

SAIC AWS DevOps

Public Reference Case Study

Transformation to Cloud-Based DevOps

Our customer contracted us to provide management and operations support for an enterprise portfolio of applications that uses commercial AWS and AWS GovCloud services. The portfolio includes mission-critical engineering applications and web-accessible content and scientific tools for the public.

The customer organization is responsible for agency-wide cloud computing services and implementation of major software projects. Operations teams performed most of the day-to-day activities and application deliveries manually across all environments. This resulted in unreliable, slow, and error-filled outcomes.

We identified an opportunity to significantly improve operational efficiencies and reduce operational costs and proposed an overhaul of the operations and maintenance processes and procedures to a DevOps culture with agile practices.

Our DevOps methodology uses infrastructure as code (IaC) and continuous integration/continuous deployment (CI/CD) pipelines to automate application development that used to be hand-built and maintained. In collaboration with the customer, we used our DevSecOps implementation framework to develop a roadmap for transitioning to the cultural and technological requirements. We worked closely with AWS Certified Solutions Architects and identified AWS services that integrated best with our customer's applications architecture and existing investments in operations-and-deployment tools.

The program team implemented an architecture that utilizes AWS CodePipeline to manage the release pipeline, AWS CodeBuild to compile code and run tests on application builds, and AWS CloudFormation for IaC to flexibly create and provision application resources. We also leverage industry-best tools such as Jira, Ansible, and Twistlock.

With the instantiation of DevOps with continuous integration/continuous deployment, the customer has realized higher performance, quicker code implementations, and higher application and service availability for users – all at lower cost. These gains have allowed the organization to expand its service catalog, including a low-cost and automated static website service using Amazon Simple Storage Service (S3). This has dramatically reduced the cost of implementing websites for smaller customer initiatives.