

MICRO-CYBER BRINGS SWEEPING CHANGES THROUGHOUT U.S. ARMY

By COL Robert Barker

A massive transformation of the Signal Regiment has been cleared to move forward according to the Chief of Signal.

During an awards ceremony held 6 June 2011 in Alexander Hall recognizing individuals at the center of the recommended modifications, MG Alan R. Lynn explained the reason for the sweeping changes. "The Signal Regiment is addressing all of the

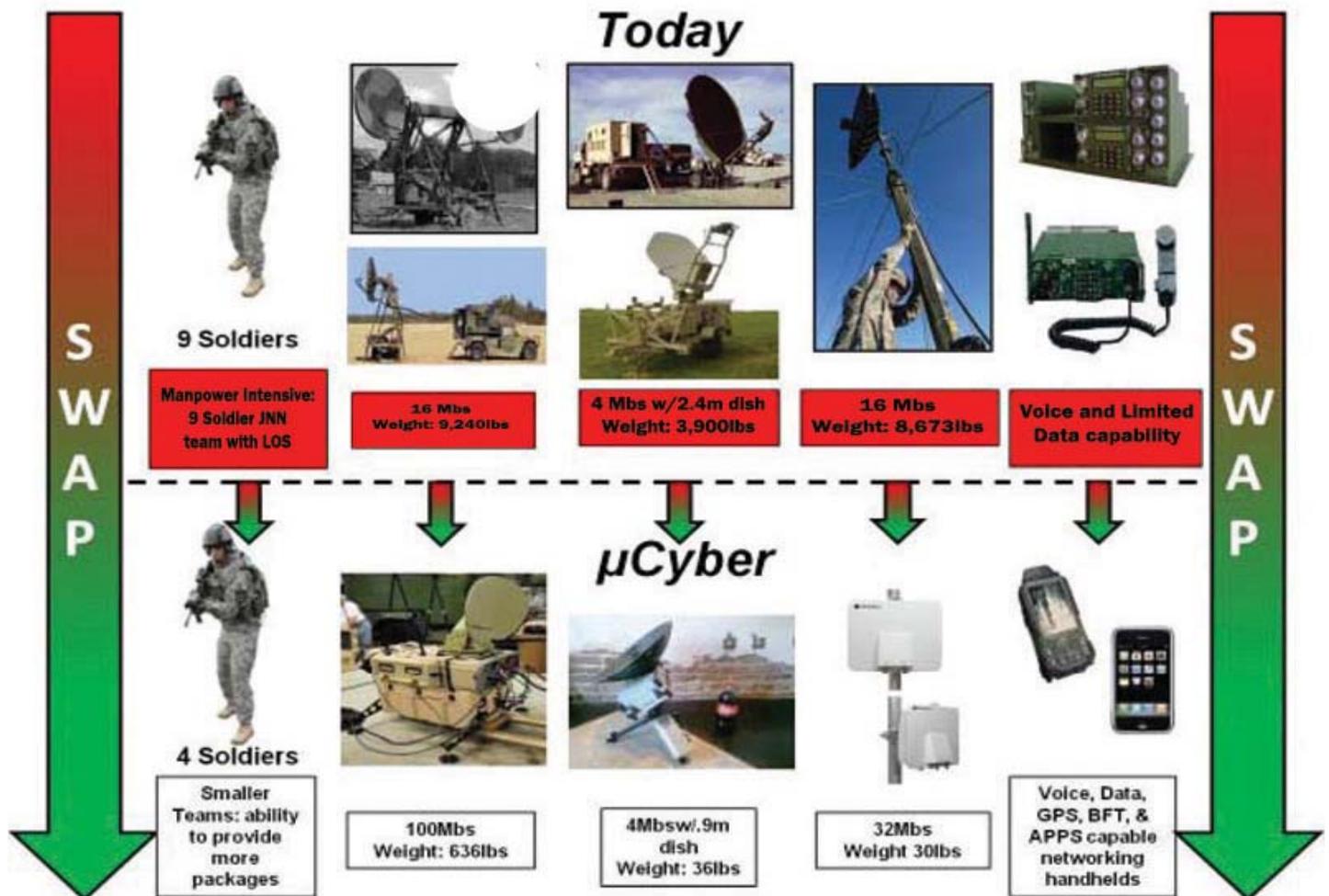
issues identified in the Signal Tactical Functional Area Assessment by moving to what we call micro-cyber. We will train our Soldiers to be more flexible, to serve more people with smaller systems and to do all this with the same staffing levels and no funding increase."

His announcement came last week as nearly two years of intensive study and planning moved through a pivotal point when the U.S. Army deputy chief

of staff approved the Signal Regiment's development plans.

"The FAA provided a top to bottom look at the challenges facing the regiment in supporting Army full spectrum operation in the future. The analysis showed that the Signal Regiment had operational gaps that must be addressed," said COL Robert A. Barker, Capabilities Development Integration Directorate director.

The critical services signal



Soldiers provide are needed at virtually every level of operations. The FAA indicated that current organizational structures do not provide adequate coverage to theater units, functional brigades and battalions, and maneuver companies unless signal assets are embedded. In addition the modular force structure does not provide the training and leader development of embedded Signal forces.

An even greater issue facing the Signal Regiment is the need for accessing and fielding rapidly evolving cyber technologies to war fighters at all levels.

COL Barker said, "The FAA analysis compared the regiment's current missions to its future requirements outlined in the Army Capstone Concept and Army Operational Concept. Today the regiment is organized to support combined arms maneuver, provide support to battalion level, support the ASCC as the warfighting headquarters, and provide theater centric network services. The new AOC requires the regiment to support combined arms maneuver and wide area security operations, extend support to company level and below, support corps and divisions as the warfighting headquarters, and operate and defend a 24/7 Army single network enterprise."

To meet this mandated call for expanding service delivery, the Signal Center of Excellence developed a course of action addressing the gaps identified in the FAA analysis and fulfilling the three immediate network capabilities required in the Army network modernization strategy: provide beyond line of sight, provide mission command on the move, and integrate the Soldier into the network.

The current Warfighter Information Network-Tactical and Joint Tactical Radio System provide the mission command



on the move capabilities and integration of the Soldier into the network, but do not provide the capabilities to fully network the force in support of the CSA's vision. To obtain the additional capabilities required to develop a fully networked force, the FAA focused on transforming the Expeditionary Signal Battalions to a more modular organization with increased deployable Signal capability without increasing the personnel end strength.

The ESB will be converted to an ESB - Enhanced consisting of smaller, more transportable, modular, scalable network support packages fielded with the most current commercial technologies available. The network support packages, termed micro-cyber, are the future of the Signal Regiment.

COL Marc D. Harris, U.S. Army Signal Center chief of staff said, "This is huge. It reshapes the way the Army trains and fights."

COL Barker said, "micro-cyber will provide mission command essential capabilities across all echelons. The regiment will transition the Signal military occupational specialties to develop the multi-disciplined Soldier required for micro-cyber."

The current 13 MOSs will be reduced to seven in the future.

The micro-cyber institutional training will transition from pure assemblage training to an educational approach providing the knowledge to understand, and transition between, continuously changing commercial technologies.

Digital training applications will be developed to support the Soldier's learning of new equipment versions in support of their base education of network theory.

The ESB-E will consist of four separately deployable companies as the base elements for BOG:DWELL (deployed: home ratio) in the Army Force Generation cycle and are deployable down to team level in the Joint Operation Planning and Execution System process. The ESB-E will provide 70 network support packages, an increase of 40 from the current ESB's capability, and a deployable Network Operations Command and Control headquarters. The additional capability increases the available Signal assets from 34 percent to 98 percent in each phase of the supply based ARFORGEN cycle.

The FAA addresses additional operational gaps supporting the Army Operational Concept and the modernization of the

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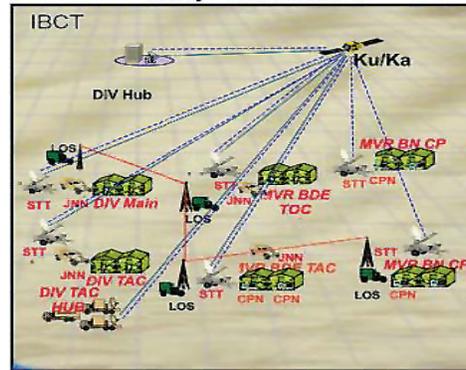
BCT NETWORK

Army network. The FAA defines new doctrinal and support concepts to address the transition to the corps and division as the war fighting headquarters by assigning OPCON of theater tactical Signal brigades and ESB-Es to corps and divisions during the RESET phase of the ARFORGEN cycle. The C2 relationship allows the organizations to coordinate network planning, develop standard operating procedures, and train during the train ready phase of ARFORGEN producing a fully developed relationship before deployment in the available phase.

The TTSB or ESB-E will provide additional NETOPS support to the supported command and become the core element of a Joint Network Control Center if transition to a JTF is required. The relationships will allow the TTSB and ESB-E to provide training readiness oversight and leader development of embedded signal organizations within the supported units reducing the shortfalls identified today in numerous after action reports from the Combat Training Centers. The fielding of JTRS produces a NETOPS shortfall across all echelons. Each waveform of the JTRS family of radios requires a NETOPS control terminal for mission planning. To meet this requirement, under the condition of no personnel growth, the FAA provided an acceptable risk strategy to provide one Soldier at maneuver companies, two at battalion, and one at brigade by converting the Wireless Extension Teams to JTRS network managers.

The FAA was presented as Decision Point 160 in the Army Campaign Plan and approved by the Army chief of staff. The plan is to implement the force design update and fund the implementation through the Army Network Modernization Strategy

Today – WIN-T inc 1

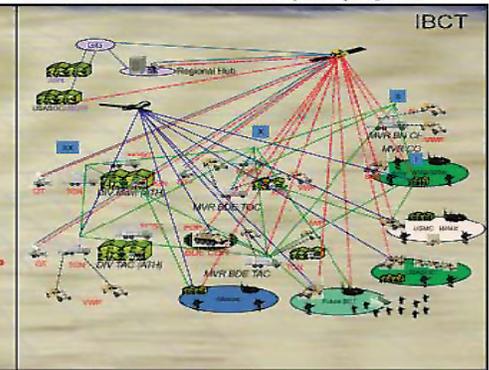


Provides 7 WIN-T Points of Presence:

- 2 – JNN
- 5 – CPN

CNR per BDE – 1836 radios

Tomorrow – WIN-T inc 2 plus μ Cyber



*Provides 61 WIN-T Points of Presence:

- 8 – TCN
- 7 – POP
- 33 – SNE
- 13 – Mvr CO CP (ESB-E transport)

CNR per BDE – 3370 radios

*Can operate when connected or not connected to the Global Network Enterprise

using modernization and technology insertion without creating an additional funding requirement for the Army.

The 86th Expeditionary Signal Battalion has been identified to support the proof of concept for the FAA. The 86th will have two companies fielded with the new network support packages and will conduct the proof of concept during the Network Integration Evaluation at Fort Bliss, Texas. The final company, upon release from HLD requirements, will be fielded prior to the battalion being returned to ARFORGEN support. The 11th Signal Brigade will serve as the senior Signal commander and provide TRO support to all Brigade Modernization Command Signal units, completing the full concept

validation of all FAA operational concepts. These fundamental transformations will allow the Signal Regiment to provide network capabilities across the full spectrum of operations at all echelons. The capabilities provided fully support the operational network with TS/SCI, coalition network, command and control VTC, full motion video, and deployable network operations planning and engineering in support of Army, JIIM, and HLD/CS missions. The ESB-E micro-cyber is the transition of the Signal Regiment into the future and allows continuous integration of emerging cyber technologies into the force through capability set fielding in synchronization with the ARFORGEN cycle.

ACRONYM QuickScan

ARFORGEN – Army Force Generation Cycle
ASCC – Army Signal Capstone Concept
AOC – Army Operational Concept
C2 – Command and Control
CTC – Combat Training Centers
ESB – Expeditionary Signal Battalion
ESB-E – Expeditionary Signal Battalion-Enhanced
FAA – Functional Area Assessment
JOPES – Joint Operation Planning and Execution System
JNCC – Joint Network Control Center
NETOPS – Network Operations
VTC – Video Teleconferencing
WIN-T – Warfighter Information Network-Tactical