



BLUESENTRY

CASE STUDY: PHARMACEUTICAL DIMENSIONS

Pharmaceutical Dimensions (PhD) is a pharmaceutical inventory management company that assists in the efficient handling of outdated, damaged and unused pharmaceuticals in a safe, reliable and painless manner.



THE CHALLENGE

PhD had moved its website and was hosting on the AWS platform. However, the site was hosted on a single EC2 instance. This essentially limited the code update process to the same functionality that would be experienced in an on-prem environment. The instances were also running on EC2 Classic, with ports open for RDP access to whitelisted addresses. Not only did this setup place PhD at risk, in terms of security and reliability; it prohibited its ability to realize the ease of scale and additional benefits offered by AWS cloud computing. Its environment functioned in much the same way, with much the same restrictions, as the previous on-premise environment.

THE SOLUTION

Blue Sentry built a new VPC environment for PhD, utilizing best-practice security methodology based on CloudFormation utilizing public and private subnets, elastic load balancers (ELBs), NAT gateways and tier based security groups. Blue Sentry delivered a template that could spin up the entire infrastructure in multiple regions, in less than 15 minutes; in the previous manual deployment process, it could take up to 24 hours to complete a similar task. The old model was hamstrung as well by DNS propagation so there would be no guarantee that all customers were on the new code for up to 24 hours. Additionally, if code updates were made in place to the live production server there was no way to guarantee a safe and smooth rollback to the previous version of code. The new model allows for deployment of new code in less than 10-15 minutes and the rollback in case of aborted deployment is as easy as updating the auto scaling configuration with the previous working artifact.

The database layer was decoupled from the web servers and migrated to SQL Server on AWS RDS, which allowed Blue Sentry's engineers to deploy in a multi-AZ configuration for fault tolerance at the database tier. This allowed Blue Sentry to build and deploy the web server stack via CloudFormation template. The template includes web servers, ELBs and auto scaling groups, both for fault tolerance across availability zones, and for load based scaling on the web application. The CloudFormation template provided is also configured so that PhD's developers can deploy code to development instances and kick off a script which creates a new AMI artifact and update the auto scaling web servers using a rolling deploy policy. This allows PhD to get new code online with no downtime or maintenance windows.

Blue Sentry included one final CloudFormation stack to create SNS topics, which push notifications to Slack on new code pushes and auto scaling updates and includes success or error messages on all automated actions.

THE BENEFIT

Today, PhD enjoys the benefit of fault tolerant, highly available computing. With increased security capabilities and a Highly available architecture with load balancing and auto failover, they are much better protected against events that might otherwise stop production. This also allows them to push new features to their customers in Production without having to take the site down for maintenance. PhD also now has an environment that can easily scale automatically as their business grows.