

TCM update

Updates from Training and Doctrine Command capabilities managers for networks and services and Warfighter Information Network-Tactical

TCM-TR

Army Positioning, Navigation and Timing Assurance Plan

TRADOC Capability Manager-Tactical Radio and Army Product Director for PNT are leading efforts to assist the Army with planning and execution of an Army PNT Assurance migration plan.

This plan includes the modernization of current user equipment which relies on the Selective Availability, Anti-spoofing Module security architecture, migration to Military Global Positioning System User Equipment, and the use of advanced antennae technology and micro-electromechanical inertial measurement units to provide assured PNT where space based or other radio frequency emitters fall short.

SAASM based equipment modernization efforts currently being considered include a PNT HUB, which would be used to replace Defense Advanced GPS Receivers that are being used in lieu of embedded Ground Based-GPS Receiver Application Module.

The PNT Hub would provide PNT output that could be tailored to specific requirements of multiple on-board systems. Analysis is currently being conducted to determine potential cost savings to the Army through implementation of this technology solution. TCM TR and PD PNT also conducted Unit visits from 30 Aug - 1 Sep 2011 with HQ USAREUR, 173rd Airborne Brigade Combat Team, and 2nd Stryker Cavalry Regiment. The purpose of the visit was to provide commanders information briefs with regard to PNT threat, PNT Assurance, and GPS M-Code migration. In addition, informal interviews were conducted with leaders and soldiers to gain insight on their PNT needs and how current capabilities were being utilized. Supported activities included office calls with United States Army Europe Deputy Commander, G3, and G2; Officer Professional Development discussion with USAREUR NAVWAR Working Group, field training site visit to 173rd ABCT and office call with Commander 2SCR.

MGUE, which will be designed to receive the new signal in space, named Military Code, from

the GPS III constellation which will provide higher power signal and M-Code will enable stronger encryption less susceptibility to jamming, spoofing, and electromagnetic interference. The first M-Code receivers are expected to be available in 2017. GPS III and MGUE are currently anticipated for full operational capability in 2025. TCM TR and PD PNT are working closely with Air Force Space Command A5 and the GPS Directorate to ensure Army requirements are documented and addressed in capability and technical documentation.

The PNT Assurance Initial Capabilities Document was approved in April 2010. TCM TR was instrumental in supporting and preparing for the Material Development Decision in September 2011 that officially kicked off the Army PNT Assurance Analysis of Alternatives. The AoA will provide analysis (effectiveness and cost) that will determine optimum solutions for PNT assurance for 2015 to 2025. The AoA will address the viability of current and emerging technologies to provide PNT information under conditions where GPS is not available such as advanced antennae technology, pseudo-satellites, Radio Frequency Navigation, and Autonomous (e.g., Inertial, MEM IMU, Dead Reckoning) technologies. This study will result in recommendations to Army leadership for the future of tactical assured PNT.

TCM-GNE

Host-Based Security System

The HBSS Concept of Operations developed by the Army Signal Center is nearing completion, providing a foundation for the installation of HBSS on tactical systems. The HBSS baseline is a flexible, commercial off the shelf-based application that monitors, detects, and counters against known cyber-threats to Department of Defense Enterprise. HBSS is mandated by The U.S. Cyber Command and the HBSS installation will occur on all Assistant Secretary of the Army for Acquisition, Logistics and Technology assets (unless waived). The Program Executive Office for Command, Control and Communications-Tactical will provide HBSS installation and training for all ASA(ALT) clients on all Southwest Asia tactical unit equipment beginning in October 2011 and

continuing through February 2012. POC: James Hart, DSN 780-6885, james.hart1@us.army.mil.

LandWarNet Initial Capabilities Document

The LWN ICD, which describes the direct and supporting capabilities of the Army Enterprise Network at and above the Combined/Joint Task Force, "outside the tactical formation," was approved by the Army Capabilities Integration Center Director, LTG Keith C. Walker, on 23 October 2011. Once the ICD is Joint Requirements Oversight Council - approved, the Army can begin to establish a single, secure, standards-based, versatile infrastructure linked by networked, redundant transport systems, sensors, war fighting and business applications, and data to provide Soldiers, civilians and mission partners needed information in any environment. POC: Brad Ashing, DSN 780-6901, jeremiah.ashing@us.army.mil.

Enterprise Terminals Modernization

The MET, AN/GSC-52B, will be used to support U.S. DoD, allied and Government X- and Ka-Band communications requirements using the Wideband Global Satellite, Defense Satellite Communications Systems satellites, and XTAR satellites. The MET Program will extend the life of the current Enterprise Terminal Family, reduce life cycle costs, and integrate these terminals with the Global Information Grid communications infrastructure. The first AN/GSC-52B terminal installation is scheduled to begin 1 December 2011 at Fort Detrick, MD. POC: Bob Finnegan, DSN 780-3408, Robert.finnegan1.civ@mail.mil or Frank Stein, DSN 780-6286, frank.stein@us.army.mil.

Electromagnetic Battle Management System/Coalition Joint Spectrum Management Planning Tool

The EMBMS (formerly known as CJSMP) was developed to provide a capability to deconflict the Radio Frequency interference effects of Counter Remote-Controlled Improvised Explosive Device Electronic Warfare systems on communications and other friendly radio operations. It performs electromagnetic spectrum operations mission planning for all force levels from tactical through Joint Task Force, with an emphasis on the Brigade Combat Team level. The EMBMS is a stand-alone application targeted for use by the Electromagnetic Spectrum Manager, Army MOS 25E, as well as the spectrum management professionals from the other Services, and civilians. It operates on a laptop over the SIPRNET. To date, approximate 150 personnel from all branches of Service, including civilians, have received training on EMBMS.

The current version, 2.1.1, has been trained and fielded to two units who are currently deployed in Theatre or deploying in the near future. The EMBMS is undergoing further development to enhance both its spectrum management capabilities and the capability to identify and mitigate or eliminate the effects of jammers on friendly systems. Version 2.1.2 is a complete redesign of the user interface with many added capabilities and enhancements. It is currently under development with a tentative release of 4th QTR FY12.

An Army test of the application is planned during the Network Integration Evaluation 12.2 in the 3rd QTR FY12 at Fort Bliss, Texas. POC: Shawn Sweeney, DSN 780-3947, shawn.patrick.sweenet@us.army.mil.

ACRONYM QuickScan

ARCIC - Army Capabilities Integration Center
ASA(ALT) - Assistant Secretary of the Army for Acquisition, Logistics and Technology
BCT - Brigade Combat Team
C/JTF - Combined/Joint Task Force
CJSMP - Coalition Joint Spectrum Management Planning Tool
CONOPS - Concept of Operations
COTS - Commercial off the shelf
CREW - Counter Remote-Controlled Improvised Explosive Device Electronic Warfare
CTSF - Central Technical Support Facility
DoD - Department of Defense

DSCS - Defense Satellite Communications Systems
EMBMS - Electromagnetic Battle Management System
ESM - Electromagnetic Spectrum Manager
GIG - Global Information Grid
HBSS - Host-Based Security System
ICD - Initial Capabilities Document
JROC - Joint Requirements Oversight Council
JTF - Joint Task Force
LWN - LandWarNet

MET - Modernization of Enterprise Terminals
NIE - Network Integration Evaluation
PEO C3T - Program Executive Office for Command, Control and Communications-Tactical
RCIED - Remote-Controlled Improvised Explosive Device
RF - Radio Frequency
SIPRNET - Secure Internet Protocol Router Network
TCM GNE - TRADOC Capability Manager, Global Network Enterprise
WGS - Wideband Global Satellite

WIN-T Way-Ahead

Recently, Army leadership has challenged us to sustain our force and to provide depth and versatility to the joint force. The effectiveness of our future employments will be marked by the flexibility of our communications systems supporting strategic and tactical leaders. Army senior leadership has recognized that the cornerstone of modernization is the network.

The Warfighter Information Network-Tactical program of record is proving its relevance by changing and evolving in fielding greater at-the-halt network capacity as well as timely advances in on-the-move technology.

The WIN-T Increment 2 Production Qualification Test-Government, or PQT-G, was the major developmental test leading to the upcoming operational test and fielding, which is expected in FY 2013. The PQT-G was the largest instrumented test ever held at the Aberdeen Test Center. During the six-week event, hundreds of personnel collected thousands of gigabytes of data on the network's performance. Data collected included how fast messages travel, how reliably they arrive at their destination, throughput assessments and whether the network is successfully prioritizing urgent

messages ahead of routine data traffic. The PQT-G was based on an operational mission set that is fundamentally built around the unit structure of 2nd Brigade, 1st Armored Division.

During the spring of 2012, WIN-T Increment 2 Initial Operational Test and Evaluation will be conducted at White Sands Missile Range, N.M., with 2/1 AD as the test unit and as part of the Network Integrated Evaluation 12.2. While Increment 2 is focused on providing the fundamental technical functionality for mobile networking, upcoming technical inserts and the addition of Increment 3 to WIN-T's capabilities listing will allow the network to adapt to changing future mission parameters and conditions.

Planned improvements to WIN-T transmission systems include but are not limited to: increased SATCOM capabilities, new radio designs for aerial and terrestrial platforms, smaller form factors of complete configuration items for specialized units, new antenna technology and designs, and increased network operations applications and techniques.

Documentation for these improvements will likely be in the format of complementary ACAT III Capabilities Production Documents within

the TRADOC community and forwarded to the Army Staff. Alternate means of procuring these improvements could include directed decisions from the program's Configuration Steering Board or by Engineering Change Proposals within an increment's program acquisition management.

Increment 3 of WIN-T is tentatively scheduled to begin fielding in the FY2018-19 timeframe.

Discussions are underway to correctly scope the entire effort to effectively modernize the critical aspects of future tactical networks as well as integrate stand-alone technologies, like cellular, into the WIN-T system of systems. Documentation of Increment 3 requirements will re-start in 1st Qtr FY2012. (Army leadership had discussed the possibility of not continuing the WIN-T increments past Increment 2) Recent determinations are aligning resources and the TRADOC requirements/architecture will be major supporting documents for the Increment 3 development.

Major technologies that will be milestones of achievement for the network in Increment 3 are the arrival of the WIN-T Wide Area Network aerial tier (to complement the terrestrial and satellite tiers) and fully integrated Network Operations.