

U.S. Army Shows Vision for Networked Battlefield

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The U.S. Army's plans for its future tactical network are taking firmer shape following a five-day exercise at White Sands Missile Range in New Mexico.

While not a formal test, the exercise brought together a number of systems to demonstrate how the Army envisions communicating on the battlefield in 2017.

Gen. Peter Chiarelli, the Army's vice chief of staff, visited the exercise site July 13. Senior Army and Pentagon officials, as well as congressional staff members, observed the exercise July 15 at Aberdeen Proving Ground, Md., where a higher-level communications center was set up.

Speaking July 15 to an audience in Washington, Chiarelli said the progress he saw was exciting. He seemed most impressed with the network's aerial layer and its ability to extend the range that soldiers are able to communicate with each other.

"I saw two, two-watt radios, assisted by another two-watt radio, tethered to an aerostat at 700 feet," Chiarelli said.

The two-watt radio he was referring to is the Rifleman Radio, part of the Joint Tactical Radio System (JTRS) Handheld, Manpack, Small Form Fit (HMS) program, according to Army spokesman Paul Mehney.

Chiarelli said the Rifleman Radio, using the Soldier Radio Waveform (SRW), was able to talk out to a range of 35 to 50 kilometers. It was "absolutely amazing," he said. "And that's not just talking, that's passing data."

The tactical network exercise was the culmination of a three-month effort, which required the participation of six program executive offices, the Army testing community, Army Training and Doctrine Command, and staff at the Aberdeen Proving Ground and White Sands Missile Range, said Maj. Gen. John Bartley, program executive officer for integration. He spoke with reporters via telephone July 16.

Following the cancellation of the Future Combat Systems (FCS) program, the Army has been reworking its network plans, which until that point were closely tied to the FCS effort.

Following a Defense Acquisition Board review in December, Pentagon acquisition chief Ashton Carter requested the Army to come back to him and tell him what the service's network would look like in 2011 and 2017.

Chiarelli decided that rather than tell Carter, the Army should try to show what the network could do today and in five years, according to Bartley. This exercise aimed to do that, he said.

It was also a chance to show off the technical maturity and capabilities of the Army's advanced communications gear, such as JTRS, Warfighter Information Network-Tactical and their associated waveforms, Bartley said.

One other key objective was to put an aerial layer in place to extend network coverage, said Lt. Col. Darby McNulty, deputy program manager for network systems integration in the program executive office for integration.

"Given the timeframe we had, we said we can make use of the Shadow [UAV], a UH-60 Black Hawk, an AH-64 Apache and an aerostat," McNulty said.

The Army's One System Remote Video Terminal also was integral to getting a streaming video feed from the Shadow UAV into the company command post, McNulty said. From there, a video clip was passed as a file to higher commands using the WideBand Networking Waveform.

From that video, a single image also could be shared down to the dismounted soldier, using the Soldier Radio Waveform and the Land Warrior system.

Eventually, the Army expects to be able to share streaming video both up and down the chain of command.

The exercise was unclassified and did not take place in an active network threat environment, according to Army officials. The exercise was meant to serve as a proof of concept, whereas formal tests later this year will incorporate enemy interference, Mehney said.

The Army will use this exercise and other upcoming tests to lock in its network design, adjusting programs of record as necessary, Bartley said. The vice chief's reviews of the radio and network portfolios also are expected to lead to program changes as the Army continues to refine its network plans.