Lockheed Martin Passes Major Aegis Open Architecture Milestone

The Aegis Weapon System moved a significant step forward in its evolution to an open computing architecture when Lockheed Martin successfully integrated and demonstrated the tactical operation of multiple subsystems built with commercial system software. The success marks a milestone for the Navy's Aegis Open Architecture (AOA) program by bringing together several subsystems that formerly ran customized software developed to military specifications.

AOA will reduce the cost of the Aegis Weapon System -- while also enhancing its capabilities and extending its service life -- by allowing the Navy to exploit commercial computing technology. The move to open architecture also will enable the Navy to install software and other technology upgrades faster and cheaper throughout the life of the Aegis fleet.

"Aegis-equipped ships comprise 75 percent of the Navy's surface combatant force, and the Aegis Open Architecture program is delivering results that will lead to fast and affordable upgrades to Aegis-equipped ships over the next three decades, as these ships will continue to be the heart of the surface force," said Orlando Carvalho, vice president and general manager of Lockheed Martin's Moorestown facility. "In addition to supporting Aegis, our open architecture solutions are providing the core command and control components for DD(X), the Littoral Combat Ship, and the Coast Guard's National Security Cutter."

AOA is hosted on an Open Architecture Computing Environment (OACE) 3 computing infrastructure. OACE is based on a set of international commercial standards designed to minimize or eliminate the use of custom software, speed the development of new applications and significantly reduce the cost of technology upgrades. The Navy has chosen OA Category 3 as the first step in the service's move to an open computing environment.

In earlier developments Lockheed Martin demonstrated key components -- the weapons control, display and command & control subsystems -- in open environments. The latest demonstration combined those subsystems with OA Category-3-compliant middleware, as well as several legacy, or non-open, architected sub-systems, to provide an initial demonstration of the Open Architecture AWS planned for fielding in the Aegis Cruiser Modernization Program.

Lockheed Martin's approach to open architecture is built on nearly a decade of "open system, rapid capability" deliveries to the Navy, including combat system, sonar, communications and electronic warfare capabilities. For example, Lockheed Martin's Acoustic Rapid Commercial Off-The-Shelf Insertion (ARCI) program provides open architecture solutions for the Navy's submarine force. Since 1998, more than 50 ARCI systems have been installed on 40 submarines, consistently on schedule and under budget.

AOA is led by Lockheed Martin, with significant involvement of Computer Sciences Corporationand the Navy's Surface Warfare Center, Dahlgren Division. Lockheed Martin has involved several additional small business partners who provide a variety of engineering services and expertise to the Aegis Open Architecture efforts: AS&T; Basic Commerce & Industries, Inc.; Chariot; DRS; Keystone; Northrop Grumman; and Real-Time Innovations, Inc.

Headquartered in Bethesda, MD, Lockheed Martin employs about 135,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services.

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