

Cloud Modernization / Developer Productivity / Platform Engineering

Global Healthcare Organization

Healthcare

Our client, a Global Healthcare Organization, runs a large internal platform used by development teams across the business. Part of this platform is a self-service provisioning portal that allows teams to spin up MongoDB Atlas clusters for new projects.

Over time, the platform grew to support all major cloud providers. But the original billing and invoicing system never grew with it. The portal could create clusters anywhere but the billing logic still assumed every cluster lived in one cloud. This left the organization with inaccurate chargebacks, manual reconciliations, and an invoicing process that had become slow, brittle, and costly to maintain. They turned to gravity9 to help bring clarity, accuracy, and consistency to cloud billing without disrupting a mission-critical provisioning system used across the company.



Utilized Technology Stack:

Backend: Golang

Frontend: React

Cloud Platforms: Azure, AWS, GCP

Database: MongoDB Atlas

Logging: Splunk

Review of the Challenges

Before the project, the portal could only route invoices to a small number of internal billing organizations; all tied to a single cloud provider. As the company expanded into AWS and GCP, costs became misaligned. Cloud spend was being attributed to the wrong internal groups, and discounts from other cloud providers couldn't be applied.

Another major challenge: the portal had no active test suite. Any change to billing logic carried risk.

In short, the client needed to:

- Rewrite core billing workflows
- Ensure new invoices reached the right place
- Keep future billing consistent
- Build proper QA foundations for a system that previously had none

And they needed all this done in a space where cloud billing rules, encryption settings, and service principal rotations differ across providers, making even the client's own engineers wary of touching the system.

Our Approach

We began with a discovery session that helped us map out roughly 90% of the

required scope. Follow-up workshops filled in the final details including deeper topics like encryption-at-rest, service principal rotation, and how each cloud provider interacts with Atlas behind the scenes.

From there, gravity9 took a steady, methodical approach:

- We corrected billing logic across clouds
- We built new quality-assurance scaffolding
- We updated key workflows in the provisioning engine
- We created a safe migration path for existing projects
- We delivered improvements through tightly controlled deployment windows

Because this platform supports critical development teams across the organization, every change was tested and validated to ensure uninterrupted service.

Our Solution

gravity9 focused on strengthening the portal from the inside out. Our work centered on the backend especially the two microservices responsible for Atlas provisioning with small but meaningful updates to the frontend to introduce a new Sandbox environment.



We built a clean, scalable billing workflow that correctly handles Azure, AWS, and GCP, each with their own rules and authentication models. We also designed a safe, repeatable process to migrate existing projects into the right Atlas organizations, ensuring the backend always reflects the true ownership and billing structure of each environment.

Throughout the project, we navigated strict deployment windows. Peak season meant weekday deployments were banned, and only narrow night-time weekend slots were permitted. On the first weekend, we deployed the backend changes; a ten-hour process that exposed several environment issues unrelated to our code. Despite these setbacks, we protected stability by postponing the frontend deployment.

We secured a hotfix slot the following week, applied additional adjustments, and finalized all remaining changes. The result was a clean, stable rollout of both backend and frontend improvements.

Subsequent Outcomes

The project delivered a smoother, more accurate, and more transparent billing experience for the entire platform. Teams can now provision Atlas clusters across any cloud provider with confidence that the costs are routed to the right place.

The organization now has:

- Corrected billing logic across Azure, AWS, and GCP
- A safer and more predictable provisioning workflow
- The foundations of a proper test suite
- Cleaner internal accounting and more accurate cost attribution
- A platform ready for future automation and scale

Most importantly, the work removed a long-standing operational bottleneck and restored trust in the provisioning portal as a core internal tool.

Client Feedback

The team delivered outstanding work despite a long list of challenges. They kept us informed, adapted quickly, and showed real dedication, even putting in extra hours to meet our limited deployment windows. The rollout was smooth, the platform is stable, and the team stayed on to ensure everything ran as expected. We're delighted with the result and look forward to bringing them back as soon as budget allows.

Visit our [Insights page](#) for more articles about emerging technology trends, the health industry, interviews, and more!