

Army Outlines Network Strategy

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Over the past year, the Army has developed a holistic network strategy that fundamentally changes how network technologies are integrated and deployed, said GEN Peter W. Chiarelli, Vice Chief of Staff of the Army.

Army Evaluation Task Force Soldiers check network connections on their network-equipped Mine Resistant Ambush Protected All-Terrain vehicles at the Tactical Operations Center (TOC) before deploying to support Company Situational Training Exercises at White Sands Missile Range, NM. During testing last year, these vehicles relayed critical sensor data from the field to the 2nd Combined Arms Battalion TOC, often from company outposts up to 20 kilometers away. (U.S. Army photo.)



“The network is now the Army’s highest modernization priority. Having every Soldier plugged into the tactical network and giving them means to access and distribute information would give the Army a tremendous advantage [over our adversaries],” Chiarelli said.

In the past, the Army fielded network systems independently and on their own acquisition timelines, said COL John Morrison, Director, G-3/5/7 Land-WarNet. The Army’s new approach is to leverage mature technologies through integrated network “capability sets” aligned with Army Force Generation requirements, whereby equipment is delivered and synchronized to deploying forces, Morrison added.

The most important component of the strategy is to deploy network capability sets that will provide an integrated, seamless network capability, from a tactical operations center, to the commander on the move, to the dismounted Soldier, Morrison explained. Beginning in FY12, the Army will align resources to field these capability sets to as many deploying or available formations as possible.

Exercises and Evaluations

With these goals in mind, the U.S. Army plans a series of network developmental exercises and evaluations this summer at Fort Bliss, TX, and White Sands Missile Range, to examine technologies and integrate multiple programs into a larger tactical network capable of transmitting voice, data, images, and video faster, farther, and more efficiently across the force in real



CW5 Leslie Cornwall (left) and MAJ Marcus Odom from the U.S. Army Training and Doctrine Command Capabilities Manager Networks and Services examine Warfighter Information Network-Tactical (WIN-T) equipment during the WIN-T Increment 2 Engineering Field Test at Fort Huachuca, AZ, in December 2008. (U.S. Army photo by Richard Mattox, Program Executive Office Command, Control, and Communications-Tactical.)

time, service officials said (See related article, Page 25).

This large-scale evaluation “gives us the line-of-sight challenges that we need to deal with, and the distance that we have to deal with,” said MG Keith C. Walker, Commanding General of the Brigade Modernization Command at the U.S. Army Training and Doctrine Command’s Army Capabilities Integration Center. “The priority for our testing is the network,” Walker said, speaking during a panel discussion Feb. 24 on “Network-Enabled Mission Command” at the Association of the United States Army Institute of

Land Warfare’s Winter Symposium and Exposition in Fort Lauderdale, FL.

By integrating Programs of Record and non-Programs of Record, the Army is striving to extend a robust network down to the dismounted Soldier, thus providing key situational awareness and mission command at the platoon and company levels. The idea is for a terrestrial tactical network using non-proprietary high-bandwidth waveforms such as Soldier Radio Waveform and Wideband Networking Waveform, a mobile satellite network such as Warfighter Information Network-Tactical, and various battle command applications to work seamlessly as part of a broader battlefield network, connecting dismounted Soldiers, command posts, and vehicles on the move.

To help meet the challenge of dependent, synchronized network engineering and integration, the Army will conduct synchronized network test and evaluations, helping to align Programs of

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Record and other technical solutions in a holistic network that mirrors the complexity in theater today. Structured tests for record such as Limited User Tests will be synchronized, while ongoing Brigade Combat Team Integration Exercises (BCTIEs) will serve as integration evaluations for tactical network development. BCTIEs allow Soldiers, through the Army Evaluation Task Force (AETF) at Fort Bliss, to provide valuable doctrinal feedback to combat and materiel developers before the network capability is integrated into the operational force. The 2nd Brigade, 1st Armored Division has the AETF mission to evaluate about 20 candidate systems during the exercises this summer.

The AETF will now serve as the network's primary test unit with a twofold intent: to remove the integration burden from the operational units and to provide an operational venue to evaluate new technologies and network capabilities before they are fielded. The new capabilities that Soldiers integrate and assess will ultimately provide the impetus for future acquisition and equipping decisions.

"We're going to do a bunch of evaluations of capability using the AETF. We are talking about bringing software and computers together to provide network capabilities," said COL Michael Williamson, Deputy Program Executive Officer Networks within Program Executive Office (PEO) Integration. "These BCTIEs are not tests for record, but instead an evaluation and integration process with Soldier input. We have a series of exercises and evaluations

in 2011 and 2012, with a culminating event in late 2012, which will allow the Army to make decisions about what capability gets deployed."

The evaluations will also help the Army shape tactics, techniques, and procedures, said Morrison.

"These are not just technical evaluations, but they are also operational assessments designed to get feedback from Soldiers. By putting these

capabilities into their hands, we expect to see product improvements coming out along with tactics, techniques, and procedures. This is a fundamental shift, because now at the front end and throughout the entire process, Soldiers will be touching the equipment, giving the acquisition community an indication of whether they are headed in the right direction," Morrison said.

"The quicker we get a candidate system in Soldiers' hands," through collaboration among Soldiers, engineers, materiel developers, and industry, "the sooner we will get a bad idea out [of the running] or get a good idea going," Walker said. Evaluations of this scale and scope cannot be done through simulation or modeling, he noted.

The BCTIE approach allows more flexibility during the acquisition process

Soldiers monitor input from the TOC at White Sands Missile Range during the 2010 Limited User Test. The Army is planning several network integration tests and evaluations in 2011 to further define the emerging tactical network. (U.S. Army photo.)





Photos, video, and text are fed to Soldiers in the TOC during an exercise conducted by the Army Evaluation Task Force at White Sands Missile Range. The network allows Soldiers to communicate with different units at various levels of command. (U.S. Army photo.)

and enables the Army to acquire network capability more efficiently and effectively, service officials said.

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Common Operating Environment

As part of this endeavor, the Army is transforming the way it acquires and develops networking capabilities, applications, and information technology systems. It is working to establish a common operating environment (COE) wherein multiple systems can work together simultaneously through common Internet protocol standards,

messaging formats, and operating systems, service officials said.

“For years we built great logistics. We built mapping products and fires systems. All of those were great programs, but the reality was we had to move the data back and forth between them. We built some of those things with different underlying architectures. Now we are working to get the underlying infrastructure, the operating systems, and operating environment standardized. What you want to do is make sure you can operate all of your technologies in the same environment,” Williamson said.

Additionally, availability of the COE and the nonproprietary waveforms will give industry a baseline from which to build, helping to ensure integration-ready network solutions, Mehney said.

In the coming months, Army developers plan to reach out to industry

partners and solicit ideas for innovative technologies that can be integrated into the network and deliver better capability to Soldiers. This effort will invite Army laboratories, academia, and industry partners to further develop Army Programs of Record and to locate commercial-off-the-shelf technologies that might prove useful to the network, Williamson said.

“We intend to make announcements out to industry to get them to bring their technology. There are some capability gaps, things that we know we want somebody to build for us. There are technological opportunities where innovative companies come up with ideas,” said Williamson. The idea behind this approach is to give the Army the opportunity to leverage emerging technologies and take proper advantage of new developments, he said.

“It’s about speed. At the end of the day, this is about how I can bring that capability to Soldiers faster,” said Williamson.

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