Lockheed Martin BMC2 Team Demonstrates Advanced Cruise Missile Defense, Time-Critical Targeting Capabilities

Horizontal Integration Lab Enables Connectivity to AOC, DCGS Architectures

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The Lockheed Martin led team competing for the E-10A Battle Management Command and Control (BMC2) system this week demonstrated advanced capabilities for cruise missile defense and timecritical targeting (TCT), both integral components of the team's prototype solution. With the release of the final BMC2 Request for Proposals expected soon, the Lockheed Martin team demonstrated how a focus on common functionality across key Constellation nodes and automation of manual processes will help deliver unprecedented speed of operations to future BMC2 users.

Highlighting results of exercise-quality simulations conducted at the team's HI-Vision horizontal integration lab in Colorado Springs, the BMC2 team ran through a number of scenarios focused on finding, targeting and engaging cruise missiles, ground moving targets, and enemy command installations in single-digit minutes. A centerpiece of the prototype, the Engagement Folder Manager (EFOM) is a horizontally-integrated TCT application that manages workflow to dramatically shorten the decision cycle. EFOM enables machine-to- machine interfaces that significantly accelerate processes such as target recognition, weapon-target pairing, and tactical fighter tasking. Through task automation, decision aids, and advanced battlespace visualization, this fifth generation architecture lets warfighters act as tacticians, making accurate decisions in seconds to deal with compressed TCT timelines.

The BMC2 prototype reuses a significant number of proven applications from current command, control, intelligence, surveillance and reconnaissance (C2ISR) systems, including the Distributed Common Ground System (DCGS), Airborne Warning and Control System, Battle Control System - Fixed, Time- Critical Targeting Functionality and a number of applications from the Air Operations Center (AOC).

"These demonstrations are validating our BMC2 architecture and our approach to key mission areas," said Mike Schoultz, Lockheed Martin's BMC2 vice president. "But this program is about much more than just demonstrations, which is why we've put our primary focus on an open architecture, horizontal integration, and re-use of key applications across the Command and Control Constellation (C2C). That will make the BMC2 system as agile and flexible as possible, which in turn will deliver a speed of operations never before possible in the pursuit of time sensitive targets or the support of dynamic battlefield engagements."

The team has already made significant progress in integrating its BMC2 architecture with other nodes of the C2C, including Raytheon-led DCGS and the Theater Battle Management Core Systems (TBMCS), the Lockheed Martin-developed "engine of the AOC." Components of the AOC and DCGS systems are installed in the HI-Vision lab alongside the BMC2 prototype, enabling seamless collaboration between programs. Integrating the three systems will allow for machine-to-machine information sharing, real-time planning and execution, and unprecedented collaboration between operational and tactical units.

"Our architecture will be integrated with the AOC and DCGS from day one, and will stay open and flexible for the lifetime of this program. As the BMC2 system and the entire C2C grow and evolve over time, our architecture will evolve with it, blending new applications and technologies on whatever schedule the Air Force requires," said Schoultz. "We're starting with the right foundation, and that will pay tremendous dividends for the warfighter as this program progresses."

The team's BMC2 architecture is designed to rapidly and easily accommodate ongoing changes in the requirements baseline. "As this program has matured, the Air Force has made adjustments to the program baseline and our architecture readily accommodated these changes. By bringing together the right architecture with a robust system of systems engineering environment, we'll deliver a flexible BMC2 solution that will adapt to any development schedule or evolution plan," said Justin

Monger, Raytheon's Deputy BMC2 Program Manager.

As leader of the BMC2 team, Lockheed Martin is responsible for systems architecture, systems engineering and integration, program management and the BMC2 and information management subsystems. Raytheon performs the communications, co-site mitigation, ISR, sensor, and UAV control systems integration; and SAIC supports the modeling and simulation effort. The team also draws on focused domain expertise from L-3 Communications, ALPHATECH, Inc., and ZeITech.

Headquartered in Bethesda, Md., Lockheed Martin employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. The corporation reported 2003 sales of \$31.8 billion.

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