

Genomic analysis that once took six months now finishes in 22 hours

The Outcome

Genomic analysis that once took researchers at a leading biopharmaceutical company roughly six months now takes 22 hours. They can now request the CPU, GPU, and memory a job needs and get it on demand. A second platform puts Amazon Bedrock models directly inside the tools the company's biostatisticians already use, without disturbing the validated environments they still depend on.

How They Got There

Presidio built two elastic research platforms on AWS. Seqera Platform runs on Red Hat OpenShift Service on AWS (ROSA) with AWS Batch behind it for heavy compute and GPU work. Posit Workbench launches per-user session pods on OpenShift with Amazon Bedrock wired in. Terraform, Helm, ArgoCD, Ansible, and GitLab CI/CD define and deploy all of it.

Why it Worked

The prior constraint was never expertise, but fixed capacity. Dynamic infrastructure removed the ceiling, and automation kept the whole estate operable by a very small infrastructure team. Nodes and session pods shut down when work stops. Okta SSO and short-lived Identity Center credentials allowed new capability to arrive without loosening controls on highly sensitive data.

The Situation

Compute for the research organization was limited, so every demanding job competed for the same shared pool. Scientists had started running workloads on personal laptops to avoid the queue, and complex work like genomic data analysis stretched across months, prone to errors that forced full reruns. Validated environments also ran older software that kept the team from using recent advances like AI when an aggressive regulatory deadline made them most valuable.

The Approach

Presidio built a central Seqera Platform, a domain-specific pipeline application, so engineers and business users could run the same analysis code. OpenShift on AWS hosts the application layer, while AWS Batch provisions CPU or GPU capacity on-demand for heavy processing. Terraform, Helm, ArgoCD, and GitLab CI/CD automate releases for a small team. A second platform deployed Posit Workbench on an AWS EC2 launcher with per-user OpenShift session pods and Amazon Bedrock integration. Amazon VPC, Amazon RDS, AWS IAM Identity Center, AWS Secrets Manager, and Okta SSO support both platforms, with 24/7 Presidio Managed Services coverage.

The Result

Analysis at a scale that previously took about six months of trial, error, and rerunning now runs in 22 hours. CPU and GPU compute with robust capacity is available on request and releases itself when a job ends, so cost tracks real use instead of peak provisioning. The AI-enabled Posit Workbench environment stood up fast enough to meet the regulatory deadline while staying separated from sensitive workloads and data. The company now has a repeatable pattern for the next domain-specific application the research organization needs.

"Presidio's work in getting us set up on the Seqera platform has enabled us to run a scale of analysis that originally took ~six months of trial, error, and rerunning in 22 hours. Enormous win for the team." — Research Leader, Global Biopharmaceutical Company

22 hours

Genomic analysis that previously took ~six months of trial, error, and reruns

On-demand

GPU and high-memory capacity that scales up for a run, then releases

Zero

long-lived Amazon Bedrock credentials issued to users; access is short-lived via Identity Center