Navy And Industry Team Successfully Demonstrate Next-Generation Strike Warfare Architecture

Advanced ISR, Targeting and Strike Prototype to Set Requirements for Future Navy Programs

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The U.S. Navy and an industry team that includes Lockheed Martin, BAE SYSTEMS and Raytheon recently completed the successful demonstration of the Enterprise Expeditionary Strike Warfare Architecture (eESWA), an advanced targeting and strike capability that will drive the requirements for network-centric strike systems of the future. The experimental demo showcases how a horizontally-integrated, web-enabled capability can dramatically accelerate the sensor-to-shooter cycle from several hours to single-digit minutes.

The initial eESWA demonstration, held in July at the Precision Engagement Center at China Lake, CA, brought together for the first time an integrated, open architecture for intelligence, surveillance and reconnaissance (ISR), time-critical targeting, and strike mission planning and execution. The Naval Air Systems Command (NAVAIR) Mission Planning and Tomahawk Command and Control Directorate led the effort, and each member of the industry team supplied leading edge technologies for the purpose of demonstrating proof-of-concept operations.

"Never before has the Navy been able to bring this many capabilities together in a horizontally-integrated, open architecture," said Wendy Underwood, director of Navy command and control programs for Lockheed Martin Mission Systems. "This demonstration represents a tremendous step forward in determining the forward-looking strategy for programs like JSIPS-N and the Distributed Common Ground Station (DCGS)." Raytheon leads a team that includes Lockheed Martin and BAE SYSTEMS that is pursuing DCGS 10.2.

The demonstration featured scenarios for both deliberative strike and time-sensitive strike. The deliberative strike scenario included intelligence preparation of the battlespace and normal strike planning operations from Air Tasking Order consumption through strike planning and weaponeering. The time- sensitive strike scenario introduced targets of opportunity into the environment. With the eESWA architecture, operators were able to prepare a completed Strike Package ready for execution under both scenarios. The Navy will use the data gathered from this demonstration to drive the requirements for future programs, including the next JSIPS-N commercial off-the-shelf (COTS) refresh, scheduled for 2005.

"This demonstration proves the Navy has the architecture and set of standards that will determine how future systems will interoperate with each other," said Ted Spilman, Vice President, Defense Systems, BAE SYSTEMS. "The purpose of this exercise was to show not only how this could be done, but also that it works. We delivered unprecedented capability to find and engage numerous targets quickly and effectively. Now we'll work with the Navy to apply those lessons learned to their upcoming strike warfare programs."

The demonstration integrated several Joint C2ISR systems including:

* Enterprise Targeting and Strike System (BAE SYSTEMS): eTSS provides enterprise-wide workflow and portal capabilities for eESWA components.
* Enterprise Exploitation Integration Services (Lockheed Martin): A distributed and collaborative imagery screening and tactical exploitation capability.
* PTW/PTWeb(BAE SYSTEMS): Precision Targeting Workstation (PTW) for imagery exploitation and precision guided munitions (PGMs) support
* Strike Planning Folder (BAE SYSTEMS): Interactive web-based system for interfacing mission planning and strike planning components shipboard for air operations
* Theater Battle Management Core Systems (Lockheed Martin): The system of record for planning and managing the Joint air battle.
* ISR Warrior (Raytheon): A web-enabled ISR management capability.

The next eESWA demonstration is slated for November, and will provide more thorough integration of existing components into the enterprise architecture as well as additional technologies including the Tactical Component Network(TM) from Raytheon and Solipsys. These demonstrations, scheduled throughout next year, are an important step towards defining new operational architectures that support the Department of Defense's transformational goals and provide real examples of how the Navy is embracing network-centric warfare within SEA POWER 21.

Headquartered in Bethesda, Md., Lockheed Martin employs about 125,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. The corporation reported 2002 sales of $26.6 billion.

BAE SYSTEMS is an international company engaged in the development, delivery and support of advanced defense and aerospace systems in the air, on land, at sea and in space. The company designs, manufactures and supports military aircraft, surface ships, submarines, radar, avionics, communications, electronics and guided weapon systems. It is a pioneer in technology with a heritage stretching back hundreds of years. It is at the forefront of innovation, working to develop the next generation of intelligent defense systems.

Raytheon Company, with 2002 sales of $16.8 billion, is an industry leader in defense, government and commercial electronics, space, information technology, technical services, and business and special mission aircraft. With headquarters in Lexington, Mass., Raytheon employs more than 76,000 people worldwide.

SOURCE: Lockheed Martin; BAE SYSTEMS; Raytheon Company

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