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At the Joint Expeditionary Force Experiment earlier this year, specially equipped Humvee vehicles were modified to demonstrate forthcoming Future Combat Systems networking and systems capabilities.

Here's what we can do

FCS networking capabilities shown at a recent exercise

By JOHN MORROCCO

The revolutionary capabilities of Future Combat Systems (FCS)—an integral component of the U.S. Army's modernization—were demonstrated for the first time in a joint, realistic operational environment earlier this year.

The venue was the U.S. Air Force–led Joint Expeditionary Force Experiment (JEFX '06) held at Nellis Air Force Base, Nev. The biennial event is intended to accelerate research, development and fielding of new combat systems.

FCS, in which Boeing is partnered with SAIC as the Lead Systems Integrator, utilizes advanced communications and technologies to link soldiers with both manned and unmanned ground and air platforms and sensors. JEFX '06 offered the Army an opportunity for validating the progress made on FCS networking and systems capabilities, especially those elements designated for early delivery to the Army in 2008. It also offered a first look at the network-

centric capabilities FCS can bring to warfighters and joint operations.

SYSTEMS IN ACTION

Spotlighted technologies included tactical unattended ground sensors capable of detecting, locating and classifying targets; and specially equipped Humvees acting as surrogate FCS command and control vehicles.

The Humvees, each with three operator workstations, were equipped with the most recent versions of FCS battle command software. Also being used: System-of-Systems Common Operating Environment (SoSCOE) software, which links Army units with one another and with other external intelligence sources and friendly forces. SoSCOE also acted as the bridge to the Air Force's command and control network.

During the mock battle scenarios, unattended ground sensors detected, tracked and reported (via the network) threat information, such as simulated Scud missile launchers, in near real time. The threat data was transmitted from the sensor field to FCS command and control vehicles. There it was automatically fused with the locations of friendly forces to create a single, common operating picture for commanders on the ground.

JEFX '06 marked the first time sensor data was gathered and fused with other

intelligence to create a picture of the battlespace for soldiers in near real time. Level One Fusion and Battle Command software provided soldiers pictures of enemy threats, displayed as red icons on battle command screens, as well as the location of friendly forces identified by blue icons.

FCS command and control vehicles also were networked with the Air Force's Consolidated Space and Air Operations Center. This enabled the same information to be transmitted to those controlling and executing air operations, providing shared situational awareness between the soldiers on and aircraft flying over the battlefield. Red threat information passed through the network showed as icons on screens in the cockpits of strike aircraft, allowing for "rounds on target" in a matter of minutes. At the same time, the networking capabilities of FCS allowed the picture from the air to be transmitted to soldiers on the ground.

Data and information collected at JEFX '06 is being used to support the next major experiment—which will culminate early next year in field exercises that will allow soldiers to get hands-on experience with FCS technologies and develop early doctrinal concepts. ■

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