

# Guardant Health Chooses Rafay for Kubernetes Operations for Mission-Critical Analytics

## Customer Profile

Guardant Health is a leading precision oncology company dedicated to helping conquer cancer through proprietary blood tests, vast data sets, and advanced analytics. The company's high-performance computing (HPC) solution, which includes a supercomputer with hundreds of nodes and dozens of petabytes of storage, analyzes biological samples from clinics and laboratories. Since the bioinformatics pipeline running on the HPC infrastructure needed a modern architecture and orchestration layer, the company chose containerization and Kubernetes as critical components of its technology stack.

## Guardant Health's Mission to Conquer Cancer with Data Requires "No Downtime Architecture" For Analytics

Guardant Health's analytics services combine healthcare research and clinical data with developers' algorithms and have the most stringent internal SLA with a 20-minute response time and issue triage within an hour. Given the critical nature of the team's work, where doctors and patients are waiting for time-sensitive results, it is imperative that the HPC infrastructure never experience an outage, and must operate in a 'No Downtime' mode.

Previously, Guardant Health used a DIY open-source Kubernetes management infrastructure on bare metal, but it was difficult to maintain and frequently went down. Furthermore, applications were slow to deploy and not easily portable across the environment. The team needed an enterprise-grade Kubernetes operations that was reliable, low-maintenance, and allowed for fast application deployment and portability, but not at the cost of security. Finding the right Kubernetes skillset was difficult and expensive, further compounding the issues Guardant Health experienced.



## KEY FEATURES & BENEFITS

- Accelerated deployment tested to thousands an hour
- Kubernetes management with zero downtime
- Zero-Trust security with SSO & RBAC
- Cluster Blueprints for standardized clusters
- Low total cost of ownership

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William Baird, Manager of Infrastructure Engineering, Guardant Health



**“Rafay’s thought leadership and white glove support has been fantastic, which was a big win for our team.”**

Kumud Kalia, CIO, Guardant Health

“Our team conducts research and product development on a daily basis that the medical community relies on for treating their cancer patients, and we need to ensure that the HPC system is always available. If it goes down, our mission is compromised and patient lives are affected,” said William Baird, Manager of Infrastructure Engineering at Guardant Health. “We needed to replace our homegrown Kubernetes system with a solution that was more reliable and met our strict security requirements – and do it fast.”

### **Rafay was the Only Solution that Met the Unique Needs of Guardant Health**

After evaluating several vendors, the HPC team selected Rafay, which provides Guardant Health’s Kubernetes operations infrastructure. The Rafay Kubernetes Operations Platform (KOP) supports both cloud and on-premises deployments.

With the Rafay KOP, Guardant Health’s HPC team was able to rapidly deploy an enterprise-grade Kubernetes operations practice to support their modern applications. This allows for the rapid deployment of applications — sometimes a dozen or more times a day, tested to thousands an hour — which can scale up and down as needed to meet changing business demands. As the Rafay KOP is built with zero-trust security, Guardant Health easily secures access with single sign-on and role-based access control to the entire Kubernetes infrastructure while automatically auditing all user actions for security and regulatory compliance. And with zero

downtime, it enables Guardant Health to continuously run its mission-critical oncology R&D and analytics.

Kumud Kalia, CIO at Guardant Health stated, “Rafay’s thought leadership and white glove support has been fantastic, which was a big win for our team.”

### **Rafay Combines Reliability and Security with Management Simplicity**

Since deploying Rafay’s KOP, there have been no issues with reliability, and applications are portable as needed. Rafay’s cluster blueprints help internal teams standardize clusters across the company and deploy applications faster. Additionally, Rafay enables Guardant Health’s developers to quickly build, test and deploy applications, supporting the development team’s robust QA and production pipelines. The organization’s Kubernetes operations practice now only requires a fraction of the time and resources to operate and maintain, allowing the Guardant Health team to focus on their innovation and not on their Kubernetes infrastructure.

“Rafay provides a modern Kubernetes operations that helps Guardant Health operate continuously and be prepared for the future,” said Baird. “Our team now rarely receives alerts for issues with our Kubernetes Infrastructure. That’s a good thing and allows us to focus squarely on serving the needs of our patients and our longer term vision of finding cancer earlier and ultimately saving more lives.”



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