve integration and data accessibility across its five major facilities—for example, by ensuring that when a patient moved across departments or facilities, their relevant medical data was available to authorized care providers, without exposing that data to unapproved employees or staff.

“The systems managing aspects of our work like admissions, health records, and research aren’t designed to interact with each other, so we had to maintain a team to manually handle that interfacing,” said Leon Goonaratne, Senior Director of IT at UHN. “We wanted to mitigate that work with a modern, efficient integration solution that would help us serve UHN’s clinicians, researchers, and ultimately patients by managing the data coming from various departments and facilities quickly and accurately.”

## Adopting a universal integration platform from Red Hat

UHN sought an integration platform that was supported by an active open source community to benefit from the latest technology innovation. The organization also wanted a solution that offered high availability and automation capabilities to avoid manual redeployment in the case of server outages. Additionally, as its back-end systems use the Java™ programming language, UHN preferred a Java-compatible solution.

After evaluating several options, UHN decided to adopt Red Hat Fuse, a distributed integration platform that connects everything from legacy systems and application programming interfaces (APIs) to Internet of Things (IoT) devices and more.

“Red Hat Fuse offers the high availability and open source innovation we need to support our critical research and healthcare operations,” said Marco Pagura, Technical Specialist, UHN.

## Improving data access at scale to support critical healthcare services

### Enhanced data collection and delivery

With a centralized, container-based integration solution, UHN’s application developers and business users can independently develop connected solutions in the environment of their choosing. Red Hat Fuse integrates the disparate environments and systems to consolidate, protect, and transport data to support critical healthcare and research needs.

“In many cases an important diagnosis is reliant on our work of moving data smoothly within or between systems,” said Goonaratne. “With Red Hat Fuse, we’re confident data is going where it needs to go. It handles all of these moving parts effortlessly.”

### **Reduced server downtime**

UHN has used Red Hat Fuse’s self-management capabilities to reduce downtime compared to its previous integration approach, helping ensure that critical data can be delivered to support time-sensitive patient care and health research.

“If one of our servers goes down, Red Hat Fuse will pick up all of the processes that failed on the down server and shift them to the functional server,” said Pagura. “That failover capability gives us more confidence that we can keep operational when there’s a crisis.”

### **Improved scalability**

Responding quickly to changing demand is critical to healthcare operations. With Red Hat Fuse, UHN can customize its platform to match the scope of work—an especially important capability during the Covid-19 pandemic, where the team had to quickly increase capacity and make adjustments for department clients that were creating lower amounts of data than normal.

“We had just two servers, which limited our ability to scale as needed with our old system,” said Pagura. “Now, we have high availability and can respond to urgent capacity needs.”

### **Reduced integration management time**

Adopting Red Hat Fuse also helps UHN’s IT team work more efficiently, with fewer staff hours needed to manage the platform than its previous integration approach. For example, the team can create new integrations between its Apache Maven Archetypes templates and Red Hat Fuse in a day, rather than a week.

### **Looking to a hybrid future**

After enhancing its integration approach with Red Hat Fuse, UHN is now considering adopting Red Hat OpenShift® to support virtual server creation. Due to strict security requirements for patient information, UHN has maintained on-premise servers, but the increasing reliability and security of cloud computing may create new opportunities for a hybrid approach.

The organization is also considering future adoption of artificial intelligence (AI) tools to further optimize and speed its work.

“So far, the success of our digital transformation efforts with Red Hat has made us very optimistic about our work ahead,” said Goonaratne. “We can now better serve our clients and continue to focus on our long-term goals.”

## About UHN

University Health Network is a public research and teaching hospital network in Toronto, Ontario, Canada. It is also the largest health research organization in North America and ranks first in Canada for total research funding. <https://www.uhn.ca/>



## About Red Hat Innovators in the Open

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