



Northrop Grumman Brings Virtual Realism to Northern Edge Exercise

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ORLANDO, Fla., Aug. 7, 2015 /PRNewswire/ -- Northrop Grumman Corporation (NYSE: NOC) systems helped make Northern Edge 2015 the most advanced live, virtual and constructive (LVC) air-to-air training event ever achieved.

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The joint training exercise involving all U.S. military services was held June 11-26 at the Joint Pacific Alaska Range Complex and included virtual participants at air force bases and sites nationwide.

The live and virtual participants were linked by the LEXIOS (LVC Experimentation, Integration and Operations Suite) system developed by Northrop Grumman. Through LEXIOS, virtual aircraft operated by actual aircrew members participated in the same airspace alongside their live counterparts via networked simulators. Constructive – simulated forces in a simulated environment – components were also used to augment the battlespace to make the training as realistic as possible.

Northrop Grumman developed LEXIOS as part of its role as the prime contractor for the U.S. Air Force's Distributed Mission Operations Network (DMON), a system that enables dissimilar aircraft platforms located across the globe to seamlessly interoperate and train together in a realistic virtual environment.

"Northern Edge was the largest LVC integration seen to date in any of the services and the first exercise to completely integrate the various elements," said Capt. Matthew Mendenhall, chief of command and control operations, U.S. Air Force 353rd Combat Training Squadron. "For the first time from a command and control, and intelligence, surveillance and reconnaissance standpoint, the virtual, live and constructive assets interacted at an efficient level and proved they can work and talk to each other consistently and securely."

"Many 'firsts' were achieved during this critical, large-force warfighter training, which involved multiple sites and complex missions," said Martin J. Amen, director, satellite and network operations, Northrop Grumman Information Systems. "These included the first integration of virtual Mobility Air Forces and Combat Air Forces aircrews supporting live flight operations and their first operational training event via the distributed mission operations network."

Ten different virtual sites nationwide interacted with live aircraft and integrated air defense systems in Alaska. In one scenario, aircrew members from Mountain Home, Seymour Johnson, Tyndall, Ellsworth, Tinker and Offutt Air Force Bases, and Joint Bases Elmendorf-Richardson and Pearl Harbor-Hickam, virtually operated 14 fighter aircraft, one conventional bomber, two mobility transport aircraft, one airborne warning and control system and one reconnaissance aircraft. Virtual and live participants were able to interact with each other in various phases of combat employment to maximize the training's effectiveness in the exercise.

Northern Edge is designed to sharpen tactical combat skills; improve command, control and communication relationships; and to develop interoperable plans and programs across the joint force. Major participating units this year included U.S. Pacific Command, Alaskan Command, U.S. Pacific Fleet, Pacific Air Forces, Marine Corps Forces Pacific, U.S. Army Pacific, Air Combat Command, Air Mobility Command, Air Force Materiel Command, Air National Guard, Air Force Reserve Command and U.S. Naval Reserve.

LEXIOS enabled the Air Force to take the next step in LVC training. Command and control aircraft like the 55th Wing's RC-135 Rivet Joint no longer have to be present at the actual live fly exercise to achieve full-scale operational training with their Air Force, joint and coalition partners. "LVC enables those aircrew members to achieve quality training at a fraction of the cost of the live training; even more importantly, the quality of training itself is exceptional," Amen said.

"LVC is one of the few realistic options we have going forward in our resource-constrained future," said Col. Stephen Platt, the Northern Edge deployed forces commander. "It gives us options to do things we either don't have forces for or the capabilities to execute today. LVC is a window into the future of what our forces are going to face. We are growing and maturing rapidly in our LVC capabilities, which increase the value our warriors get through LVC."

Northrop Grumman has been working on the Combat Air Forces Distributed Mission Training Operations and Integration program since its inception in 1999. In 2013, the company was selected to continue providing network and integration services under the Distributed Mission Operations Network (DMON) 2.0 service contract.

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Janis Lamar, 703-556-1650, janis.lamar@ngc.com