

***Expeditionary  
Signal Battalion set  
to do more with  
fewer personnel***

## Expeditionary Signal Battalion set to do more with fewer personnel

*By MAJ Lan T. Dalat*

The current expeditionary Signal battalion, also known as the integrated theater Signal battalion – joint network node, was developed by the Director of Combat Development Center at the U.S. Army Signal Center of Excellence to mitigate the shortfalls of the divisional Signal Corps organizational concept.

Approved by the U.S. Army vice chief of staff on 10 Nov. 2006, the 485 personnel ESB design allows the Army to transform toward the modular force structure. To further refine the ESB design while conducting two wars, the SIGCoE adopted the “Transforming Cyber While at War” philosophy to correct deficiencies within its current design.

The ESB design has been revised twice to maximize its capability. The approval of the first revision in April 2009 reduced 23 spaces within the Table of Organization. In May 2010, the ESB took on its current form, which adds two Secure Mobile Anti-jam Reliable Tactical Terminals to each battalion. With the establishment of the expeditionary Signal battalion, the Army has the ability to deploy 30 points of presence that connect deployed command posts from the battalion level up to joint task force headquarters. The ESB design meets the Army’s communications requirement for a modular force operating in theatre

with the basis of using existing technology such as the Warfighter Information Network – Tactical Increment 1 and the Single Shelter Switch 3 with Internet protocol based switching. These battalions enable mission command within combined arms maneuver operations using theater-centric network services but still lack capabilities in many areas such as coalition network connectivity, video teleconferencing capability for command and control, and command post support to lower level echelons.

In support of the current modular force structure in the Army force generation, the Army must man and equip 24 ESBs with a combined strength of more than 11,000 Soldiers. The break down includes 12 ESBs in the active component, seven ESBs in the Army National Guard, and five ESBs in the Army Reserve. In recent months, the 307th ESB deployed to northern Afghanistan to remedy a problem with U. S. communications infrastructure. According to both, MAJ David W. Gill, 307th ESB S3, and CPT Aaron M. Parker, 307th ESB assistant S3 and battle captain “the battalion literally built the strategic network from the ground up using the Node 200 along the battalion’s organic satellite terminals. The battalion also established line-of-sight circuits to provide communications services to the Regional Command – North headquarters. However, the

communications requirement from disadvantaged users on Camp Marmal and various forward operating bases exceed the capability of Node 200 and the 307th ESB’s organic assets.”

In a recent Force Design Update cycle 11-1, The Signal proponent functional area assessment indicated that the current ESB design could only support 34 percent of command posts within an ARFORGEN deployment cycle. To increase the capability gaps for CPs that lacked network connectivity, in February 2011 SIGCoE leaders refocused efforts on modifying formations’ design to increase Signal capabilities without adding more personnel. The challenges for SIGCoE leaders begins when they must address immediate shortfalls that range from providing network connectivity for a maneuver company of a brigade combat team to a joint task force headquarters deployed in theatre. To provide this type of coverage without adding more personnel, the changes must be modular, scalable and reduce the logistic footprint. The organization of an ESB must also be restructured with more teams, equipped with more capabilities, to support the current and future ARFORGEN deployment cycle. The restructured battalion will be based on an “everything over Internet protocol” communications architecture.

“The network support

packages, termed Micro-Cyber, are the future of the Signal Regiment. “μCyber” will provide mission command essential capabilities across all echelons” MG Alan R. Lynn, U.S. Army Signal Center of Excellence commanding general and Chief of Signal, said on 20 May 2011.

Based on the Chief of Signal’s discussion, the equipment for the restructured Signal battalion must be lightweight modern technology with superior networking capability that will double the Signal capabilities in terms of point of presence.

This would also address the shortfalls in the ARFORGEN deployment cycle by providing a significant increase in the available pool of communications support packages. The increase will go from 150 to 432 network support packages. Additionally, the disadvantaged units such as theater units, functional brigades and battalions, and maneuver companies will enjoy increased



capacity and capability moving from 34 percent up to 98 percent communications coverage.

Under the current FDU cycle, the SIGCoE has proposed changes to the current ESB with the Expeditionary Signal Battalion - Enhanced. If this change is approved, the Signal Regiment will have the most technologically advanced Signal battalions equipped with EoIP technology. The ESB-E will primarily use modern commercial off-the-shelf and available government off-the-shelf equipment to leverage the superior communications capability that is tailorable to

address a full range of mission capabilities within the full spectrum operating environment. The bottom line is that these changes will save the Army more than \$11.5 million dollars annually to include the active component, the Army National Guard and the U.S. Army Reserve’s ESB-E based on a cost analysis estimate of the current FDU.

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## ACRONYM QuickScan

**ARFORGEN** - Army Force Generation Cycle  
**ARNG** - Army National Guard  
**BCT** - Brigade Combat Team  
**CENTRIX** - Coalition Enterprise Regional Information Exchange  
**CGSC** - Command and General Staff College  
**COTS** - Commercial off-the-shelf  
**CP** - Command Post  
**C2** - Command and control  
**EoIP** - Everything over Internet Protocol  
**ESB** - Expeditionary Signal Battalion  
**ESB-E** - Expeditionary Signal Battalion - Enhanced  
**FAA** - Functional Area Assessment  
**FDD** - Force Design Directorate  
**FDU** - Force Design Update  
**FOB** - Forward Operating Base  
**GOTS** - Government off-the-shelf  
**Inc-1** - Increment 1  
**IP** - Internet Protocol  
**ITSB-J** - Integrated Theater Signal Battalion - Joint

Network Node  
**ILE** - Intermediate Level Education  
**JTF** - Joint Task Force  
**NATO** - North Atlantic Treaty Organization  
**PoP** - Point of Presence  
**RC-N** - Regional Command - North (Afghanistan)  
**SATCON** - Satellite Control  
**SIGCoE** - U. S. Army Signal Center of Excellence  
**SMART-T** - Secure Mobile Anti-jam Reliable Tactical Terminal  
**TOE** - Table of Organization  
**USAR** - United States Army Reserve  
**USDCM-A** - United States Deployable Communications Module A  
**VCSA** - Vice Chief of Staff of the Army  
**VTC** - Video teleconferencing  
**WIN-T** - Warfighter Information Network - Tactical  
**μCyber** - Micro-Cyber