US Navy deploys DevSecOps environment in AWS Secret Region to deliver new capabilities to its sailors

AWS One Pager

For defense, speed is important—speed to capabilities, speed to delivery, and speed to service. To deliver at the pace required of the US Navy, Naval Information Warfare Center Pacific (NIWC PAC) leveraged the Amazon Web Services (AWS) Cloud to accelerate development of new features for the nation's warfighters and to help address compliance at every stage of their cloud journey.

This year, as part of Project Overmatch, NIWC PAC is focused on DevSecOps in pursuit of modern software development amid an increasingly complex security environment. To meet this mission and deliver new capabilities to its servicemen and women, the US Navy developed a DevSecOps environment in the AWS Secret Region. This environment, known as the Overmatch Software Armory (OSA) and which meets Impact Level 6 (IL-6) requirements, builds off of the Navy's success using AWS GovCloud (US), Amazon's Region designed to host sensitive data, regulated workloads, and address the most stringent US government security and compliance requirements.

What is Project Overmatch?

Project Overmatch is a multi-command effort aimed at enabling Navy and Marine Corps platforms and capabilities, delivering synchronized lethal and non-lethal effects from near-and-far, every axis, and every domain. Critical to Project Overmatch is the development of networks, infrastructure, data architecture, tools, and analytics that support the operational and developmental environment that will enable sustained maritime dominance using manned and unmanned systems.

Additionally, Project Overmatch will leverage the latest in digital technologies such as artificial intelligence, machine learning (ML), and information and networking technologies for improved fleet readiness worldwide. This includes the NAVWAR-developed Overmatch Software Armory (OSA), a cloud-enabled digital environment using DevSecOps principles that bring the rapid delivery of software capability to the fleet allowing our warfighters to access critical information at the edge.

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Freeing up developers

Balancing limited resources with the need for agility and innovation, the Overmatch Software Armory team within the US Navy turned to AWS to develop a DevSecOps pipeline—one of the first classified Cloud Software Development pipelines built out for the military.

The Navy had to take into account its disparate global systems to bring software to their ships, and connect weapons and sensors across the battlefield.

The flexibility and elasticity of the cloud allows developers across the Navy to collaborate and deliver capabilities in days instead of weeks compared to the on-premises infrastructure of years' past. And the security and compliance of AWS GovCloud (US) and the AWS Secret Region allows users to work in secure environments and meet the DoD's data classification requirements up to IL-6—the highest Impact Level—which covers classified national security information.

Now, the team has more time to dedicate to their areas of expertise—developers are freed up to develop and coders can focus on coding without worrying about the underlying infrastructure. This shift from on premises to the cloud is fueling experimentation and ultimately innovation across the team.

The cloud allows the Navy to develop, test, and prototype. It also helps them to experiment, iterate, and change. This is important as information is critical to how the military operates. The cloud infrastructure is much faster than their institutional infrastructure. With AWS, they can now deliver in days instead of weeks, and they have the flexibility and reach that they never had before.

In addition to speed, the cloud is helping involve the fleet for user feedback. Ships are able to accept an over-the-air update. Bringing these updates to the tactical edge allows for simplified maintenance and upgrades—no matter the location.

The ultimate goal is speed to capability. The department's hope is that the Navy can gain a tactical advantage for its operations and it can provide their sailors and Marines the best capabilities when they need it so they can execute their missions.

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