

CLOUD INFRASTRUCTURE IN LIFE SCIENCES



YEAR:
2020

INDUSTRY:
Life Sciences

EMPLOYEES:
250-500

About iuvo

iuvo is a Boston-based IT consulting company and managed services partner offering IT services and solutions to help businesses scale, increase efficiency and solve other business problems. Since 2007 we've been disrupting the MSP industry to bring exceptional service to co-managed and in-house IT teams. Our core belief is technology should elevate your business results. Managed Services, IT Consulting, IT Strategy, Virtual CIO, DevOps, Business Continuity, Cybersecurity and more are part of our offerings to make our clients successful.

Issue

Our client, a medical services company specializing in medical engagement management, had an older cloud infrastructure that was, at the time, designed to simply migrate them to the cloud without a lot of thought into the architecture or best use of cloud services. When we came into the picture, their cloud spend was astronomical. Additionally, they were in the process of being acquired by a large, global company and had a lot of turnover in the engineering staff. Knowledge of the environments was quickly leaving with those folks. Also, as part of the acquisition, there was a desire to figure out how to templatize environments for easier global replication in other areas within the parent company.



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Solution Overview

iuvo worked with our client to engineer a new, cost-effective, easily replicable cloud infrastructure. Much of the automation was coordinated via Jenkins, and the cloud infrastructure was built on AWS. The complexity of the project requirements called for a multi-account structure that allowed the deployment and management of an “environment of environments” to suit the needs of various organizations within the company.

During our fact-finding and use case discovery mission, it became clear that the cloud infrastructure needed to be completely rebuilt. We began by creating new templates using AWS CloudFormation that were layered on top of each other to create various elements of the environments. As part of our work, we also helped define the interfaces between those layers. We wrote numerous AWS Lambda functions, implemented custom resources in AWS and defined the network and account architecture.

Using AWS Control Tower, we developed a templating system that allowed for deployment of new accounts of various classes and determined how the various classes of accounts were allowed to interact depending on their purpose and location. This new mechanism increased security by avoiding the need to distribute AWS keys to individual people, instead using roles assigned through federated login with Okta. This significantly streamlined the process of assigning and rescinding access.

The control over the environments extended to resource management. By adopting an automation-first strategy for resource deployment, tracking and scaling of resources was readily understood and allowed the enforcement of policies that, for example, required resources to be tagged with an expiration date so that they could be automatically shut down when they were no longer of interest. Prior to this, particularly with staff departures, it was difficult to tell whether resources were still needed or had been abandoned.



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**\$83K
COST
SAVINGS PER
MONTH**

**SECURITY
& DISASTER
RECOVERY
ENHANCEMENTS**

**HOURS
TO MINUTES
IN TIME
SAVINGS**

**LONG TERM
IMPROVEMENTS
LEAD TO
EMPLOYEE
RETENTION**

Impact

The cloud work iuvo did provided significant benefits to our client and their continued business. First and foremost, rearchitecting their cloud and creating automation allowed for significant cost savings – about 1/3, or \$83k per month. Using role-based access with Okta enhanced their security, increased scalability and streamlined their processes. This also made audits, for which they are frequently a target, much easier to screen for compliance and complete in a timely manner.

Our architectural design and engineering focused on creating templated and replicable environments. Additional environments can now be spun up, not only by our client, but by the entire parent company and all its subsidiaries. These environments slot into an overall structure that maintains accountability while allowing for ease of management. This led to substantial interest in the project by the parent company which is looking to adopt it for other divisions.

Dissecting the legacy environment to build new, repeatable automation made disaster recovery practical. The previous environment contained many mysteries as a result of having been hand-built by departed staff. The new environment is standardized, meticulously documented, and codified into the automation that brings it up. New environments can now be generated, with appropriate data, wherever needed to support the growth of the business.

Finally, the newly restructured cloud architecture and automation creates new environments in minutes versus months. This substantial timesaving allows the company to focus on revenue-generating projects rather than the context that delivers them.