Accelerating the mission: United States Navy

Modernize, innovate, and defend with open source solutions by Red Hat

United States Navy challenges

An evolving world has created new challenges for the U.S. Navy and modern combat, including:

- **Modern warfare has changed.** The battlefield has moved into cyber and kinetic spaces, which has greatly increased challenges for legacy systems.

- **Manual integration of information.** Department of the Navy (DoN) networks and systems need to evolve to provide modern experiences with file sharing, cloud collaboration, and information aggregation. Disconnected legacy systems force the warfighter to collate data from multiple unintegrated systems manually.

- **Outdated processes.** Legacy processes hinder innovative thinking and problem-solving while posing significant challenges for recruiting and retaining skilled personnel.

- **Complex networks.** The DoN devotes significant time and resources to maintaining its ships' technology infrastructures while keeping combat systems secure and relevant for the future. The age and inflexibility of some platforms makes many systems vulnerable to attack, while vessels can only be serviced in port.

- **Resource constraints.** Even as defense budgets are under increasing pressure and scrutiny, operations and maintenance for legacy systems consumes a disproportionate share of resources, which limits modernization.

Requirements for digital transformation and modernization

To address these cultural, technological, and security challenges, the Navy implemented Compile to Combat in 24 Hours (C2C24), an ambitious initiative to reduce application deployment time from 18 months to less than 24 hours. The initiative would not be possible without the Navy's focus on:

- **Embracing microservices.** With C2C24, software deployment will go from 18 months to less than 24 hours. Microservices hosted on a shared infrastructure will make this possible.

- **Shifting to agile development.** Traditional waterfall development methods cannot address the Navy's need for 24-hour application development. Therefore, the Navy is beginning to shift toward faster, more iterative and agile development methodologies based on DevSecOps.

- **Utilizing the cloud.** C2C24 uses continuous integration and delivery (CI/CD) to develop containerized applications that can be delivered to the warfighter quickly, safely, and with enhanced security.

Modern, innovative, security-focused systems built on open source software

Naval efforts to accelerate application development and deployment require more than just technology. Transformation calls for a cultural shift from traditional development methods to modern, agile development practices.

Red Hat

Compliance: Red Hat OpenShift is the only enterprise container platform with FIPS compliance and multiple layers of federally-certified security hardening.

The Navy: A new look

Cloud adoption: The mission is delivering better decision-making capabilities—not troubleshooting equipment failures. Moving development and application hosting to the cloud helps to accelerate innovation and control costs.

Modern development: With C2C24, the Navy is significantly accelerating application development through agile processes and tools, including microservices.

Automation: Automating routine tasks like server patching allows skilled staff to focus on the mission.

Cost reduction: Cloud migration, consolidation, and automation are helping government IT teams deliver more and better services—for the same or lower costs.

With Red Hat® Consulting, Red Hat OpenShift®, and Red Hat Ansible® Automation Platform, organizations like the Navy can use open source software, automation, and fresh thinking to break down barriers, banish outdated development processes, and bridge old and new IT systems to deliver timely, mission-critical applications and services.

Our expert team of Red Hat Consultants work with agencies to embrace agile development practices and create secure new environments in which control parameters are locked down from within. Red Hat helps agencies adopt DevSecOps practices to create more efficient application development pipelines. Innovations and new technologies are deployed quickly and with enhanced security to propel the Navy beyond today's challenges.

Red Hat also helps agencies accelerate application development and deployment by replacing the legacy IT technologies and processes they have used for decades with open source software and microservices. Red Hat OpenShift manages hybrid cloud and multi-cloud deployments to allow agencies to move faster and drive innovation at scale, while Red Hat Ansible Automation Platform brings disparate teams together, letting organizations scale more effectively and increase the value of automation exponentially.

Learn more

To find out how the Navy achieved its digital transformation objectives with Red Hat solutions, read our press release on the Navy's participation in Red Hat Open Innovation Labs.

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

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