

# Anti-Submarine Warfare Virtualization Initiative Expands DDG's Combat Capability



The guided-missile destroyer USS William P. Lawrence (DDG 110) practices ship maneuvers as it transits the Pacific Ocean. *U.S. NAVY / Mass Communication Specialist 2nd Class Jessica O. Blackwell*

WASHINGTON NAVY YARD, D.C. – A Navy team responsible for developing and testing Surface Ship Undersea Warfare Combat System Suites (AN/SQQ-89A(V)15) rapidly improved the anti-submarine warfare (ASW) capability of a guided missile destroyer for a February exercise, the Naval Sea Systems Command said in a March 29 release.

According to the PEO IWS 5.0 program office, Naval Sea Systems

Command, this will expedite modernization of ASW.

The Navy was upgrading 10 to 12 ships per year with the latest AN/SQQ-89A(V)15 system, and that would take approximately seven to eight years to modernize the entire cruiser and destroyer population of ships.

However, with the successful virtualization of the SQQ-89A(V)15, approximately half of the population of ships per year could be upgraded so that every other year all cruisers and destroyers would be operating the latest greatest capability.

The integrated team led by Program Executive Office Integrated Warfare Systems (PEO IWS) and supported by NAVSEA's Naval Undersea Warfare Center in Newport, Rhode Island, Navy research labs and industry, demonstrated the ability to reduce the time it takes to complete the virtual ASW combat system upgrade to USS William P. Lawrence (DDG 110), an Arleigh Burke-class guided-missile destroyer built by Northrop Grumman Shipbuilding, in just two days following equipment validation and verification.

The team successfully installed the 14v19 virtualization appliance equipped with a virtual version of the most recent ASW capability software, Advanced Capability Build (ACB)-19, onboard USS William P. Lawrence. The team then connected the suite's virtualization appliance directly into the ship's existing SQQ-89A(V)15 legacy Technical Insertion (TI-14) hardware infrastructure to complete the integration and upgrade.

SQQ-89A(V)15 Program Manager Capt. Jill Cesari said this proof-of-concept demonstration also reduces upgrade costs significantly, removing the requirement for hull cuts, minimizing hardware change-outs, and reducing the time to modernize these combat systems from 6 to 9 months of shipyard times to a matter of weeks.

“This will allow the Navy to upgrade ships with the latest, greatest software more frequently,” Cesari said.