

## MEMBER'S NEWS ITEMS

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The picture of the line of satellites are the Satellite Transport Terminal (STT). The STT is a satellite terminal system providing two way digital communications in support of the WINT-T architecture. The STT is located at the Corp/Division and Brigat Combat Team (BCT) level.

WIN-T employs a variety of transmission methods to pass voice, data and video though out hte network. Two primary means of communications is the Ku's, Frequency Division Multiple Access (FDMA) and Time Division Multiple Access. (TDMA) (both satellite-based) are typically used to provide the backbone links between Joint Network Transport Capability-Spiral (JNTC-S) elements.

The Army plans to create an overarching battlefield network that will transport voice, data, and video across a consolidated information architecture linking soldiers, command posts and vehicles. Many of the components of this architecture are already in place and the Army hopes to validate the final pieces of the system in a series of tests held this year and in 2012.

According to the Army, the initiative will test capability sets clusters of equipment and software released to gradually and systematically improve the service s data and networking capabilities. The goal of these efforts is to introduce systems that immediately meet the requirements of forces in the field rather than deploying them haphazardly across independent acquisition timelines. The tests, which will take place at Fort Bliss, Texas, and the White Sands Missile Range, N.M., are part of the Army s network integration strategy. The evaluations will ensure network synchronization among a limited set of users. If successful, the service will begin deploying capability sets in 2015 or 2016.

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 Chiarelli, the Army's vice chief of staff.

"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 added.

In the past, the Army fielded network systems independently and on their own acquisition timelines, said Col. John Morrison, director, G-3/5/7 LandWarNet. The Army's new approach is to leverage mature technologies through integrated network "capability sets" aligned against Army Force Generation requirements -- the process through which equipment is delivered and synchronized to deploying

forces, he 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, he said the Army will align resources in order to field these network "capability sets" to as many deploying or available formations as possible.

With these goals in mind, the Army plans a series of network developmental exercises and evaluations at Fort Bliss, Texas, and



students from 101 Sig Bn and 369th Bde in Network Operations class

White Sands Missile Range, N.M., aimed at evaluating technologies and integrating multiple programs into a larger tactical network able to transmit voice, data, images and video faster, further and more efficiently across the force in real time, service officials said.

Through integrating programs to develop these capability sets, 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.



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## Army to field network 'capability sets' Continued from page 2 of Newsletter

The idea is for a terrestrial tactical network using non-proprietary high bandwidth waveforms such as Soldier Radio Waveform, or SRW; and Wideband Networking Waveform, known as WNW; a mobile satellite network such as Warfighter Information Network - Tactical, known as WIN-T; and various Battle Command applications to all 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 efforts, the Army will conduct synchronized network test and evaluation efforts -- helping to align programs of record and other technical solutions in a holistic network that mirrors the complexity in theater today.

As part of this endeavor, the U.S. Army is transforming the way it acquires and develops networking capabilities, applications and IT systems by working to establish a Common Operating Environment wherein multiple systems can work together simultaneously through common Internet Protocol standards, messaging formats, operating systems and protocols, 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 Common Operating Environment and the non-proprietary waveforms will help give industry a baseline to build from, helping to ensure integration-ready network solutions, Mehney added.

In the coming months, Army developers plan to reach out to industry partners and solicit ideas for innovative technologies which can integrate into the network and deliver better capability to Soldiers. This effort involves reaching out to Army laboratories, academic and industry partners to further develop Army programs of record and also locate commercial off-the-shelf technologies which 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 avail the Army of the opportunity to leverage emerging technologies and take proper advantage of new developments, Williamson said.

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

Structured tests for record such as Limited User Tests will be Synchronized while ongoing Brigade Combat Team Integration Exercises will serve as integration evaluations for tactical network development and allow the Soldier, through the Army Evaluation Task Force, or AETF, at Fort Bliss, Texas, to provide valuable doctrine feedback to combat and materiel developers prior to the network capability being integrated into the operational force.

The AETF will now serve as the Network's primary test unit with a two-fold intent, to remove the integration burden from the operational units and to provide an operational venue to evaluate new technologies and network capabilities prior to fielding to operational units. The new capabilities they 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," said Col. Michael Williamson, deputy PEO Integration Networks. "We are talking about bringing software and computers together to provide network capabilities.

During the Brigade Combat Team Integration Exercises, the Army will be putting these capabilities in the hands of Soldiers and trying to evaluate what the best use of the capability are, Williamson said.

"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," he said.

The developmental emphasis involves a concerted effort to place new technologies in the hands of Soldiers earlier in the developmental process to solicit their feedback and develop new capability with a mind to what is best for Soldiers.

The evaluations will also help the Army shape the tactics, techniques and procedures needed for various operational environments, said Morrison.

"These are not just technical evaluations but they are also operational assessments designed to get feedback from Soldiers," Morrison said. "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," Morrison continued, "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."

The real advantage of this approach is that it enables more flexibility within the acquisition process and enables the Army to acquire network capability more efficiently and effectively, service officials indicated.

"Using the AETF events to help integrate and synchronize programs of record prior to deployment will give us the ability to incrementally upgrade the network capability sets to reflect changes in technology and bring in the best of industry to help support this effort. Using the AETF allows this integration work to be done prior to soldiers receiving the equipment in theater," said Paul Mehney, spokesman for PEO Integration.

As part of this endeavor, the U.S. Army is transforming the way it acquires and develops networking capabilities, applications and IT systems by working to establish a Common Operating Environment wherein multiple systems can work Army puts new battlefield network strategy in place Lessons learned from past programs will benefit units slated for reset

By Henry Kenyon Feb 03, 2011

Building a fully network-centric force has proved to be a moving target for the Army. Programs such as the Future Combat Systems and its successor, the Early Infantry Brigade Combat Team, sought to weave units together into a single communications and data architecture that extended across all echelons, from commanding generals to noncommissioned soldiers at the tip of the spear.

The very scope and challenge of the initiative led to program changes, modifications, cost overruns and cancellations over the years. But the core networking components survived and evolved through this process. Army officials contend that this infrastructure, built through successive research and development cycles, is now poised to serve as the base on which the service will rest its new acquisition policies for testing and integrating new technologies into the service's battlefield networks.

The goal of the Army's new network acquisition strategy is to support the service's tactical network development, Paul Mehney, public communications director for PEO Integration, told Defense Systems. Mehney's office supported the EIBCT program which is now being phased out. PEO Integration is now shifting its efforts to back the Army Evaluation Task Force being established at Fort Bliss, Texas. He said the program office is now in charge of integrated testing and evaluation of field sets of equipment and software for troops. The key role of PEO Integration is to ensure that systems are tested and evaluated as a part of the overall force generation process.

As the service s integration efforts shift from EIBCT to the AETF, policy is also being rewritten to accommodate this change. Mehney notes that there is a pending acquisitions memorandum from the Office of the Secretary of Defense that will help define the policy.

Although the Army's FCS and EIBCT efforts can be viewed as less than successful, Mehney contends that the service learned three important things from the programs. The first is that the EIBCT laid down the infrastructure that will allow the Army to expand its tactical networks in a more interactive and intuitive manner.

The second lesson was that the EIBCT effort gleaned information from warfighters about what they really need from networked operations and capabilities. In numerous exercises, soldiers and commanders stressed the need for more connectivity. Mehney noted that based on field tests, the most useful network applications for warfighters were chat, whiteboarding and file transfer. Imagery, while useful at lower echelons, lost its importance as it moved up the command chain, because it was either old information by the time brigade and battalion commanders viewed it, or it was not needed because those echelons had their own imagery resources. These revelations changed the way the Army thought about tactical networks, Mehney said. The emphasis now is to build connectivity and increase overall system capacity for all users.