

CASE STUDY

DEPARTMENT OF VETERANS AFFAIRS MILLION VETERAN PROGRAM

THE CHALLENGE

The Department of Veterans Affairs (VA) Million Veteran Program (MVP) is a national, voluntary research program building one of the world's largest medical databases to study how genes, lifestyle and military exposures affect health and illness. The participation of more than 800,000 veterans since 2011 has enabled genomic discoveries that can translate to improved health care for veterans and the nation at large.

Historical recruitment and enrollment methods included invitational mailings, phone calls, paper-based surveys and in-person enrollment activities at 50+ participating VA medical facilities and their affiliated community-based sites. To enable additional veterans to sign up for MVP in pursuit of its initial one million participant goal, the VA sought to accelerate their recruitment, enrollment, engagement and feedback (REEF) capabilities through an internet accessible participant web application (PWA) which would provide an overview of MVP, share MVP news and allow enrollment without needing to go to a VA site.

PERATON'S SOLUTION

To support the VA's requirements, Peraton proposed a third-party web-based Software as a Service (SaaS) platform hosted in Amazon Web Services (AWS) GovCloud. The new REEF system and PWA are based on built-in clinical study functionalities

coupled with VA-specific business rules, web services and identity access management (IAM) integration.

The SaaS platform is architected in a multi-AZ model, using Amazon's Elastic Load Balancers (ELBs), Auto Scaling, Elastic Compute Cloud (EC2) instances, Simple Storage Service (S3), Relational Database Service (RDS) and IAM to create a resilient production environment for the core content management system (CMS) engine. To protect personally identifiable information and Health Insurance Portability and Accountability Act data, the system integrates with the VA single sign-on (SSO) external authentication system to authenticate users from multiple credential service providers (CSP) into the PWA application.

The SaaS platform is hosted in a va.gov subdomain and utilizes a dedicated encrypted VPN tunnel through the VA's Trusted Internet Connection (TIC) into GovCloud. This aligns with the Federal Information Security Management Act and Federal Risk and Authorization Management Program accreditation requirements.

In addition to the PWA application, Peraton manages an administrator web application (AWA) enabling MVP staff to dynamically change PWA content such as: pictures, text, FAQs, news articles, consent forms, survey questions and custom dashboards for veteran cohorts. The AWA uses a separate VA SSO.

AWS SERVICES USAGE

Peraton leverages several native AWS services for the REEF SaaS platform such as: EC2 instances, EBS and S3 services; VPCs, ELBs and other network services; RDS, SES, Route53, Certificate Manager, CloudWatch; and CloudFormation templates in the CI/CD pipelines.

THIRD-PARTY APPS AND SERVICES

Peraton augmented the native AWS services with third-party products such as: BigFix, Nessus, Adobe Sign and multiple CSPs.

RESULTS

Peraton began this effort in September 2017 and delivered the system, MVP Online, to the VA in mid-summer 2019. MVP Online officially launched on October 4, 2019. The VA's move from a paper-based communication and recruitment method to this digital solution will continue to facilitate the acceleration of MVP recruitment goals.

Using a combination of AWS services deployed in GovCloud and the Cisco VPN solution expedited the REEF SaaS platform's attainment of an Authority to Operate by inheriting the necessary controls and allowing the team to focus on other required controls.