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ARMY Communicator

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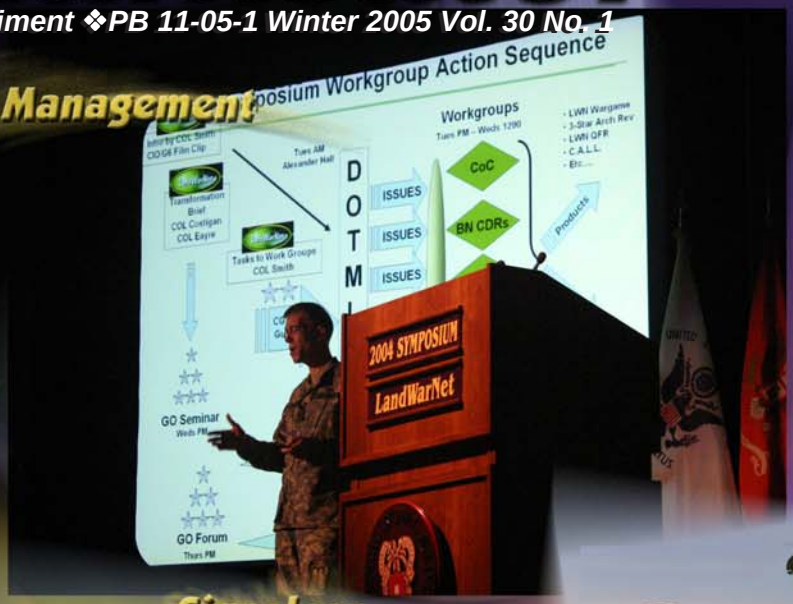
Spectrum Management



Modularity

Signaleer

Transformation

LandWarNet

Life-long Learning

JNN Joint Network Nodes

Chief of Signal's Comments

In midst of change, Regiment provides unsurpassed capability

Regiment, it seems like months ago, but just several weeks ago, we completed the 32nd Regimental symposium. It was wonderful to see so many old friends and to work with all of you in the continuing transformation of our Signal Regiment. So, in this edition of your *Army Communicator*, you will see many traditional articles, but also a report out of our symposium.

It was a great week. What a time to be a Signaleer! This year, we changed the line-up a bit and started on Tuesday morning with a LandWarNet "primer." It feels as if we have made more changes in the last year than we have in the last ten combined … we have. Although the old saying that "nobody likes change" is probably still accurate, I can tell you the Regimental leadership fully embraces the tremendous changes that we have begun. The bottom line to this change is the realization of an unsurpassed networking capability down to and including the maneuver battalion. Our ability to deploy a fully networked force begins with the fielding of the Joint Network Transport Capability over the next few years. With the addition of high-capacity Ku satellite links to every battalion in a brigade combat team, commanders will have the real-time capability to see the battlefield and to act decisively as never before. I encourage you to really get into this issue. You will see reports from every element of our Regiment. Our Councils of Colonels, Warrant Officers and Senior Non-commissioned Officers took hard looks at so many of the issues that are facing the Regiment today. We worked operational, technical and personnel issues that will directly affect the health of our force. In various fora and workshops, we discussed information assurance, migration from current systems to JNTC-S and Warfighter Information Network-Tactical, military occupational specialty transformation, Spectrum Management, NCO Education System changes, roles and responsibilities of Signal Soldiers under modularity and much more. Threaded throughout these workshops were discussions on the criticality of developing training to provide the right blend of skills to build our multifunctional Soldiers and leaders. We've already laid a solid lifelong-learning foundation to provide this training anytime and anywhere, and now we need to continue to focus on using the network to push it from the classroom to the foxhole.

MG Janet A. Hicks
Chief of Signal

Our guest speaker line-up was filled with heavy-hitters, led off by LTG Bob Shea, the Joint Staff J6. LTG Mark Curran, Training and Doctrine Command Futures director, talked about the criticality of the network to the Army's future. LTG Steve Boutelle, Department of the Army chief information officer/G6, finished the morning with a terrific talk on exactly where we are and where we must go in the very near future. All of the speakers

(Comments continued on inside back cover)

Our ability to deploy a fully networked force begins with the fielding of the Joint Network Transport Capability over the next few years. With the addition of high-capacity Ku satellite links to every battalion in a brigade combat team, commanders will have the real-time capability to see the battlefield and to act decisively as never before.

U.S. ARMY SIGNAL CENTER AND FORT GORDON

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ARMY Communicator

Voice of the Signal Regiment

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Cover: Our cover shows highlights from the 32nd Regimental Signal Symposium, focusing on LandWarNet held December 2004 at the Signal Center, Fort Gordon, Ga. Cover by Tammy Moehlman

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MG Hicks delivers address

MG Janet A. Hicks delivered the "State of the Signal Address" to a full house at the opening of the 32nd Symposium in Alexander Hall

by MG Janet A. Hicks and Geofrey Wells

General Shea, General Boutelle, General Curran, other general officers, distinguished guests from the Army, sister services, and industry, commanders and command sergeants major, AFCEA (Armed Forces Communications-Electronics Association) members and corporate sponsors, members of the Signal Regiment, here and worldwide via the Internet, ladies and gentlemen, welcome to the 32nd Signal Symposium.

2004 has been a "helluva" year!! So, it's a great time to stop for a minute, share information, and review the bidding, so we can press on with our very important work. We've all been running at a heck of a pace this year, restructuring the Signal Regiment for the future Army, as the Army transforms. Army senior leadership has just made some key decisions about our future Army. So, it's a good time to update the Signal Regiment on where we are and what's to come.

The theme of this year's symposium has been "LandWarNet – Networking the Force for the Joint Fight," and you've each been in workshops, Councils of Senior Noncommissioned Officers or Colonels, focus groups and others for a digging-into-issues, answering questions, formulating recommendations, and, well, basically, working-your-butts-off for the Regiment.

I appreciate that you've not only made time to attend this year, but you've also worked hard on knotty and complicated issues that face our Regiment. I've asked many, many times *"What Does the Regiment Think?"* and, we're certainly finding out this week! I hope that everyone has felt welcome and encouraged to contribute.

Across the street at the biggest exhibit tent ever, and in the surrounding campus areas, you've seen the latest in C4 (command, control, communications and computers) capabilities from industry and from Army units. The great Joint Communications Support Element conducted an airborne demonstra-

tion on Monday and provided equipment displays all week. Soldiers of the 15th and 93rd Signal Brigades, and the 112th Special Operations Signal Battalion provided outstanding demonstrations this week.

The 3rd Infantry Division and General Dynamics sent one of the new joint network nodes, the JNN, which, while it's an early phase of a new joint-enabling capability, represents the future of Army C4. Thanks to all of you and your troops for their hard work and good demonstrations. They have showcased Signal Soldiers, and sister service communicators, at their best.

Thanks also to New Horizons for the great classes, at no charge, conducted all week long on security, counter-hacking, wireless communications and other subjects.

This year we've fully integrated our Reserve Component partners in all aspects of the symposium.

I know those of you with the U.S. Army Reserve and Army National Guard always look forward to this annual opportunity to meet with your Reserve Component colleagues, but I wanted to be sure the schedule would allow you to be involved in the full range of symposium activities. I hope we've met that goal.

Our theme this year expresses an idea that is simple and direct on the surface. Yet, it represents a powerful combination of ideas and capabilities that will drive the future of the Army and the Signal Regiment for years to come…*"networking the force"* and *"the joint fight."*

The secretary of the Army and the chief have asserted that operations in Iraq and Afghanistan made "very clear the successes and potential of network-enabled operations." They point out the operational advantage created by "shared situational awareness, enhanced speed of command and the ability of forces to self-synchronize."

But, I think the most important statement is the one that tells the Army that we have to "… change the paradigm in which we talk and think about the network;" that we must "fight rather than manage the network;" and that "operators [and commanders] must see themselves as engaged at all times, ensuring the health and operation of this critical weapon system." That's the leadership environment, a very positive, forward-looking environment in which we're moving ahead … to *"network the force in the joint fight."*

I'm sure you noticed that the opening ceremony had a distinctly "purple" tint. We wanted to show from the outset, unmistakably, that we are joint in everything we do. For decades we've thought of "joint" as "interoperable," and certainly, "interoperable" is important. But in today's context, joint is more than interoperability. It's interdependence, the full integration of service capabilities and competencies, the purposeful reliance of each service on the others' capabilities in a way that gives us each the full benefit of complementary and reinforcing effects, while at the same time reducing our individual vulnerabilities. That definition comes from the Joint Battle Command and Control CONOPS (concept of operations).

Understanding and achieving "interdependence" are essential if we're going to cultivate and institutionalize a joint and expeditionary mindset. In an "interdependent" world, the Army provides the Joint Force commander with unique and complementary capabilities across the full spectrum of operations.

The Army Campaign Plan cites that, in turn, "the *Army utilizes [and relies on] capabilities of [sister] services and agencies to accomplish its part of the joint mission.*" All the efforts to transform and modernize the Army and the Signal Regiment that you've heard about this week, will be driven by this fundamental requirement … to build an Army that can fully contribute to an interdependent joint force.

It's the job of the Signal Regiment, as it has always been, to provide the vehicle, the capability, that enables the Army's joint potential. That capability is LandWarNet.

I know you've already heard a lot about LandWarNet this week, and in the past few months. You've probably heard LandWarNet defined as "… the Army's contribution to the GIG (global information grid)."

It's that, true, and much more. LandWarNet expresses a special combination of people and capabilities that transcends "tactical" and "strategic," that encompasses everything from "transport" to "applications," that brings together in a single framework the "operational Army" and the "institutional Army."

LandWarNet is the "ultimate enabler" that makes possible the very idea of a "campaign-quality Army with joint and expeditionary capabilities," and it gives us a unified, coherent program that we can take to Army leadership and Congress.

The goal, then, is a program that synchronizes the development of the network, network services, and user applications to produce a capability that supports both warfighting and business domains, and enables commander-centric operations any time, anywhere, as part of the joint force.

As we grow LandWarNet, I expect Army senior leadership will provide intense oversight, to ensure

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we modernize, inject technology, and keep the capability on track with Army and joint requirements. For now and the foreseeable future, all messages, all efforts, will point to LandWarNet, and how we'll equip and structure the force, how we'll train Soldiers, how we'll prepare leaders, all in a joint context, to make LandWarNet a reality.

This is my third year addressing you as chief of Signal. Each year has been more challenging, more demanding, but at the same time, more rewarding. We're reminded daily that we are an Army at war. The war on terrorism and a host of other missions go on unabated around the globe. Every day, Signal Soldiers provide vital services to the Army and the joint force in Iraq and Afghanistan.

They stand ready across the Pacific and in Korea. They support our neighbors in Latin America, preserve the peace in the Balkans, and always support the defense of our homeland. If you weren't deployed somewhere during the past year, you were recovering from a deployment, or you were refitting and reloading for another mission. More than ever, our success has reflected a truly unified effort, with active and Reserve Component Soldiers side-by-side, fully engaged.

There's been some anxiety about bringing Individual Ready Reservists into the force. I'm happy to report that during the past year we trained over 300 Individual Ready Reservists, and we're preparing to process 500 members of an Armor Brigade of the Georgia National Guard for overseas deployment. They report ready, willing and able. The teamwork to prepare them for deployment has been exceptional.

To those here today, but especially to those who can't be here in person, please know that your Regiment is tremendously proud of you and all you've accomplished. You inspire all by your courageous dedication in the face of great danger, hardship and personal sacrifice.

Even as we're engaged in intense global conflict, Army leadership recognizes the need to transform the force to meet new and different challenges of the future. The chief made the decision to accelerate transformation, and we've been in overdrive this past year reshaping the Army into a "modular" template. It's been a spectacular team effort.

Using a modified future force model, TRADOC's (Training and Doctrine Command) Task Force Modularity built a new organizational design that's been used to transform 3rd ID (Infantry Division) into a modular force. That design (with lessons learned from 3ID) will be used to transform the 101st, the 4th Infantry, the 10th Mountain, the 1st Cavalry, and ultimately, all Army division-level forces. The speed with which this transformation has occurred reflects the chief's total focus on our Army at war, on his clear intent to invest in current force capabilities, and on his desire to move future capabilities as far to the left and as quickly as possible.

The chief made the decision to accelerate transformation, and we've been in overdrive this past year reshaping the Army into a "modular" template. It's been a spectacular team effort.

In the course of this transformation, we've extended a full range of "enterprise" capabilities to the division level, and below. We've already delivered new systems to the 3ID, and, in just days, they'll be en route to Iraq for another rotation. We're learning a lot from the 3ID experience, and will apply those lessons to transformation across the force.

Special thanks to our industry partners in this effort. Industry's response to the Army's very short-fused transformation needs has been astounding! They jumped right on our requirements, quickly offered sound solutions, started "bending metal" before the ink was dry, and delivered unprecedented capabilities to our warfighting units in, literally, record time.

We've had a great team across the Regiment working the restructure efforts. It was originally headed by MG Dave Bryan, and is now led by MG Dennis Moran, along with players from across DA (Department of the Army) staff, NETCOM (Network Command), CECOM (Communications-Electronics Command), FORSCOM (Forces Commnad), USARPAC (US Army Pacific), USAREUR (U.S. Army Europe), Third Army, Eighth Army, Army Reserve and Army National Guard HQ (Headquarters), 5th Signal Command, 311th and 335th Signal Commands, 516th Signal Brigade and the Signal Center staff. Just as important have been the tremendous input and great support from the tactical units — 1st, 3rd, 7th, 11th and 22nd Signal Brigades; the 123rd and 501st Signal Battalions, and the list is endless.

Another team that deserves high praise is Task Force Network, headed up by COL Jim Costigan, the Signal Center director of Combat Development. I told you last year what a great job this group did defining network requirements and gaining TRADOC approval. This year, I can report that the chief of staff of the Army approved Task Force Network recommendations, and we're moving forward.

TF (Task Force) Network has been instrumental in bringing off-the-shelf SATCOM and data solutions to transforming units all the way down to battalion level. But perhaps the most important result has been the agreement to pursue an Enterprise approach to the funding, acquisition, and fielding of network initiatives. That means better coordination, better tracking by the Army staff, and the elimination of "drive-by" fieldings.

In October, the Army Require-

ments Oversight Council approved a concept production document titled "Bridge to Future Networks." This document defines the Joint Network Transport Capability-Spiral program, which in turn, will bring much improved capabilities to the field in a logical, synchronized and fully-funded manner.

Through all of this, your Battle Lab has continued to play a key role, by bringing Time Division Multiple Access SATCOM capabilities to the 1st and 2nd Stryker Brigade Combat Teams in Iraq, and to 16 Provisional Reconstruction Teams in Afghanistan, by training and advising the 3rd ID as they integrated TDMA into their transformed communications architecture, and by working with Army and Joint organizations to evaluate SATCOM options that can support wideband Battle Command on-the-move capabilities as a bridge to WIN-T (Warfighter Information Network -Tactical).

If you took notes last year, you'll remember hearing that…

- "The network has to enable maneuver, not limit it."
- "We need a network that doesn't rely on node centers and isolated sites."
- "We have to bring capabilities to the warfighter in a standard, joint-compatible form, as part of a coherent Army-funded program, rather than the ad hoc, random, off-the-shelf with end-of-year funds solutions that commanders have had to employ in the past."

I think you'll find the work we've done over the past year, with the help of everyone from the DA staff to Signal units in the field, has gone a long way to resolving all of these issues. Now that we've completed TF Network's original mission, we're transitioning this large and very capable group to oversee LandWarNet. It's still a fully integrated team effort across the Regiment, and across the Army.

So where do we go from here? Army leadership reminds us that "we're a nation at war, that sustained operations will be the norm, that the Army must be optimized for joint operations, and that transforming the force while we're at war will be far from business as usual." Units are already restructuring and redeploying with new systems and better capabilities, and we're continuing the process with follow-on units as they prepare to redeploy.

The next challenge is completing the design of the operational echelon that will combine corps and numbered Army functions. It's called the "UE-y." The chief has approved the initial design work by the integrated concept team, and the final product should go up for his approval early next year. Then, unit transitions will begin.

These changes will have a direct impact on corps and EAC (echelon above corps) Signal units. The Signal restructure team has already begun work designing a Theater Network Command, a TNC, an idea that's gained "traction" with Army leadership, and a restructured Theater Network Operations and Security Center. The team's also started refining the structure of our Signal brigades and battalions to meet the demands of the UE-y. There's still much to do, but the work to date indicates the continued existence of a substantial Signal force structure to support the echelon above division and regional combatant commands.

The accomplishments have been achieved through a great collaborative effort by members of the Signal team around the world, NETCOM, CIO/G-6, MACOM G6s, and the active and Reserve Component Signal commands, brigades and battalions. We've had terrific support from 5th Signal Command, 335th Signal Command, who, while supporting operations in the Middle East, created the baseline design for the UEy G6 shop, 311th Signal Command, the 3rd ID, the 101st, the 4th ID and more. The point is, when we asked for your help, your experience and your ideas, you were there and it's made a huge difference.

Finally, we're continuing to work LandWarNet through TRADOC and leadership in the Pentagon. The effort is being expertly directed by COL Jeff Smith, the Signal Center Deputy commander. So far, the reception has

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been very positive. But there is much critical work to do in the year ahead, and we must get it right!

Of course, transformation is about more than technology and force structure. It's about people. Let me talk first about warrants. I introduced you to our new Regimental Chief Warrant Officer last year, CW5 Andy Barr. Chief's become a great addition to the Regimental leadership team.

There have been lots of changes in the warrant world. Warrant officers gave up their cherished "eagle rising" insignia back in July — in exchange for crossed flags, and they're now being rapidly integrated into the officer personnel management system. You're going to see younger warrants out there and, over time, you'll see more CW5s. We're recruiting warrants earlier, and the Signal Regiment is leading the way in just about every aspect of warrant officer development and career management.

Transformation is about more than technology and force structure. It's about people.

Our warrants are providing critical skills for the transforming force, filling key positions in brigade combat teams and support brigades. Every brigade S6 shop and every Network Support Company will have a warrant officer. That will provide considerable confidence to Signal leaders at all levels. The rapid increase in our warrant authorizations will put some pressure on us, but we're working it hard.

On the enlisted side, we're factoring in all the new capabilities we're fielding to ensure we have the right MOS (military occupational specialty) mix. As part of this effort, CSM Mike Terry and fellow command sergeants major from across the Regiment have been reviewing plans to streamline the number of MOSs. The key will be ensuring our ability to provide the force with Soldiers with the right skills at the right time. In the near term, we're adapting our existing MOS structure to the demands of new equipment, new structure and evolving doctrine.

Some of the most significant changes lie with the officers. As we restructure divisions under the Modularity program, we're deactivating the division Signal battalion and, in its place, standing up eleven Signal companies and detachments, each organic to a brigade combat team, a support brigade or the division/UEx HQ (headquarters).

At brigade level, the network support company will be commanded by a Signal captain. The company supporting the division/UEx HQ will be commanded by a Signal major. We've populated the division/UEx G6 and the network support companies with greater numbers of Functional Area 24 and Functional Area 53 officers to enhance network support of operations.

The S6 element in brigade combat teams and support brigades has been beefed up with more Soldiers, a 254A Signal support warrant officer and a 53A information systems management captain. These additions, along with an organic network support company, will give the S6 unprecedented capability and responsibility.

The division/UEx G6 is a centrally selected two-year lieutenant colonel "key billet." This initiative started when the chief said "it's critical to get the right officers in key positions in the UEx." Five G6 billets are currently being considered for fill in FY (fiscal year) 06. I expect some of our best Signal officers and sergeants major will fill these tough and very important jobs. The 3rd ID is leading the way on implementing the new G6 construct, and the 10th, 101st and 4th divisions are close behind.

Accession numbers are up for Branch 25, but also for Functional Areas 24 and 53. We're doing well in retention and promotion. We're working closely with TRADOC, Human Resources Command, and the Army G1 to resynchronize OPMS III to address the current operational environment, evolving structure changes and force stabilization initiatives. Some of the changes you can expect to see are …

- Elimination of the system we now know as "branch qualification" in favor of more performance-based measures of success.

- Early career-field designation for officers selected to attend graduate education.

- And, establishment of more "key billets" in the command selection process.

Finally, we'll be working on Signal structure at the operational level, in the UEy. Supporting this new echelon that merges corps and Army functions will have a significant impact on Signal force structure and on the way we manage people.

It's still a work in progress, as I mentioned earlier, with many unknowns and much work yet to do. In all of these personnel issues, enlisted, NCO, warrant and officer, we'll continue to need support and input from the field. This is another tough challenge and we've got to get right.

The chief of staff has quoted General of the Army George C. Marshall as having said, "An Army at peace must go to school." But the chief also notes, "Our challenge is to go to school while at war." This quote takes on greater meaning as we figure out how to provide the right Network Operations training solutions for a modular Army, and how to meet the challenge of training the Signal Regiment to support strategic, deployed, maneuver and joint forces.

In each of the past three symposia, we've unveiled the tools of our Lifelong Learning strategy. We've made great progress in reaching out to deployed and in-garrison Soldiers, to tactical and strategic Soldiers, but we aren't all the way there yet. Full use of the network will enable us to offer schoolhouse training to units as if they were right here at the Signal Center. Future training will use the network to optimize learning during new equipment training to assist units in restructuring and redeployment. NET products must be developed in a way that will support sustainment training for both the unit and the institution.

Content must be developed to provide a blending of skills, crossing traditional duty positions and MOSs without the constraint of today's MOS structure. We must build multi-functional Soldiers and leaders who are able to perform basic and functional tasks upon arrival at their units, by providing them the capability of honing the skills they need. Our Regiment, more than any other, is empowered to deliver a network capable of training flexible, adaptive and thinking Soldiers and leaders on a real-time or near-real-time basis.

To provide Soldiers and leaders the necessary skills, we've designed a networked training support strategy for the brigade combat teams. Training for the LandWarNet at the unit level will be delivered via the LandWarNet Support Operations Center. While a new term to most of you, it's something you've been doing "out-of-hide" for years in your own "Digital Universities." What we're proposing is a standardized facility where regional training support for individual training, NET, sustainment training, assignment-oriented training, MOS training and joint integrated network training will be provided.

The LSOC will allow commanders to execute mission rehearsals, develop courses of action, and model a variety of deployment scenarios for geographic locations around the world. It'll give home station operations centers "reach" that will permit regional units to tie into the GIG (global information grid) for training. In fact, we propose the LSOC to be the key home station support for the joint force. The LSOC is a new concept that provides structure to better facilitate and deliver on the promises of Lifelong Learning.

The Signal Regiment is strong, dedicated and working hard to achieve the goals set out for us.

At the schoolhouse, our first steps toward achieving Lifelong Learning were concentrated on building courseware and content for our Soldiers, while providing them with opportunities to practice and acquire skills using simulations. The simulations we developed are for use by individuals, units and the schoolhouse. We've had success working with the PMs and with industry in developing simulations to support early equipment fielding. Examples are the FBCB2 (F) and the brigade subscriber node simulations.

We've made headway jump-starting resident training to meet the joint network transport capability-spiral requirements. We have a contract in place to develop the Network Managers Course, the first of which will be next month. General Dynamics is developing simulations to teach the Joint Network Node and the Ku Band satellite terminal in support of JNTC-S. Delivery of these training tools and use of the Lifelong Learning technology will allow us to leverage effective training solutions in all environments.

It'll also allow us to quickly "retool" the schoolhouse, while providing the same state-of-the-art training technology and techniques to unit commanders. Trainers will be able to plan, design and manage training events, offering standardized, synchronized and collaborative learning opportunities to Soldiers and leaders wherever they are and whenever they need it.

This is exciting! And it's exactly what we want training to do. Yes, there are challenges to achieving these goals, but the technology, the know-how, the vision … they're all here today, in our own Signal Regiment. There are always risks involved in breaking new trails, but the risks in not moving ahead are greater. Somebody has to do it! Why not we? We have to reach out with training to ensure our Soldiers have the capabilities, the knowledge, and the skills to network the force in the joint fight. It's a tough challenge … and we've got to get it right!

So that brings me to the "State of the Regiment."

Whether you measure the strength of your Regiment by yesterday's accomplishments or tomorrow's capabilities; by technical skills or innovative thinking; by devotion to Army values or individual courage and sacrifice, you'll find the Signal Regiment is strong, dedicated and working hard to achieve the goals set out for us.

You are doing great things for your beloved Army and for your country. Stay in touch—and that includes those of you attending virtually…and I'll do the same.

Recognize and accept change. Change is part of our regimental tradition.

And, as always, think Joint! We know where we're going, we know we have the skills to meet the challenge head on, we know we have you with us, and we know together we WILL get it right!

Be positive.

Be creative.

Be part of the solution.

Speak with one voice.

Promote the vision.

Thank you.

MG Hicks is the chief of Signal for U.S. Army Signal Center, Fort Gordon, Ga.

Acronym QuickScan

AFCEA – Armed Forces Communications Electronics Association
C4 – command, control, communications and computers
CONOPS – Concept of Operations
DA – Department of the Army
EAC – echelon above corps
FBCB2 – Force XXII Battle Command Brigade and Below
FORSCOM – Forces Command
FY – fiscal year
GIG – global information grid
HQ – headquarters
ID – Infantry Division
JNN – joint network nodes
JNTC-S – Joint Network Transport Capability-Spiral
LSOC – LandWarNet Support Operations Center
LSOC – LandWarNet Support Operations Center
MACOM – major command
MOS – military occupational specialty
NET – new equipment training
NETCOM – Network Command
OPMS – Officer Personnel Management System
PMs – program managers
SATCOM – satellite communications
TF – task force
TNC – Theater Network Command
TRADOC – Training and Doctrine Command
USAREUR – U.S. Army Europe
USARPAC – U.S. Army Pacific
WIN-T – Warfighter Information Network-Tactical

Focus on LandWarNet

at brigade, battalion level S6 workshop

by *MAJ Dave Palmer*

The S6 Workshop was conducted as part of the 32nd Signal Regimental Symposium. With more than 60 participants attending, it was a success.

The workshop focused on LandWarNet issues at the brigade and battalion levels, and issues included modularity, Tactical SATCOM, Lessons Learned, and tactics, techniques and procedures. MAJ Dave Palmer from the 442nd Signal Battalion facilitated the workshop and key organizations represented included the Joint Readiness Training Center, 3rd Infantry Division and 1st Cavalry.

The Directorate of Combat Developments provided an overview brief on modularity and how it impacts the S6. This was augmented by valuable feedback from those currently undergoing restructuring in 3ID.

Due to these doctrinal changes and cultural shifts we as Signaleers must understand potential impacts on maneuver commanders. Understanding the role of the S6 and the Signal company is even more important today in order to meet ever-growing requirements for command, control, communications, computers, intelligence, surveillance and reconnaissance. MG Janet Hicks' visited the workshop and reemphasized the significance of the S6 and support to the warfighter.

The setting was an open forum, allowing participants to discuss relevant issues and recommend solutions to problems faced by S6s, especially those deploying in the near future. One of the more beneficial aspects of the conference was the discussion on collaborative tools to allow S6s to share ideas, techniques and procedures, provide feedback and query for assistance.

We unveiled the S6 Forums located on the University of Information Technology (https://uit.gordon.army.mil/portal/) and the Signal representative from Center of Army Lessons Learned introduced himself. CALL is working to simplify access to the Signal-specific lessons learned on their website (http://call.army.mil). Given the vast experience gained from Operation Iraqi Freedom and Operation Enduring Freedom, we need to push not only to collect such information but package it in formats or forums that are easily accessed for all Signaleers.

The lessons learned and successful TTPs presented by LTC Collin Hill from JRTC were reinforced by the OIF Lessons Learned from MAJ Diane Ryan (1CD G6), and MAJ Dan Kuntz and MAJ John Moelter from 3ID. Everything from S6 battle tracking, staff integration, communications rehearsals and information flow were discussed. Many excellent solutions were shared among the workshop attendees, and will be captured and shared on the S6 forums on the University of Information Technology Web site.

The group also received a visit from our Regimental Warrant Officer, CW5 Andy Barr, who discussed the roles and relationships of the new 254A warrant officer—the Signal Systems Support Technician warrant. This new "TOC (tactical operations center) Warrant" will be a tremendous addition to the S6 Team and will be an invaluable S6 enabler.

The S6 Team partnered with TSM-SATCOM to provide current and emerging information on SATCOM systems and capabilities. This session culminated with an excellent demonstration from Communications-Electronics Command, Raytheon and Harris Radio. CECOM gave a great SATCOM-on-the-Move demonstration and attendees were also able to do a hands-on demonstration with the Shadowfire and the Mixed Excited Linear Predictive waveform and the

new Integrated Waveform, which not only improve digital voice quality, but also increase the access to a very limited resource. Harris also provided a great demonstration on the AN/PRC-117F. Steve Kaiser demonstrated the AN/PRC-150 HF and discussed his initiatives to support our S6 HF training.

We as a Regiment need to continue using those effective collaborative methods to share knowledge, solutions, TTPs and lessons learned across the spectrum of the Signal Community.

Based on this year's attendance and interest, we expect the S6 Workshop to continue to be one of the highlights for the Signal symposium. Much like the increasing significance for the role of the S6, the S6 Workshop will become a focal point at the Signal symposium to address the important issues affecting the S6/G6s.

We look forward to seeing an increased attendance next year, especially from our commo chiefs, our new 254As. We also hope to have more representation from the battalion and brigade level.

The S6 will be the tip of the spear for the LandWarNet and the S6 will continue to represent the Signal Corps through success, cohesiveness, support to the maneuver command and embodiment of the Warrior Ethos.

Pro Patria Vigilans

MAJ Palmer is the S6 team chief, 442nd Signal Battalion, Fort Gordon, Ga.

Check this out

S6 Forums located on the University of Information Technology:

https://uit.gordon.army.mil/portal/

CALL is working to simplify access to the Signal-specific lessons learned on their website:

http://call.army.mil/

Acronym QuickScan

C4ISR – command, control, communications, computers, intelligence, surveillance and reconnaissance
CALL – Center of Army Lessons Learned
CECOM – Communications and Electronics Command
DCD – Directorate of Combat Developments
HF – high frequency
ID – Infantry Division
JRTC – Joint Readiness Training Center
MELP – Mixed Excited Linear Predictive
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
SATCOM – satellite communications
SOTM – SATCOM-On-The-Move
TOC – tactical operations center
TSM – TRADOC Systems Managers
TTP – tactics, techniques and procedures
UIT – University of Information Technology

IA Workshop focuses on defending LandWarNet

by Randal L. McNeil

The goal of this year's Information Assurance workshop was to inform, educate and focus attention at all levels on the mission of defending the LandWarNet and ensuring availability of information. IA must be an integral component of LandWarNet and IA must evolve as LandWarNet evolves.

This second annual IA Workshop was hosted by the Information Assurance Division of the School of Information Technology at Fort Gordon. Randy McNeil, the division chief, facilitated the event. Managers, policy makers and implementers from Department of Defense, Army and industry presented this year's workshop topics and covered a wide spectrum of the IA mission.

Serving as the Director of the Defense Wide Information Assurance Program, Robert Gorrie's goal was to review and coordinate support for DoD Directive 8570-1, "DoD IA Training Certification and Workforce Management," which is currently in formal staffing. Gorrie stated that the DoD IA training and workforce strategy objective is a sustained IA professional workforce with the knowledge, skills and tools to effectively prevent, deter and respond to threats against DoD information, information systems and information infrastructures and the ability to put the right people with the right skills in the right place at the right time.

COL Ted Dmuchowski, director, Office of Information Assurance and Compliance, Network Command/ 9th Army Signal Command [NETC-EST-A], focused a discussion on "Ensuring Compliance in a Net Centric Environment". The highlight of the session was Net Centric Enterprise Services, which will integrate a series of core services for the secure use of applications across the Global Information Grid. Core services will include systems management, messaging, security, data discovery and application services. Also discussed were current tactical efforts, compliance efforts and future efforts for ensuring the security of the GIG.

Brad Mack, with IGov, gave the audience an overview of wireless networking, current Institute of Electrical and Electronics Engineers standards for wireless, Department of Defense and Army policies on implementing wireless networks. LTC Lawrence Hall director, Army Computer Emergency Response Team, presented a classified briefing on current threats and attacks.

COL Greg Rassat, deputy director, Information Assurance Directorate, National Security Agency, spoke on the mission of IAD which involves detecting, reporting and responding to cyber threats; making encryption codes to securely pass information between systems; and embedding IA measures directly into the emerging Global Information Grid. He also discussed building secure audio and video communications equipment, making tamper protection products and providing trusted microelectronics solutions. IAD mission also includes testing the security of customers' systems, providing operations security assistance and evaluating commercial software and hardware against nationally set standards to better meet our nation's IA needs, IAD teams across government, industry and academia.

Steven Tursi covered the mission of the Computer Crime Investigative Unit, CID and discussed how they conduct felony criminal investigations concerning intrusions into U.S. Army computer networks. Dr. Eric Cole, with Sytex Group, author of "Hackers Beware" and "Hiding in Plain Site", provided some very interesting points on network vulnerabilities and pointed out similarities between those of 1988 and current vulnerabilities in 2004. He showed even though computers and operating systems have changed, the vulnerabilities and threats are basically the same.

Marcus Sachs, president, Global Grid Communications Inc., provided an overview of the SANS Internet Storm Center of which he is the director. The ISC has volunteers from around the world who monitor the Internet for problems and anomalies that upon detection

are fed into a database, which receives millions of intrusion detection log entries daily. This information is then provided to appropriate authorities for investigation.

Again, the goal of this year's IA workshop was to inform, educate and to focus attention towards all personnel levels to the mission of defending the LandWarNet. This was accomplished through discussion of the latest information from the Department of the Army and industry initiatives that focus on securing our information and networks.

On the basis of the interest shown in this area and this year's attendance, it's planned to make this particular workshop a part of next year's symposium as well.

Mr. McNeil, director, Information Assurance Division, School of Information Technology, Fort Gordon, is a government civilian.

Acronym QuickScan

ACERT – Army Computer Emergency Response Team
ASC – Army Signal Command
CCIU – Computer Crime Investigative Unit
CID – Criminal Investigation
DIAP – Defense Wide Information Assurance Program
DoD – Department of Defense
GIG – Global Information Grid
IA – Information Assurance
IAD – Information Assurance Directorate
IEEE – Institute of Electrical and Electronics Engineers
ISC – Internet Storm Center
NCES – Net Centric Enterprise Services
NSA – National Security Agency
OPSEC – Operations Security
SIT – School of Information Technology

Council of Colonels, Battalion Commanders / G-6 Forum work to answer questions

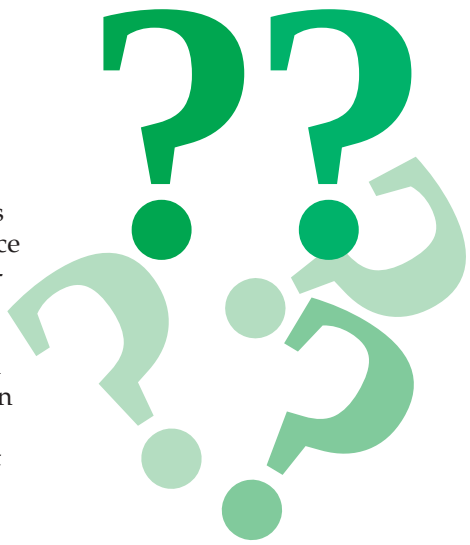
by CPT Jason Winterle

The 32nd Signal Regimental Symposium was a little different from past symposiums. This year MG Janet Hicks put the Signal Regiment to work!

The Army is going through its most significant transformation since before World War I. With the ongoing modular Army conversion and the advent and refinement of LandWarNet, the U.S. Army Signal Center needed help from the field in answering some questions.

Senior leaders of the regiment were called upon to roll up their sleeves. The O-6 level Councils of Colonels and the Battalion Commanders/G-6 sessions put in several days of intense intellectual work to answer critical questions that will impact the future of the Regiment.

The Council of Colonels was conducted differently this year. Instead of forming as a single large group of colonels, the colonels were split into subgroups matching their individual areas of expertise. The



following is a sample of the questions and answers that each subgroup discussed:

Q. How will the regiment ensure that Signal doctrine keeps pace with transformation/modularity?

A. One recommendation was the establishment of a 3rd Infantry Division lessons-learned documentation team resourced either by the Signal Center or the Center for Army Lessons Learned. Another recommendation was to involve students in the Basic Non-commissioned Officers' Course, Advanced Non-commissioned Officers' Course and the Signal Captains' Career Course in doctrine development by pushing key doctrine requirements to the school. This would harvest emerging doctrine from soldiers who are returning from Operation Enduring Freedom/Operation Iraqi Freedom, and would keep doctrine "fresh." Another problem identified by the group was an excess number of signal manuals. The group recommended that the current doctrine library be evaluated and slimmed down to a core set of manuals. The group also recommended the establishment of a regimental doctrine board to gain concurrence and approval on written doctrine.

Q. How do we extend institu-

tional training to the field and enable commanders to sustain LandWarNet training? What software/hardware configuration management and maintenance capability is required to support distributive mission readiness exercises and long distance collaborations through all phases of the fight?

A. One recommendation was to establish regional LandWarNet support and operations centers. A LSOC would be a "one-stop-shop" for individual and collective training, digital equipment maintenance and configuration management. This facility would enable virtual teaming and task organization using network connectivity provided by the global strategic network. Another recommendation was to establish a "Tank Table 8-like" training proficiency evaluation tool for signal/digital tasks. This would keep geographically separate units at the same proficiency on signal/digital-equipment training tasks.

Q. What is the concept for network operations that correctly defines the roles, responsibilities, relationships, tools, tasks and products for signal units within the modular construct?

A. The workgroup focused on the work done to date in the Bridge to Future Networks Concept of Operations and incorporated lessons learned from Task Force Network, Task Force Modularity, 3ID Modular Fielding, and the Fort Huachuca NETOPS summit with 3ID and 10th Mountain at the last Army Tactical Network Modernization Conference. One recommendation was to link the BFN CONOPS to the military decision making process and link key signal products to that process with appropriate NETOPS tasks. Emphasis was also placed on the inclusion of commercialization in NETOPS tasks.

The battalion commanders and G-6 workgroup also had questions to answer. The experience in the room ranged from theater level strategic and operational battalion commanders to tactical UEx G-6s. The following is a sample of the questions and answers that were discussed:

Q. How will the regiment meet LandWarNet training and configuration management requirements? How do we establish a capability that supports distributive mission readiness exercise and long distance collaboration through all phases of the fight?

A. One critical capability is an Army-wide emergency deployment readiness exercise capability to ensure signal/digital-unit readiness. Another key capability is easy access to satellite bandwidth for training purposes. This could be a task accomplished by an LSOC that would parse out satellite bandwidth on a regional basis.

Q. What is the role of the G-6/S-6 in training?

A. We must formalize signal training into a set-piece event similar to tank tables for gunnery training. The G-6/S-6 role would be to organize the order and plan resources for the training. Crew certification should be codified and reported much like combat arms crews are reported as part of the Unit Status Reporting process.

Crew stability should also be considered. The G-6 needs to act in a training readiness oversight for subordinate brigade combat team signal companies. This TRO relationship has yet to be codified for the modular force but is critical for BCT signal company readiness. A recommendation to help with this role is the establishment of a signal "master gunner" who would work in the G-3 shop and evaluate team readiness throughout the UEx. The G-6 should also influence training through the annual/quarterly training guidance established by the G-3 and synchronize training efforts during the G-3/S-3 conference. Lastly, we must update and formalize the Signal Mission Essential Task List crosswalk and Mission Training Plan procedures.

The above questions and answers were a sample of the many questions and recommendations that the Councils of Colonels and battalion commander/G-6 workgroups worked on during the 32nd Annual Signal Regimental Symposium.

The Signal Center thanks everyone who participated and contributed to the betterment of the regiment. We will continue to pursue the challenges and recommendations presented during the symposium workgroups.

CPT Winterle is an action officer on Task Force Network/LandWarNet, Fort Gordan, Ga. He is a former Stryker Brigade Combat Team signal company commander and former signal doctrine branch chief.

Acronym QuickScan

UEx – Unit of Employment
3ID – 3rd Infantry Division
LSOC – LandWarNet support and operations center
NETOPS – network operations
BFN – Bridge to Future Networks
CONOPS – Concept of Operations
BCT – brigade combat team
TRO – training readiness oversight

Warrant officers briefed on issues at 32nd symposium

by CW5 Andy Barr

What a successful week! More than 70 warrant officers from all three components and a variety of units attended the Signal Symposium to share information and verify a number of major issues facing Signal warrant officers.

The group received a number of information briefings on the first day following an inspirational challenge by MG Janet A. Hicks on what was expected of them during the week.

They were provided briefings on the latest initiatives that affect warrant officers and their impact on the Signal warrant officer. These issues included updates on the status of commissioning warrant officer ones, integrating Warrant Officer Education System under the OES, changing how and when we provide professional development training and the status of WO pay reform.

The need for increased accessions and the current state of Signal WO was provided by CW5 Wayne Jensen from the Office of the Chief of Signal. He stated that the change to the new modularity structure dramatically increased the requirements for Signal WOs. We must increase the number that we will access during the next few years. That is a challenge to Signal Regiment leadership and our best recruiters: the warrant officer.

CW4 Les Cornwall from Directorate of Combat Developments provided a brief on the new structure and identified the major changes in how Signal WO will be doing business in the future. He also provided some great lessons learned from the initial conversion of the 3rd Infantry Division at Fort Stewart.

Congratulations to Cornwall who received the Armed Forces Communications Electronics Association President's Award witnessed by all at the leadership presentations which recognized his superb efforts as a major contributor to the successful conversion of the modularity structure.

CW4 Faye Brown, the Signal WO career manager from Human Resources Command, provided a brief on her current challenges to meet the manning requirements and the changes in utilization policies based on our current inventory shortages.

Our new chief of the WO Training Division, CW5 Mark Gratton, provided an update on the training initiatives for the WO Basic and Advance Courses. CW2 Andrew Llanos provided an excellent brief on Task Force Mercury and what signaleers in the 1st Cavalry Division are doing in Iraq. CW2 Joey Hughes provided another superb brief on what Special Operations Command Europe is doing to provide the necessary communications. They both enlightened us on what they are currently doing that may aid everybody with their future challenges.

We separated the group into three panels for the rest of the week and got down to business. Each group was challenged to discuss a number of issues that support the basic topic of this year's symposium: LandWarNet.

The panels did some superb work that will provide the leadership with a roadmap on how we move into the future. Some issues that were discussed or validated included: WO roles and responsibilities, accession prerequisites, military occupational specialty titles and the proposed changes to *DA Pam 600-3* and *611-21*. Also discussed were the current WO career model, MOS consolation and relevancy of our current education program.

Specific concerns with communications security, combat surface support automation management

office, Information Assurance, satellite communications, Spectrum Management and clearances as it applies to the Signal WO were also discussed. The discussions provided excellent feedback to allow the leadership to make future changes based on current information.

It was easily determined that the biggest challenge facing Signal WOs is accessing a much larger number of Signal WO during the next few years to support our requirements based on the change in Army structure. The largest increase is in our MOS 254A. The primary reason for the impact is we were only in the third year of fielding the new MOS when the increases were identified. MOS 250N also increased dramatically but our inventory was initially healthy. Concurrent with the increased accessions is the effect on the training base to provide the necessary skills for the officers. The school house must retool quickly to provide relevant training to a larger number of students.

Again, a great week of work was accomplished by those attending the symposium. For those who were unable to attend this year's symposium, a detailed after action report will be placed on the Warrant Officer Knowledge Center with the briefs and panel comments.

CW5 Barr assumed duties as the Regimental chief warrant officer, Jan. 15, 2004. He serves as the advisor to the chief of Signal and the commanding general on all warrant officer matters. He serves as the Signal Center's representative to the Army's Senior Warrant Officer Advisory Council which assists in developing issues for the Training and Doctrine Leader Development Decision Network.

Acronym QuickScan

COMSEC – communications security
CSSAMO – combat service support automation management office
HRC – Human Resources Command
MOS – military occupational specialty
OCOS – Office of the Chief of Signal
OES – Officer Education System
SATCOM – satellite communications
SOCEUR – Special Operations Command, Europe
TF Mercury – Task Force Mercury
WO – warrant officer
WOES – Warrant Officer Education System

Chief of Signal MG Janet A. Hicks issues a challenge on what is expected of the warrant officers during symposium week proceedings.

Four Distinguished Members inducted into Regiment

by Susan Wood

Upon Regimental activation, the Signal Corps instituted a program for the recognition of personnel who have made a special contribution and distinguished themselves in service to the Regiment. Distinguished member positions are designed to not only recognize those persons whose service is most notable, but to promote and enhance the history and traditions of the Regiment and foster cohesion among its members.

MG Janet A. Hicks, chief of Signal and COL Jack Bryant, Regimental adjutant, inducted new distinguished members of the Regiment in a ceremony, Dec. 2, 2004.

Chief of Signal MG Janet A. Hicks and (not pictured) COL Jack Bryant, Regimental adjutant, inducted four distinguished members in ceremony during symposium week. Pictured Left to right are: MG Janet A. Hicks, Distinguished Members: MG (Retired) John E. Hoover, COL (Retired) Jerry Van Patten, CW5 (Retired) Jack Hrubik and CSM (Retired) Ernest Chaney.

CSM (Retired) Ernest Chaney

CSM (Retired) Ernest Chaney enlisted in the U.S. Army in 1970. In October of '71 he was assigned to the 39th Signal Battalion, 1st Signal Brigade, Republic of Vietnam where he worked as a communications systems controller in the battalion operation control center. He served in leadership positions from team chief to command sergeant major throughout the continental United States and in Germany, culminating his military career as the command sergeant major of 5th Signal Command, Army Signal Command, Forces Command. He retired from active duty after 29 years of service and joined the Communications-Electronics Command working with various communications systems. In January 2003 he deployed with the 578th Signal Company in support of Operation Enduring Freedom and Operation Iraqi Freedom. He provided critical tactical satellite, tropospheric scatter radio and data communications support to several units including 3rd Infantry Division. For his long record of service both active and retired, MG Janet A. Hicks inducted Chaney as a distinguished member.

MG Janet A. Hicks and CSM (Retired) Ernest Chaney

CW5 (Retired) Jack Hrubik

CW5 (Retired) Jack Hrubik has contributed to the Signal Regiment for more than 39 years in a myriad of highly visible positions. Hrubik enlisted in the Army in January 1964 and was trained as a field radio repairman. He was accepted into the warrant officer flight program in 1968. Upon completion of flight training he was sent to Vietnam where he continued to support Signal Soldiers during installations of radar and communications sites in the Mekong Delta. In 1978 Hrubik was medically grounded from flight status but remained on active duty with a P4 profile. His first Signal warrant assignment was to the Communications-Electronics Engineering Installation Agency where he began his role as a premier technician and advisor to his commanders and as a mentor to Signal warrants in the commands he would serve. From 1981 to 1986 he served

MG Janet A. Hicks and CW5 (Retired) Jack Hrubik

as the officer-in-charge of the 270th Signal Company where he earned several Army Signal Command, 5th Signal Command, and information systems command maintenance awards. He served his last 11 years on active duty moving with the assistance of a crutch, but he never stumbled in providing leadership, mentorship and a recipe for what a Signal warrant should be. In his retirement, Hrubik continues to support the regiment by providing information technology services and enterprise management through his association with Network Command and Communications Electronics Command. For his outstanding contributions to the regiment, MG Janet A. Hicks appointed Hrubik as a distinguished member.

COL (Retired) Jerry Van Patten

COL (Retired) Jerry Van Patten was a technically competent, tactically proficient and caring commander. He was a Soldier's Soldier. His boundless energy, heartfelt compassion and trainer's mentality set him apart from other commanders, and his Soldiers loved him for it. As battalion commander of the 82nd Signal Battalion, he was responsible for 520 paratroopers and their families and through his superb leadership they deployed in support of Uphold Democracy, providing critical command and control. He later served as commandant of the Regimental Officer Academy and the deputy commander of the U.S. Army Signal Command. As part of the core nucleus that reactivated the 93rd Signal Brigade, Van Patten's expertise and enthusiasm ensured that the brigade provided cohesive, rapidly deployable and robust communications capability for Cincsouth. In short, he made the multi-compo concept work. He culminated his stellar career as the

MG Janet A. Hicks and COL (Retired) Jerry Van Patten

deputy C6 for Coalition Forces Land Component Command, third Army where he was the focal point for planning, organizing and executing the largest, most complex wartime communications network in history. His personal efforts ensured a level of information superiority never before achieved. Throughout his career, he sought and delivered on the most demanding missions the Army presented.

For his steadfast leadership and unparalleled achievements, MG Janet A. Hicks inducted Van Patten as a distinguished member of the Regiment.

MG (Retired) John E. Hoover

MG (Retired) John E. Hoover enlisted in the U.S. Army in 1942 and entered the Signal Corps as a private. He earned an appointment to West Point and graduated in 1947 whereupon he was commissioned as a second lieutenant in the U.S. Army Signal Corps. His first unit assignment was to the Far East command, 24th Infantry Division, Japan in 1948. He deployed to Korea in 1950 and advanced north with the division across the 38th Parallel. After departing Korea, Hoover earned a masters degree in international relations and was assigned to West Point to teach in the Department of Social Sciences. After subsequent assignments and battalion command, Hoover deployed to Vietnam where he took command of the 1st Regional Signal group. In 1970, he was promoted to brigadier general and assigned to Fort Huachuca, Ariz., as deputy commander of the U.S. Army communications command. Upon his promotion to major general, he was assigned as director of the joint tactical communications office which developed the TRI-TAC equipment still in use across the services today. Hoover retired in 1978 and worked frequently as a

MG Janet A. Hicks and MG (Retired) John E. Hoover

consultant to GTE Corporation playing a key role in the development and fielding of mobile subscriber equipment. Fifteen years ago, MG Leo Childs, the Signal Center's commanding general and chief of

Signal, named Hoover as the historian emeritus of the U.S. Army Signal Regiment. He continues to research, write and speak on military history subjects, with a special focus on his beloved Signal Corps.

Ms. Wood is the chief of the Regimental Division, Office Chief of Signal, at Fort Gordon, Ga.

3rd Signal Company gets close to MODULARITY in lessons learned

by MAJ Jonathon R. Moelter

The following is a discussion of key lessons learned in standing up the 3rd Signal Company, the challenges and issues of concern faced in the first three months.

First, it is important to describe the organization to give a frame of reference, because it is not the modularity organization to which the follow-on divisions will convert. It is "as close to modularity" we and the Army could get to in the short time before deployment.

After returning from Operation Iraqi Freedom III, it is planned that we will again reorganize or complete reorganizing to the modularity plan.

3rd Signal Company design

The 3rd Signal Company is made up of a headquarters platoon and three detachments, under the division's Special Troops Battalion.

HQ platoon – The headquarters platoon is still in the reorganization phase. The problem with the design is the division's command posts were limited in the number of Soldiers, which could be assigned. At the time of the development of the modularity design, at a conference at Fort Leavenworth, the G6 was limited to 32 authorized positions as its share of the limited number of positions in the Division Main, Division TAC1 and DTAC2. The Signal battalion was being eliminated yet there was a requirement for someone to "command the network". The guidance was that the G6 would command the network. Knowing he would need a robust network operations cell, yet he was limited to 32 positions, the guidance was to put network operations in the Signal Company and the unit would then attach them back to the G6. Therefore the G6 could remain under its personnel cap of 32 while retaining the required NETOPS cell. I address this because in the reorganization of the Signal company this became a challenge. The G6 is assigned to the STB's Headquarters and Headquarters Service Company. The question came as to whether we attach the NETOPS, communications security and tactical message switch from the Signal company to HHSC or attach G6 to the Signal company.

It appeared there would be less movement of personnel and equipment by attaching G6 back to the Signal company. It was a relationship that existed in the 123rd Signal Battalion where the G6 belonged to the battalion so it was looked and felt like the right thing to do. However, I wanted my first detachment commander to focus purely on his Signal mission, not worrying about a staff section. Therefore we took the company's HQ along with the G6 and all his attachments and made a separate platoon responsible for its own training and administrative support.

First detachment – Detachment 1 consists of the hub platoon and the division's communications and electronics maintenance platoon. There are many challenges in redesigning the division's C&E maintenance organization. Right now, we are in the process of writing new standard operating procedures on how the organization will function and what the relationship is between the BCT Signal Companies (UA), the 3rd Signal Company and each of these organizations' organic C&E teams.

Second detachment – Detachment 2 is an organization unique to 3rd Infantry Division. This detachment was formed because when we started reorganization we did not have sufficient personnel or equipment to standup separate Signal companies for Sustainment Brigade, Aviation Brigade and Fires Brigade. We were short of personnel such as commanders, first sergeants, supply, nuclear, biological and chemical, etc. … and equipment to operate these sections. We and the Army, decided the best solution was to build the detachment with platoons to support each brigade. Upon return from Operation Iraqi Freedom III, this detachment will be reorganized to form separate Signal companies. Unfortunately, the last approved modified table of organization and elements put this as our Detachment 2. So when it is deactivated we will have to rename our Detachment 3, Second Detachment in order to fill the gap. Seems minor, but isn't when you look at changing the unit

Members of the 3rd ID load the JNN Hub terminal going to Qatar.

designation on all medical, dental and training records; change of addresses for Soldiers in the barracks from Detachment 3 to Detachment 2; and changing maintenance records for the equipment. Sure, we could have swapped the detachment names now, but with the amount of confusion caused by reorganization we did not want to add more.

Third detachment – Detachment 3 does not look like the modularity design either. It consists of platoons to support the DMAIN, DTAC1 and DTAC2.

How we did it

Unit name – Originally, the Signal Company's name was "STB Signal Company." Reviewing the lineage and history of the 123rd Signal Battalion, we felt it would be more appropriate to name the unit the 3rd Signal Company. There were many discussions at the division and higher on unit naming. We were running out of time on a decision, so LTC Joe Brendler asked the commanding general for guidance and was told to make it the 3rd Signal Company. Our G7 was tasked to work with the Department of Heraldry to fix naming issues across the division. In the orders inactivating the 123rd and activating the STB it states that "the STB will retain the honors and lineage of the 123rd Signal Battalion, and the 103rd Military Intelligence Battalion." Keeping the lineage of the 123rd Signal Battalion alive by naming the company the 3rd Signal Company is clearly the right thing to do.

Detachment commands – Early on in the process it was debated whether the units under the Signal company should be platoons or detachments and if they should be lieutenants or captains. We used the same argument we used when the similar debate was held on BCT Signal companies. The mission requires the experience and maturity of a captain in command. Imagine if the BCTs had Signal platoons and their senior signaleer was a second lieutenant. The next hurdle was how do we ensure the detachment commanders receive the same command credit as a company commander. Our argument here was that our detachment commanders have the same supply and maintenance supervisory roles that companies have, they have the same UCMJ authority, they have first sergeants, and their organizations are much bigger then the BCT Signal companies with a much wider spread mission. I believe Brendler contacted the Office Chief of Signal, put forth our argument and convinced them that the detachment job warranted command credit for our captains. Had this not been the case, we would have had great difficulty keeping officers in the positions and the Soldiers in the detachments

would have felt the instability caused by the constant rotation of their leadership while we moved captains around to get them in company command.

UCMJ – At first we thought this was a given. Detachments were "commanded" by captains so along with command authority comes Uniformed Code of Military Justice. Not 100 percent accurate. Again we had to convince our staff judge advocate that detachment commanders were equivalent in responsibility and authority to company commanders. Next came the question of field grade UCMJ authority. Brendler and I thought the Signal company commander, being a field-grade officer, would have field grade UCMJ authority. The problem here is the Army is still operating under the old system. Battalion commanders are the field grade UCMJ authority; it is based on command position and not rank. Just one example is the commanding general has a policy letter that says battalion commanders will adjudicate drug and alcohol offenses. The SJA came on line and agreed that a major in command should have field grade UCMJ authority so then it just took negotiations between myself and the STB commander on what cases she would withhold adjudication for.

Property book – This one was near and dear to my heart. The issues of command credit and UCMJ authority came up and were solved before we received the final MTOE. To our disbelief, the new MTOE came without separate UICs for the detachments. To the logisticians this meant the company commander would hold the property book and sign for everything. We had used the detachment commander's responsibility for managing his property book as one of the arguing points for command credit and UCMJ authority and now we were being told there would only be one property book. We argued the issue during the Documentation Arbitration Review Team, but could not convince the Department of the Army staff to make separate paragraphs for the detachments.

Our Force Modernization office requested Forces Command provide derivative UICs for the detachments on the bases that detachment commanders should be responsible for their property and secondly there was too much property for one commander to be responsible. Deployed, the Signal Company's equipment could easily be deployed in three separate countries or even separate theaters of operation. This being achieved, we were then able to establish separate property books for each detachment.

New equipment fielding – There is no question on the importance of fielding updated communications capabilities and equipment to the division. It is the one major thing I am grateful for in the reorganization effort. However, equipment and training came very late in the game. I know the issues of funding, approval, acquisition, contracting, productions, etc. … but as a result, we are going from the crawl stage to the run stage with nothing in between. We finish fielding and NET at the end of the September. On Oct. 1 we signed for the equipment while it is rolling to the field for the Division's War Fighter/Mission Rehearsal Exercise. Around Oct. 20 a BCT Signal Company with our augmentation deploys to the JRTC and one of my platoons (one Joint Network Node, five Command Post Node) deploys to the Network Transmission Control to support 3/1 Armor Division's Material Requirement External.

Finally somewhere in November we started loading ships for OIF III deployment. The Soldiers receive a great education on the equipment. We run day and night shifts for NET. The issue is we do not have much time for training, crew drills and designing/identifying TTPs for the new equipment.

Personnel management – The new MTOE has both 31 series MOSs and the new 25 series, i.e., in one unit they may have 31Us while in another they are titled 25Us. This issue and the division's misunderstanding of Signal MOSs resulted in some units being over-strength in certain MOSs while other units are well under-strength. The G6 sergeant major and my SGM have identified the problem and are now working hand in hand with the G1. The G1 has agreed not to slot Signal soldiers with out first coordinating with the Signal SGMs.

Systems – Many of the systems required to operate the battalion and performed by the staff did not readily transfer to the company. The major challenge is the company is not authorized an operations section. We made an agreement early in the transition that two or three of the non-comissioned officers in the NETOPS section would be pulled to work company operations requirements. Day to day operations of the company in addition to company orders production, training management, etc. … require at least a small cell to assist the commander in managing the company.

Concerns

MTOE – There are critical errors in our MTOE. I have not seen or analyzed the final modularity MTOE to see if some of these errors are corrected. I provide these issues as the start point for future reorganizing units to argue. We argued most of these issues during the DART process and were told no or in some cases corrections were just not made. I was the only Signal representative at the DART. A significant amount of time was spent just arguing the simple cases such as why a TSC-93 team takes four Soldiers instead of one like the SMART-T.

1. TSC-93s were only given one Humvee. The system is made up of two shelters and therefore needs two trucks.

2. There are no vehicles allocated for executive officers or platoon sergeants.

3. There are only two LMTVs for the division's C&E. It is impossible to operate with only two trucks. In most cases we will run split ops with half the C&E operating at the DMAIN and the other half at the DREAR (Sustainment BDE). We currently have two maintenance shelters and two PLL shelters on LMTVs. We are finding it difficult to fit all of the new equipment PLL/ASL in the two PLL shelters we have. If we are reduced to the MTOE authorization we will not be able to move over 50 percent of our PLL and will not be able to ensure we have the technicians in the right spot to quickly react to communications equipment problems.

4. The program manager's design for the new equipment fielding does not match what the Army gave us on the MTOE. The JNN is short one truck (I don't think it is absolutely necessary) and one 10k generator. There is no generator with the CPN other then what is on the Ku trailer. We were told it could power both the Ku trailer and the transit cases but now it is in question. The PM model called for two trucks for a CPN, one for the trailer and one to pull a generator. The MTOE gives us one truck and no generator. We don't have the extra Humvees for every CPN but if a generator was authorized in the S6 sections, they could likely pull it.

5. G6/NETOPS positioning on the MTOE. They need to be in one organization for the reasons addressed above.

6. I understand that in the future MTOE, detachments are not authorized supply, Nuclear, Biological and Chemical or Arms Rooms. I could not effectively command this unit without detachments managing their own property and supply operations. I do not have sufficient space to hold all the company's weapons or NBC equipment if the detachments do not have their own arms room and NBC teams.

7. Company sergeant major – This is a command sergeant major job with a staff sergeant major authorization. SGM Paul W. Verner Jr. is absolutely invaluable and should get credit for the command sergeant major duties he performs.

Design issues for the Ku trailers – The Ku trailers are 200+ pounds over weight and will probably be pulled back to the factory to swap the 10KW generator with an 8KW to save weight. The generators on the Ku trailers have no gauges so Soldiers cannot identify what voltage is going out or what the percentage of usage is. The satellite base-band equipment is at the very back of the trailer. An accidental rear-ending will destroy the system. There is no back up power source for the Ku antenna system. We are in the process now of trying to identify an alternate power source so the system doesn't have to be brought down for generator maintenance.

Personnel issues and NET timing – When the NET started, we did not have the MTOE authorized MOSs to fill the requirements. In many cases we had to slot 31Rs for 31S and 74Bs. The training is nearly over and now we are getting the 31S and 74Bs. We will not have time to train the new Soldiers on the new equipment prior to deployment. As a result we will have to take twice the number of Soldiers on the deployment until the new Soldiers are trained.

Conclusion

There are many issues we still must identify and address. TTPs for the relationships between the STB, G6, NETOPS and the Signal Company are still being worked. My intent was not to paint a bleak picture but to purely discuss some of our challenges and the challenges the Signal Corps faces in the future. There are many great concepts to the Army's reorganization. We more than welcome the great advances in communications technologies, and the opportunity to reduce the number of Signal Soldiers in thin-skinned vehicles operating in harms way. But, as with any change, there are challenges.

My job as the 3rd Signal Company commander may well be the most personally and professionally rewarding job I have had or maybe will have. We will deploy and we will be successful.

"Voice of the Rock"

MAJ Moelter is the commander of 3rd Signal Company.

Acronym QuickScan

ASL – Authorized Stockage List
BCT – brigade combat team
C&E – communications and electronics
COMSEC – Communication Security
CP – command posts
CPN – Command Post Node
DART – Documentation Arbitration Review Team
DMAIN – division main
DREAR – Division Rear
DTAC1 – Division Tactical (CP) 1
DTAC2 – Division Tactical (CP) 2
FORCMOD – Force Modernization
FORSCOM – Forces Command
HHSC – Headquarters & Headquarters Service Company
JNN – Joint Network Node
LMTV – Light Medium Tactical Vehicle
MOS – Military Occupational Specialty
MTOE – Modified Table of Organization and Elements
NBC – Nuclear, Biological and Chemical
NET – network
NETOPS – network operations
NTC – National Training Center
OIF III – Operation Iraqi Freedom III
OPS – operations
PLL – Prescribed Load List
PM – program manager
SJA – Staff Judge Advocate
SMART-T – Secure Mobile Anti-Jam Reliable Tactical Terminal
SGM – sergeant major
STB – Special Troops Battalion
TMS – Tactical Message Switch
TTP – Tactics, Techniques, Procedures
UIC – Unit Identification Code

Communicating in an urban environment: *Light Infantry Brigade SIGO lessons learned from OIF*

by CPT Brian North

As I stood on the roof of a water pumping station in downtown Baghdad setting up OE-254s while 2nd Brigade Combat Team of the 101st Airborne Division (air assault) cleared the city below, I thought about the doctrine and techniques I have learned on urban warfare. After three weeks and five cities, we had learned a lot about communicating in an urban environment. The basics we trained on so hard at Fort Campbell prior to deploying served us well in this combat environment.

My commander was able to command and control the brigade combat team effectively, maintaining flexibility and responsiveness. We used S/C tactical satellite, frequency modulation, Blue Force Tracker and high frequency push-to-talk radios exclusively at the brigade tactical and below level. The only digital systems were at the brigade tactical operations center, which was too far from the front to enter accurate and timely enemy, friendly and fire control information. Without secure data capability at the brigade TAC and battalion TOCs, there was no command emphasis on fighting digitally.

As I looked down on the TAC setting up below, I also realized the signal community had greatly let the warfighter down by not keeping up with emerging technology. The embedded National Broadcasting Company news team finished setting up a three-transit-case communications suite and called back to their home office, uploading streaming video, checked their email and were watching TV. Commanders are more likely to use digital systems if they have light-data packages free from line-of-sight restrictions at the brigade TAC and battalion TOCs to connect staffs.

(Pictured above) MAJ Mike Hamlet, the brigade S3 conducts a brigade daily tactical update from the TAC tent.

As our Army transforms to a lighter, more lethal force based around the concept of a digital common-operating picture, it is important that the Signal Corps focus on providing communications support around the warfighters requirements for a light, mobile and flexible system rather than trying to provide large capacity, cumbersome data systems.

In this article I want to provide future brigade and battalion Signal officers with a guide to what was successful and what failed to support the commander's requirements in combat. I also want to engage a

SGT Justin Reid, 31U20 for 2nd Brigade TAC, sets up a S/C TACSAT antenna in preparation for a division conference call in Mosul, Iraq.

larger signal community-wide discussion about what type of systems we want to develop as the Army attempts to digitize the battlefield. The bulk of this article covers challenges faced and lessons learned during the move north to Baghdad. Here I highlight effective techniques, tactics and procedures. I discuss effective systems, systems that failed my brigade and how some digital systems failed to support the commander's requirements. Last, recommendations for future digitization at the brigade and below level based on my experiences in 2nd Brigade, 101st Airborne Division (air assault) are covered.

Operation Iraqi Freedom

The story of 2nd Brigade Combat Team's experience in Operation Iraqi Freedom is one of flexibility and responsiveness to changing operational requirements. Our military decision-making process was abbreviated and consisted of developing task organization, task purpose and a set of base graphics. This cycle was driven by the division's role in maintaining 3rd Infantry Division's momentum by clearing pockets of resistance in major cities bypassed in the drive north. Our brigade was selected as the division main effort for five of six operations because the brigade was able to respond quickly and effectively to changing situations and our brigade commander was able to anticipate requirements and posture the brigade before it was requested.

2nd Brigade deployed to Kuwait in early March 2003. We established an operations center and planning cell immediately in one base camp. The first big challenge of the war was replicating all the services of our TOC while our equipment was still on the boat. While we hand-carried radios, computers and limited TOC supplies, we quickly turned to the local economy to fill the need for additional local-area-network cable, switches and telephone wire. We operated out of our ad hoc TOC for about three weeks, tracking reception, staging, onward movement and integration and planning our movement into Iraq.

The planners worked hard to capture and plan every detail of the ground assault convoy, but had to deal with daily changes to the route, destination and follow on mission. We attempted to integrate digital systems into our planning cycle during this pre-combat phase.

We were able to download division graphics on Maneuver Control System-Light, but found the digital graphics could not keep up with the pace of change. We had connectivity for All Sources Analysis System-Light, but never really were able to leverage it for actionable intelligence. We received more timely and far more useful intelligence through web sites and Power Point slide shows.

As the scud alerts started happening frequently, the brigade attempted to integrate our Air Missile Defense WorkStation into the larger air-defense picture for better warning and ability to identify false alarms. But this system also did not provide the level of responsiveness we needed.

Overall, much of the effort we put into our digital systems was unrewarded. Secure email and secure-web access proved important in the passing of operational and intelligence information. We also used web-based teleconferencing software for the division-level updates which were effective, but in reality, provided no better quality than S/C TACSAT conferences. In the end, our operations order briefed a concept of operations and a general threat assessment and headed north into Iraq.

Initial convoy communications were a significant challenge. We did not know our final destination until the brigade advance party reached the division assault command post deep into Iraq and received specific guidance. The brigade was strung over the entire route from Kuwait to Najaf, organized in five large convoys. While planning for this movement, the key factor was placement of critical long haul-radio assets.

While maintaining communications between convoys was important, that required a balance with ensuring units arrived ready to immediately start combat operations. As a result, the brigade TAC

and three infantry brigades were heavier in assets than the forward support brigade or brigade TOC convoy. For most of the movement, each unit was on their own.

COL Joseph Anderson kept abreast of each unit's progress via the Blue Force Tracker, and only received reports from his subordinate commanders as they passed major check points. Because he was able to view the information that was most important to him – location – there was little need for constant updates.

Predictably, the two units we had the hardest time tracking were the brigade TOC and the FSB. These units were not outfitted with on-the-move communications and were reliant upon at-the-halt communications. In the end, there was room for improving communications-on-the-move but it did not impact the brigade's ability to accomplish the mission. Had the brigade TOC or FSB been engaged along the route we might have had a much different outcome.

First mission

As our units arrived at the tactical assembly area north of An Najaf, they were pushed into our first mission, a relief in place of 3-7 CAV in the town of Al Kilif. Helicopters flying infantry Soldiers in from Kuwait were diverted to land outside the city where they received a quick mission brief and were linked with elements arriving via GAC moments before. The brigade TAC initially setup at the brigade tactical assembly area, but jumped into the city as soon as the brigade TOC arrived to control the arrival of the remainder of the brigade. These missions went smoothly and met little resistance but provided a valuable exercise for our command and control systems in a fluid combat environment.

Second mission

The second major mission of the war was a demonstration in support of 3ID's attack north. This mission was given to the attached armor force (2-70 Armor Battalion) that had arrived the night before and one light-infantry company from our brigade. Within an hour of beginning the attack, they began to meet stiff resistance. The brigade commander took off from the brigade TAC in his vehicle with security to make a personal assessment of the resistance. He quickly realized the opposition force was more than just militia and began to call forward the fire support officer and authorized levels of organization to provide support.

The mission transitioned to a classic combined arms movement to contact into a Republican Guard mechanized battalion. The brigade commander was at the limits of FM back to the brigade TAC, but focused on coordinating the efforts of the armor, infantry, artillery and air assets at the point of attack, while the brigade TAC pushed assets and coordinated the larger fight.

We learned important lessons during this mission. Immediately upon arrival of 2-70 AR, we pushed the 101st FM hopset to establish a common command net. We then transitioned the entire battalion to our hopset, giving them spare hopset infantry divisions. This greatly facilitated coordination when we cross attached units as mission dictated. It was also our first experience with the limitations of FM communications in the desert. With our OE-254 antennas on top of a water tower at the brigade TAC, we could barely reach the brigade commander 20 km away. The brigade commander also realized that he needed the brigade TAC closer to the fight to help him control the battle. We would apply these lessons within 24 hours in our next battle.

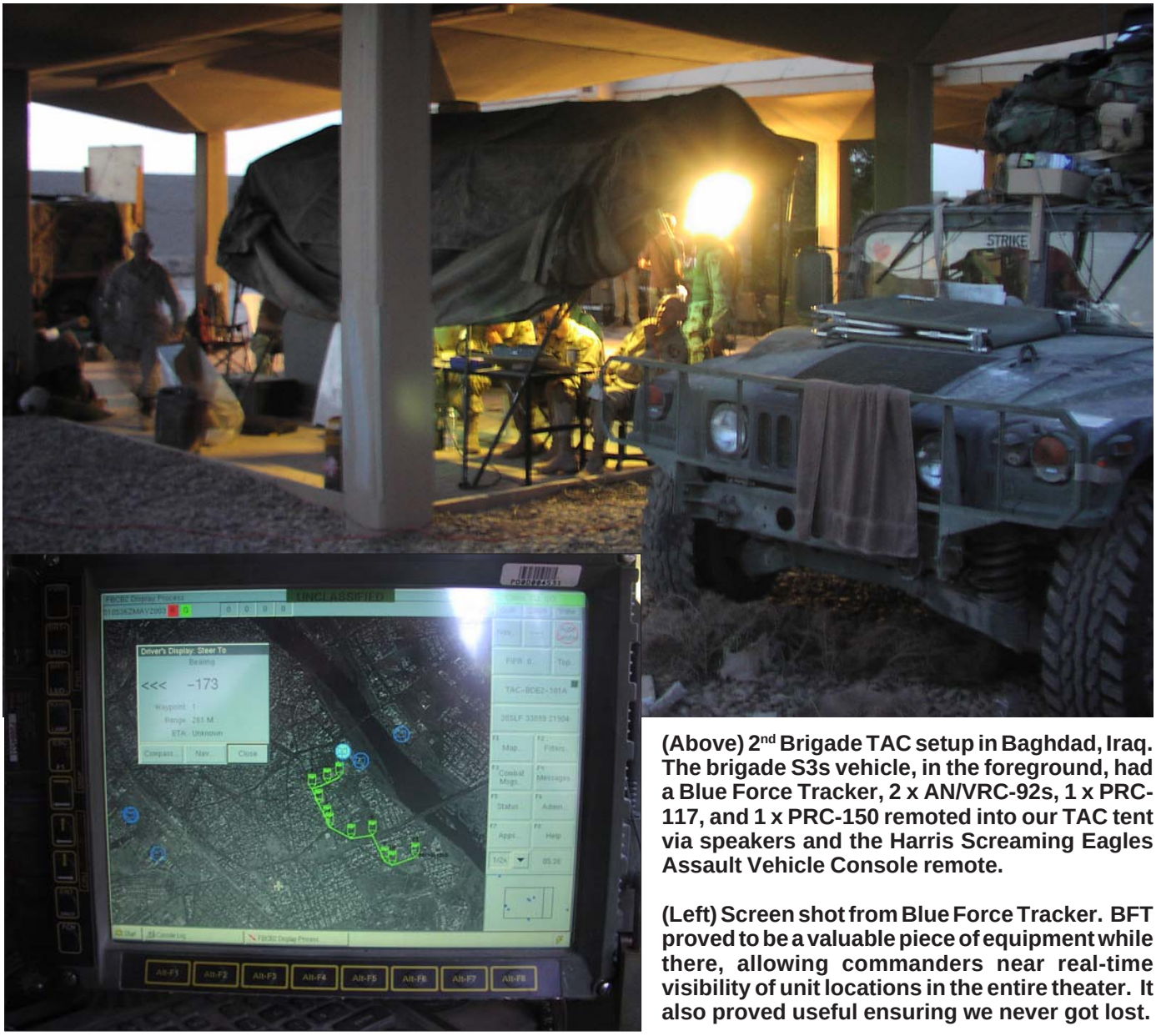
Third mission

The third mission was a more deliberate attack into the city of Najaf. This was a coordinated attack between the converging forces of 1st and 2nd Brigades, with three infantry battalions from our task force abreast and companies from the armor battalion cross attached. In this battle, we used a smaller brigade TAC with the commander, S3, S2, forward support coordinator (functional area battalion commander), FSO, command sergeant major and SIGO moving forward while the battle captain, battle NCO and S2 section remained north of Najaf in a fixed site with good communications to the brigade TOC and other units. This TAC was very mobile and followed immediately behind the front lines.

We would take a tactical halt, put up our COM 201 antenna (a replacement to the OE-254 made by Atlantic Microwave) on the brigade-command net and coordinate the efforts of the brigade-combat team. We had a S/C TACSAT radio monitoring the division-command net, and could pass reports and receive guidance while on the move in the city. The brigade S2 monitored the brigade operations and intelligence net for detailed reporting on enemy contact and friendly unit status reports. The FA battalion commander and brigade FSO ran a brigade fires net with all battalion FSOs and the fire-direction centers to coordinate fires between tubes, mortars and attack aviation.

Especially important in this battle was tracking the movement of forces in the city. Because the graphics were basic, we tracked movement by sending front-line trace-grid lines for each company. This mobile TAC concept fit the brigade commander's desire to be on the front lines yet maintain contact with all elements. We did experience some confusion on which C2 node was collecting what information: the mobile TAC, the battle captain and S2 section in the established TAC, or the entire battle staff in the TOC. Our TTP was that the mobile TAC controlled the fight, with the commander and S3 monitoring the brigade command net, the S2 monitoring the brigade O&I, and FSO and FSCOORD monitoring the brigade fires net. The other two C2 nodes monitored these nets to maintain situational awareness and request support from division when needed.

This workload breakdown was effective during the battle, but was



(Above) 2nd Brigade TAC setup in Baghdad, Iraq. The brigade S3s vehicle, in the foreground, had a Blue Force Tracker, 2 x AN/VRC-92s, 1 x PRC-117, and 1 x PRC-150 remoted into our TAC tent via speakers and the Harris Screaming Eagles Assault Vehicle Console remote.

(Left) Screen shot from Blue Force Tracker. BFT proved to be a valuable piece of equipment while there, allowing commanders near real-time visibility of unit locations in the entire theater. It also proved useful ensuring we never got lost.

not sustainable over extended periods. At night, the mobile TAC would move into a secure compound and set up additional antennas and monitor any information that came in. This freed the commander to conduct battlefield circulation during the day while the brigade S3 controlled the brigade from an enhanced-communications platform.

The supporting staff at the other two sites consolidated reports, worked logistics issues and provided updated intelligence as required to support the forward primary staff. The success of our C2 structure during this battle validated our mobile TAC concept, but we did identify that the multiple C2 nodes operating were confusing and redundant. We also experienced an emergency need to supersede communications security during this battle. On the morning following our first night in the city, my brigade-communications chief called from the TOC, informing me corps had just directed a change of COMSEC for that night to a key we did not disseminate to our subordinate units.

Our units were dispersed and in ongoing contact with the enemy so we could not just drive around and pass out the new COMSEC. SFC Rodney Mallory, my communications chief, was on-the-ball and quickly pushing the new COMSEC to the battalion combat trains located with the forward support brigade. These combat trains then pushed the COMSEC up through normal logistics channels. At the brigade TAC, I accompanied Anderson on his battlefield circulation to push the COMSEC to the commanders. Both pushes were successful, and this COMSEC changeover occurred without a hitch, even though most units were still engaged with the

enemy.

Fourth mission

The fourth mission was to conduct a relief in place of 3ID around the city of Karbala. We initially planned to go back into the city of Haighl, but received a change of mission 12 hours prior to we were schedule to attack. 3ID isolated the city of Karbala, but were not able to clear into the built-up areas. Relief was needed to allow them to begin movement north immediately to prepare for the attack into Baghdad.

We conducted an aggressive attack into the city, with coordinated, near simultaneous, air assaults surrounding the city, and an armored-task force that sliced through the town. We copied the successful mobile TAC concept from Najaf, but limited the role of the battle captain and S2 section to a monitoring and relay mode until the battle was over.

Once again the brigade commander, S3, S2 and FSO controlled the battle exclusively via FM and S/C TACSAT. During this battle, we had two active S/C TACSAT channels, one for the brigade combat team and one for the division command net. The brigade combat team net was used to synchronize the flow of aircraft from the pickup zone to the objective, call for medical evacuation directly to the brigade medical health team (allowing for instant evaluation and response by air or ground MEDEVAC), and send friendly and enemy status reports to the brigade TOC located well outside FM range. The division TACSAT net was used to keep the division commander and ADC (O) appraised of the situation.

This battle also highlighted a problem with information flow caused by lack of service interoperability. One pocket of heavy resistance required the application of indirect fire to clear. Initially the use of field-artillery assets was discounted because friendly units were close and not in the ideal location for calling fire.

The decision was made to call for Air Force Close Air Support. The only ammunition available to the pilots at the time was laser-guided munitions. The brigade commander directed the air cavalry squadron (OH-58D) to laze the target for the Air Force to service.

This seemingly simple task actually required significant time-space coordination from a moving helicopter to laze the target at exactly the right widow for the Air Force to acquire and release the bombs. The brigade commander talked to the helicopter on the brigade FM net while the ALO talked to the Air Force plane on an ultra-high frequency channel.

Once again the brigade commander, S3, S2 and FSO controlled the battle exclusively via FM and S/C TACSAT.

After three unsuccessful attempts, the brigade commander reverted to calling a field artillery tube mission. While this episode did not result in any unnecessary deaths, it does highlight the need for clear inter-service equipment compatibility and more inter-service training to develop better TTPs.

After the mobile TAC was established in a secure compound, the battle captains and S2 section collapsed on the mobile TAC to provide better 24-hour capability. The C2 challenges in this battle were the convergence of four battalions on the center of the city (we attacked from the perimeter in) and keeping track of the large numbers of weapons caches in the city. The brigade TAC was able to fully track these requirements because of the effectiveness of the C2 structure, and they maintained control of the battle throughout the operation.

The brigade TOC jumped twice during this battle, once to get into FM range of the city and improve the ability to report operational and logistical status to the division, and once to jump north of the city to establish a base of operations preparing for our next mission. This refined C2 concept became the standard for our missions.

After two days of retrofit actions in a small factory north of Karbala, the brigade was ordered to Baghdad. Our assigned sector was the southwestern quarter of the city, with the mission to clear and occupy. Our approach to command and control was shaped by our previous experiences.

The initial move into Baghdad was controlled by the brigade TAC located on the outskirts of the city in a chicken-processing plant. The brigade TOC jumped into the chicken factory the following day, allowing the brigade TAC to move into the city and provide the robust communication platforms close to the battle.

The brigade TAC set up in the middle of our sector in a water-pumping station which provided a commanding view of the entire sector and an ideal location to communicate. In addition to establishing the standard FM, S/C TACSAT and HF nets, we were able to use the mobile subscriber radio system, allowing better communications with the brigade TOC and division headquarters. The quality of the MSRT connection was improved by using an OE-254 antenna instead of the standard whip.

As a testament to the success of the mobile subscriber equipment network across theater, our MSRT was able to affiliate off switches from 3ID and 51st Signal Battalion (a Signal Corps battalion supporting V Corps).

The brigade TAC served as the primary command and control node of the brigade even though the brigade TOC was located within FM range due to the symbolic and tactical importance of remaining in downtown Baghdad. A civil-military-operations center was established in the offices of the water-pumping station to begin the process reestablishing services and working with local leaders to rebuild

the community.

We provided an FM radio and separate net for the civil-affairs team to facilitate the coordination between the brigade civil affairs control team and the battalion direct support teams. The brigade TOCs proximity to the battle allowed them to maintain SA as well as push information to the decision makers in the brigade TAC. The brigade commander made daily trips for updates from the battle staff and to use the MSE link for digital conference calls with division. We maintained a split-brigade TAC for the duration in Baghdad, and only collapsed to the brigade TOC in preparation for our final jump north to Mosul.

The convoy and occupation of Mosul was in line with our previous experiences and began to cross the line into support and stability operations. However during this move the brigade was tasked to attach one infantry battalion to support a Special Forces unit in the western desert. Their mission was to provide security at two key locations.

The battalion was under the operational control of the SF unit, but our brigade commander wanted daily updates from the battalion commander. The primary method of completing this conference call was via the brigade or division TACSAT net. Although we were able to link between stations on the HF net, it was never used effectively because of the reliability and ease of the S/C TACSAT net. (That battalion remained out of our sector for approximately a month before they rejoined us in Mosul.)

OIF tested the ability of communicators to keep up with the mobility and flexibility of the combat-arms brigades. Our preparation before deployment, rapid fielding of new equipment and the high quality of Soldiers ensured the success of 2nd Brigade, 101st Airborne Division (Air Assault). We overcame the limitations of FM by employing new antenna systems, collocating retrans teams with other units, and keeping our TAC close to the fight. S/C TACSAT proved to be extremely valuable means of communications, reliable and easy to install.

Although we did not extensively use HF, we did demonstrate that it was an effective method communications with sufficiently well trained operators. Blue Force Tracker was a successful system that proved its worth. It was successful because the users – battalion and brigade commanders – could easily learn the system and make it do what they needed.

Digital systems fell to the wayside in our rapid march north. Our C2 structure pushed the decision making and information gathering forward to the very front lines where there was no data access and a high workload without the burden of inputting information digitally. At the brigade TOC, the complexity of creating a digital common-operating picture drove it into oblivion.

The most successful digital systems were the ones most familiar to the battle captains and NCOs – Microsoft Outlook, Internet Explorer and Office. These tools were widely used to share information with division staff. MSE kept up with our brigade, jumping seven times in three weeks, often after less than 24 hours on site. The highly motivated forced entry switch and AN/TSC-93C teams provided a great service and enormous flexibility for the brigade executive officer to keep our TOC on the move without being tied to fixed points.

Overall, the brigade communications architecture validated the doctrine, TTPs and training developed through the past 10 years for communications. We provided quality service in some of the most challenging environments – desert, cities and widely separated enclaves.

A complete after-action report of each of the systems can be found on the CALL OIF Lessons Learned web site under the heading "101st Airborne Division Communications Lessons Learned."

Impact on the future

As well as it went for our unit, major shortcomings were highlighted for the Signal Corps to address as we attempt to transform with the rest of the Army. We must guard against building our force for the last war and the last enemy. I propose we look at the human element of command. We should analyze how combat arms commanders commanded and controlled their forces to leverage communications systems to assist in that process. Instead of pushing down high bandwidth, "gee-wiz" equipment that serves the Signal Corps' best interest, we must look at becoming more relevant for the combat-arms commanders.

The current transformation effort makes a drastic step toward recognizing this fact. With the disbandment of the signal battalions and integration of separate signal companies into brigade combat teams, those commanders have direct control over their communications assets.

These companies will be resourced with the equipment to push data down to the battalion level via both satellite and terrestrial-based transmission paths. We will be organized like we will fight.

Instead of using habitual relationships that have teams answering to multiple bosses and signal companies supporting a wide range of users, there will be one focused effort for each company. Signal companies will be inherently more responsive to the commander's needs by their integration into his command structure. The new structure will create a signal team within each unit that relies upon each other.

The relationship between the brigade signal officer (S6), subordinate unit signal officers and the Signal company commander will likely result in a team that replicates the support once provided by the Signal battalion, for in the end our role as communicators will drive cooperative, not command, relationships.

Information superiority is a technological advantage not yet realized. Digital systems provide

the commander with tremendous ability to share and analyze information, but it must maintain three critical elements: widely available up and down the chain of command, simple to input/view data and reliable. In order to leverage the power of information sharing and collaboration afforded on a digital battlefield, commanders at every echelon must be able to access that data pipe. Information systems are only as good as the information put into it and must be designed around commanders needs.

If a brigade commander gets more accurate and timely information via FM radio reports, FM will become the primary information system for the entire unit. And without command influence, the data input into digital systems will not be timely or accurate.

The second problem is the complexity of existing systems. Our brigade invested a significant effort before deployment on training Maneuver Control System-Light, All- Source Analysis System-Light, and Advanced Field Artillery Tactical Data System. Each system has tremendous capabilities and tools. They however all fell to the wayside because it was more efficient to do tasks manually and too difficult to leverage information that was input into a display that enhanced the commander's understanding of the battlefield.

Blue Force Tracker was an example of a successful system. It required minimal operator input of raw data, was easy to train commanders to operate, and it displayed information helping commanders visualize the battlefield. BFT was limited in its capabilities with no ability to facilitate targeting or intelligence operations.

When designing a digital operations system, it should leverage the skills already mastered by Soldiers – windows point and click ease of use, web-surfing technology and email-based information dissemination. Instead of designing multiple-functional systems and forcing them to be compatible, the Army should identify one common system and design plug-in technology to meet functional requirements. This will create a reliable, integrated, common-operating picture commanders can use more effectively than the map and overlay system.

Commercial-communications technology has vastly outpaced military technology. We see the effects everyday. News crews can push real-time voice, data and video over a satellite-based network from around the world using three people and four transit cases. Companies manage huge databases tracking supplies, requests and shipments. Chat rooms and voice-over Internet Protocol phones connect kids around the world.

As we race to use commercial technology, we must balance our needs with the reality of our situation. The Army places unique demands not dealt with by the commercial world. We operate in the worst possible environments for electronic equipment – extremely hot, extremely cold, dusty, wet and without reliable power. We cannot rely upon next day contractor support – it must be fixed now and often far from the Federal Express delivery man.

And our operators, who are all smart and dedicated, are often young Soldiers with a high-school education and only a couple of months of technical experience. So we must develop systems that are easy to operate, standardized acccess the force, and repaired by operators in the field.

The Signal Corps has long coded may of its MOSs as operator/maintainers. As we field new technology, we must invest time and training to ensure that our Soldiers are trained on how the equipment

Acronym QuickScan

3ID – 3rd Infantry Division
AAR – after action review
AAR – after action report
AASLT – air assault
ACP – assault command post
ADC – Assistant Division Commander
AFATDS – Advanced Artillery Tactical Data System
ALO – authorized levels of organization
AMDWS – Air Missile Defense WorkStation
AR – Army Regulation
ASAS-L – All-Source Analysis System-Light
BCT – brigade combat team
BFT – Blue Force Tracker
C2 – command and control
CAS – close air support
CAV – Cavalry
CMOC – civil military operations center
COM – (not an acronym, a model number)
COMSEC – communications security
COP – common operating picture
FA – field artillery
FA – functional area
FEDEX – Federal Express
FES – Forced Entry Switch
FM – frequency modulation
FSB – forward support brigade
FSCOORD – fire support coordinator
FSO – fire support officer
HF – high frequency
ID – Infantry Division
IP – Internet Protocol
GAC – ground assault convoy
LAN – local area network
MCS-L – Maneuver Control System-Light
MEDEVAC – medical evacuation
MDMP – military decision making process
MSE – mobile subscriber equipment
MSRT – Mobile Subscriber Radio Terminal
NBC – National Broadcasting Company
NCO –non-commissioned officer
O&I – Operations and Intelligence
OIF – Operation Iraqi Freedom
OPORD – operations order
PZ – pickup zone
RSO&I – reception, staging, onward movement and integration
SA – situational awareness
SF – Special Forces
SIGO – Signal Officer
TAA – tactical assembly area
TAC – tactical
TACSAT – Tactical Satellite
TOC – tactical operations center
TTP – tactics, techniques, procedures
UHF – ultra-high frequency
XO – executive officer

works, how to troubleshoot and make basic repairs.

Conclusion

In the end, Signal Soldiers make it happen, just as they did during the Civil War, the world wars and during my recent experience in Iraq. As Signal leaders we have a responsibility to provide these great Soldiers with the equipment and training to support our Army's commanders.

In this article I laid out some of the lessons learned during my experiences during OIF. As it only reflects one unit's experience, I hope it generates a wider discussion of how the signal regiment can better support units in the field. The Army's transformation effort relies heavily upon commanders having information superiority at all levels. Signal soldiers, NCOs and officers will be on the front lines across our force providing systems to make that happen. And if history is any guide, we will be successful.

CPT North served as brigade signal officer for 2nd Brigade, 101st Airborne Division. 2nd Brigade was the division main effort in the attack and clearing of six cities during OIF (Al Kilif, Al Halil, Najaf, Karbala, Baghdad and Mosul). The brigade task force consisted of a combination of light-infantry air-assault battalions, an armor battalion, attack-aviation battalion, air-cavalry squadron, lift-aviation battalion, reinforced field-artillery battalion, forward support battalion and slice companies. At times, the brigade combat team expanded to include 10 subordinate battalions and over 5,500 Soldiers. North commanded B Company, 501st Signal Battalion for nine months in Iraq and returned to Fort Campbell to participate in the transformation to the Unit of Action structure. North is currently assigned to Fort Gordon as a small group leader at the Signal Captain's Career Course.

Making Mosul talk:

SASO communications lessons learned from OIF

by CPT Brian North

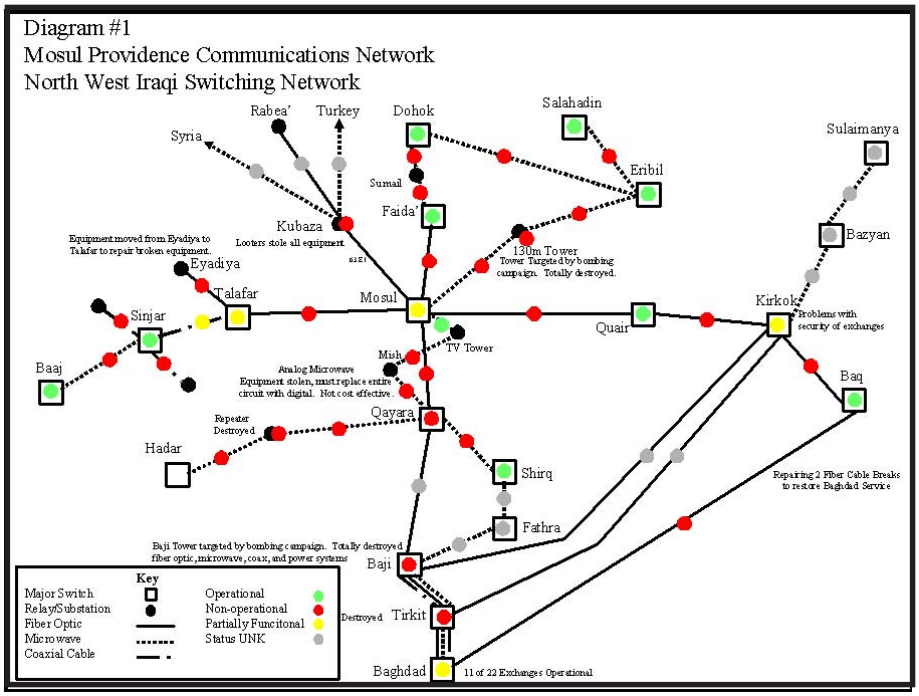
Second Brigade was the division main effort in the attack and clearing of six cities during Operation Iraqi Freedom (Al Kilif, Al Halil, Najaf, Karbala, Baghdad and Mosul). The brigade task force began stability and support operations in Mosul shortly after their arrival in late April. The brigade staff was tasked to begin work on many of the civil affairs functional areas while the 431st Civil Affairs Unit reorganized from its combat support task organization to a traditional direct and functional support organization. As brigade signal officer, I interfaced with the Mosul Post Telephone and Telegraph Directorate to reestablish local and long-distance service for the region.

I was feeling pretty good the last week of April 2003. We had just completed a month of pretty intense operations all over Iraq and I was able to meet my commander's needs at every step along the way. Little did I know that he was about to throw me a curve that would bring out skills I did not even know I had. After a month of combat operations, and a week in the city of Mosul, the brigade's communications systems were pretty much running themselves. COL Joseph Anderson, the 2nd Brigade, 101st Airborne Division Commander, was rapidly transitioning the brigade from combat operations to stability and support operations. The civil affairs unit that was assigned to Mosul was in transition from direct support to their habitual functional teams. In order to fill in the gap, the brigade commander turned to his staff and assigned each of us functional responsibilities. Specifically he directed me to get the telecommunications systems in Mosul up and running. It did not take long for me to discover that stability and support operations are complex, time consuming, coordination intensive, frustrating, but ultimately extremely rewarding missions. In the processes of narrating my experiences in Mosul, Iraq, I hope to prepare other signal officers for the potential pitfalls and successful techniques, tactics, and procedures that I learned. But it is in no way meant as a discussion of SASO doctrine's strengths or weaknesses. The key lesson my brigade learned in each functional area was that any motivated, proactive and responsive officer can make a difference very quickly during the early stages of SASO operations, with or without formal SASO doctrine to guide them.

I came into Mosul with a limited understanding of SASO in general or communications infrastructure specific. I had no practical experience, and only a basic doctrinal understanding of the purpose and methods for SASO operations. We had discussed SASO in both the Marine Corps Command and Control Systems Course and the Army's Combined Arms Service Staff School, focusing on the synchronization of the military with

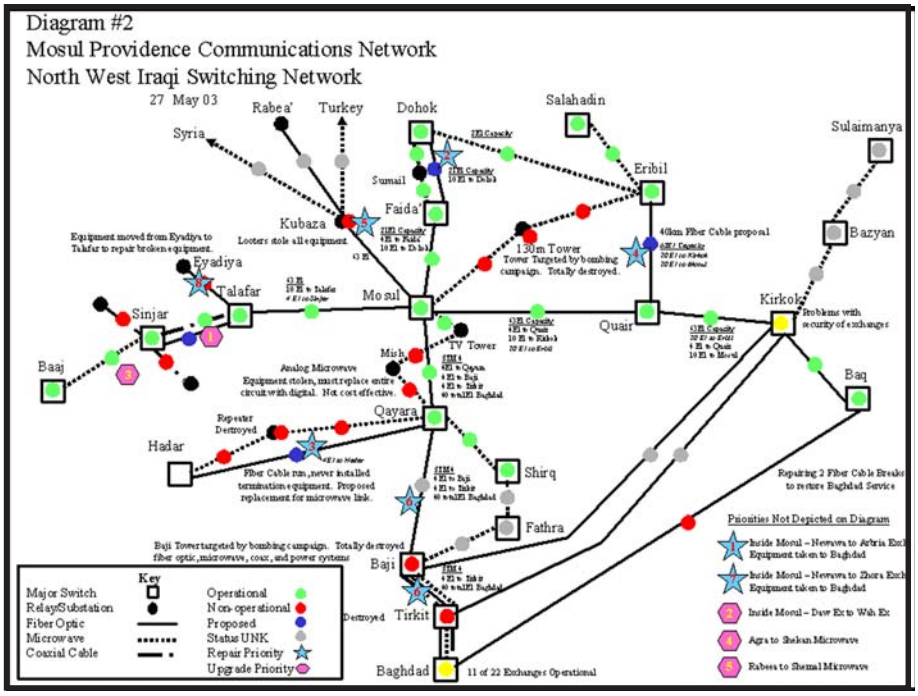
other agencies (state department, humanitarian organizations, other nations, host nation) and the development of a consistent information operations theme. As a result, I understood where I fit into the larger picture, but had no idea of how to execute the brigade commander's intent. Ideally, I would have been able to draw upon the expertise of the civil affairs battalion functional area team, but that team had been broken out to provide direct support teams during the combat phase of the war and had not been reconstituted. So I set upon my task without a clear idea of what I needed to accomplish.

The obvious first step was to determine the current state of the communications systems for the city. Finding a place to begin was actually a harder task than would appear. The brigade S2 could provide no information on how the regional telephone system was organized, equipped or managed. The only information available through the Army intelligence channels was satellite imagery of the fiber-optic-cable facility that was targeted and destroyed by the Air Force. There were civil affairs advance teams operating in the city, but there were at this point no coordinated efforts. With no phone book, understanding of street signs, or well-defined map of city services, the best source of information was human intelligence sources. One of the university students looking for a job as an interpreter led me to the regional phone company headquarters and introduced me to the director of communications and post. I introduced myself as the lead communications expert for the Army unit occupying the city and region. The goals of the initial meeting were very limited, basically offering the Army's assistance and attempting to establish a relationship. They expressed their primary concerns: security, unexploded ordinance and payment of salaries. My direct tie into the combat forces allowed me to immediately address the basic need of security and clearing of unexploded ordinance. They appreciated our quick reaction, and started the road to building a sense of mutual trust that allowed for the detailed work to come.



The second step was to take my basic understanding of their needs and develop a coherent, detailed understanding of the regional communications systems and support structures that kept it running. Remarkably, the local telephone system was basically intact. Once we reestablished security at the local exchanges so workers could return to work, and provided local security for a couple of fiber-optic-repair teams, local phone service in Mosul returned to near pre-war status. The regional links were very much affected by the destruction of key microwave repeater towers and fiber-optic-relay stations. Previously all international long-distance service had been routed through Baghdad, and the path was completely destroyed. The easiest way to ensure I understood and was able to explain this information was to draw diagrams similar to the network diagrams we draw for Army networks. This proved to be a very effective method, and the diagram was constantly updated and enhanced with new information from daily meetings with the phone company managers. Diagram #1 is a snapshot of the network shortly after we arrived in Mosul. In addition to the network, I also attempted to understand the existing management organization and existing policies and procedures. Local and regional directors had little independent decision making authority under the previous regime. With the removal of the centralized authority, all policies and procedures were frozen in place. Action on repairing circuits, activating new telephone lines, ordering repair parts, or setting employee work hours all ceased without the direction from Baghdad. Although all the employees and managers were in place and wanted to work, without authority there was no action.

With no functioning policies or procedures, we resorted to solving problems on our own. We started making decisions and taking action using the authority of the brigade commander as the military commander of Mosul. The managers quickly accepted that authority and began work under my direction. I continued to develop my understanding of the local communications network through daily meetings, site visits in Mosul and coordination meetings with managers in



Kirkok, Erbil and Dohok, refining the network diagram and other products with the new information and updates.

While collecting information, I moved into a third phase of translating that information into a plan of action. With no links to Baghdad and the 101st firmly in control of the region, I became the de facto telecommunications minister with the authority to direct execution, set policy and determine priorities. While this was fine while working local issues, I quickly realized that the solutions required were well beyond my resources or 2nd Brigade's ability to influence. As the rest of the division began to flow into Mosul, I began to work with the civil affairs team and the 501st Signal Battalion commander and division G6, LTC Michelle Walla, to build a plan of action. Walla was able to leverage links directly into organization for reconstruction and humanitarian assistance (which would later become the Coalition Provisional Authority) and the V Corps C6, which opened opportunities that I did not even know existed. We quickly realized this was a two-phase problem, the near term (first six months) and long-term solution. The priorities of short-term solutions were local phone service (to include installation of local phones for use by United States military), regional service and international service. As already mentioned, we were able to restore local service by providing security and authority to take action. We paid for the installation of local phones at the pre-war rate for two reasons. Under the previous regime, Ba'ath party officials received free local-phone service, but any other civilian had to pay a very high price.

By keeping the rates at the high level, we demonstrated the military was subject to the same rules as everyone else. It also provided a source of income for the phone company, which had no operating budget. The infantry battalions provided local security for telephone exchanges and repair sites in order to encourage people to return to work. We worked with the local authorities to prioritize regional links for restoral and upgrades, adding the upgrade priorities to the network diagram (Diagram #2).

This diagram also shows the network as it existed at the end of May 2003, after we had restored most regional service in the area. Our near term solution for long-distance access was developed from the solution in place in the Kurdish controlled sector of Iraq. Private companies had successfully established long distance calling centers and pre-paid systems that use local phone lines. A presentation was made to the interim city counsel, and a contract was approved with the DalyaSat Company to provide 750 long-distance phone-line trunks. That system successfully went on line in June, and has been a great source of income for both the local government and long-distance contractor. By attacking problems that we could influence, we quickly made a tangible difference and built trust and confidence that set the stage for our long-term solutions. The long-term solution would come from coordination with the OHRA and civil affairs units.

Coordinating with these outside agencies proved to be more challenging than productive. The responsiveness, urgency and strict chain-of-command that I was used to at the division level did not exist in these agencies in the early stages. They were working hard to organize and develop information-management techniques and were not prepared to commit money or make decisions on policy. The real problem is that they could not provide the financial support needed as quickly as we wanted to execute.

This really drove the decision-making process on some actions towards contractors who would provide service for a percentage of profits rather than install equipment for a cost. No matter how much goodwill and security we provided, money was the decisive factor in restoring Mosul. Eventually these agencies became engaged and started providing guidance and policy direction, which sets the road for the future. After I left 2nd Brigade to take command, CPA began financing projects through $100,000 discretionary funds controlled by brigade commanders. But while these funds provided much needed emergency assistance for immediate projects, they do not meet the long-term budget or upgrade requirements. In the end, these agencies will provide that assistance and the

lesson learned is that a short-term solution will be in place longer than we initially thought.

My real role in this project was as an information conduit. During the daily meetings I would provide the PTT managers with updates on a wide range of topics, from the status of salary payments by the U.S. government representatives in Baghdad to the status of local trash service. The value was the goodwill created by providing local managers and community leaders with a direct information source of what the division was doing to solve problems in the city. I made sure that I was tied into the larger brigade information-operations focus through my participation in the daily battle updates. I also provided the brigade commander and S2 with information that helped develop the overall intelligence picture for the city. Some of the information concerned local Ba'ath party actions, general feedback on how the citizens felt about our actions, and arising problems that required attention.

On the technical side, I collected priorities, equipment requirements and problems, and forwarded them on for others to solve. What I did accomplish was based less on specific signal skills and more on an application of staff-officer coordination. The information was less technical than procedural and policy related. The technical information that was applicable was commercial-telephone based and outside my expertise. I was more than a telecommunications expert in the Iraqi's view – I was a representative of the U.S. government. The decisions, questions and information were all accepted as coming with the full authority of the U.S. This was empowering, allowing me to solve simple problem easily, but also sobering because of the potential impact of what I said would have upon the Iraqi perception of our efforts.

I worked hard to positively express the U.S. commitment to one democratic country controlled by the Iraqi people. Every contact with local officials was an opportunity to reinforce the brigade and division information operations campaign, and the daily meetings were very useful in spreading and reinforcing the brigade commander's themes. While our common telecommunications background helped establish an initial relationship, my job was really information management and staff work.

This was a valuable and rewarding experience. My interactions with the Iraqi people lead me to believe this country was freed from a terrible tyrant and has a bright future. The managers of the PTT are technically competent, hard working and willing to work with the U.S. to restore service, despite the danger that places them in from former regime loyalists. They truly understood how the country had suffered under Sadaam Hussein and had great confidence that their people could transform this place into a great nation. I also learned a great deal about SASO operations. My top five takeaways are:

1. SASO operations are complex, but primarily an exercise in information management.
2. Key to successful relationship with local government is not functional area expertise but motivated, proactive and responsive officers or non-commissioned officers who can build mutual trust.
3. Immediate positive action is critical for establishing a working relationship.
4. Security and money are the two enablers of every other action. Must have both.
5. While interfacing with the local government, you represent the entire U.S. government – which means both power to make things happen and the responsibility to conduct yourself with the highest standards.

I was fortunate to have this opportunity to help the citizens of Mosul. The effects of the war did not hit the PTT as hard in Mosul as many other places in Iraq and we were able to make an immediate, positive impact. And this was one piece of a larger successful effort by my brigade. My fellow staff officers were conducting equally productive work in the area of health care, judicial system, petroleum distribution, sewage and every other civil service required to run the second largest city in Iraq.

While not a textbook case of SASO operations, 2nd Brigade, 101st Airborne Division, was successful and should be an example for future SASO operations.

CPT Brian North served as brigade Signal officer for 2nd Brigade, 101st Airborne Division. 2nd Brigade was the division main effort in the attack and clearing of six cities during Operation Iraqi Freedom (Al Kilif, Al Halil, Najaf, Karbala, Baghdad, and Mosul). The brigade task force began support and stability operations in Mosul shortly after their arrival in late April. The brigade staff was tasked to begin work on many of the civil affairs functional areas while the 431st Civil Affairs Unit reorganized from its combat support task organization to a traditional direct and functional support organization. As brigade signal officer, North interfaced with the Mosul Post Telephone and Telegraph Directorate to reestablish local and long-distance service for the region. North commanded B Company, 501st Signal Battalion, which is participating in the transformation effort at Fort Campbell to the Unit of Action structure. North is currently assigned to Fort Gordon as a small group leader at the Signal Captain's Career Course.

Acronym QuickScan

CPA – Coalition Provisional Authority
NCO – non-commissioned officers
ORHA – Organization for Reconstruction and Humanitarian Assistance
PTT – Post Telephone and Telegraph
SASO – Stability and Support Operations
U.S. – United States

Doctrine update

Updates in Signal doctrine from Directorate of Combat Developments, Army Signal Center, Fort Gordon, Ga.

Signal Regiment doctrine development challenges

by Rick Meredith

As the Army evolves toward the new modular organizational design, the Regiment is faced with several challenges in developing doctrine to support our future forces. As the Army transforms into a more rapid task-organized modular force, with the capability to fight on arrival while leveraging joint and coalition capabilities to win conflicts, our doctrine must be updated, developed, maintained and remain relevant to a force that will continue to evolve over the next decade.

The Army's doctrine of the future will require core capabilities that enable our forces to be responsive and flexible enough to meet multiple mission requirements and threats. Signal doctrine must also be responsive and flexible enough to support the new signal organizations within the Unit of Employment and the Unit of Action constructs. It must address the key enablers and imperatives required in a joint environment. Our doctrine must fully address how to effectively integrate and balance the application of information-enabled networks that will support our maneuver forces in every mission area along the operational spectrum. One adage is that doctrine must do more than teach the Soldier how to fight; it must teach the Soldier how to think about how to fight.

Because of Army transformation, the Signal Regiment, like other proponents, is living from "draft" doctrine products. These products were, and still are, developed on the move, never becoming verified, validated or approved documents. We must now move beyond the draft state to approved doctrine. Our charter is to develop and update all of our signal doctrine over the next few years to reflect recent changes in future force design and lessons learned from Operation Enduring Freedom and Operation Iraqi Freedom in order to remain relevant to the Army and our Signal Soldiers. Historically, doctrine products were viewed as having a five-year life cycle (without revisions/updates). In order to keep pace with transformation efforts, Training and Doctrine Command is researching and exploring new methods (through an Integrated Process Team) to enhance our capabilities to produce doctrine products in a timelier manner.

Refocusing the Signal Regiment's doctrine program will take dedicated resources (personnel and funding) and immediate access to lessons learned. We will start with the Signal capstone doctrine manual FM 6-02, *Command, Control, Communications and Computer Operations* (formally known as FM 24-1, *Signal Support in the Air Land Battle*). Development of FM 6-02 began mid-fiscal year 2004 with a completion time around the 4th Quarter of FY 05. During FY 05, we will also develop three other field manuals, FM 6-02.45, *Signal Support to Theater Operations* (UEy); FM 6-02.50, *C4 Operations: Division (UEx/UA)*; and FM 6-02.71, *Network Operations*. The branch is also supporting the development of several tactics, techniques, and procedures for major systems and programs like Joint Tactical Radio System, Warfighter Information Network-Tactical and Joint Network Transport Capability-Spiral.

As we develop and refine our products, the products will be posted to the Army Knowledge Online Web site. We encourage members of the Signal Regiment to review them and provide us feedback. This effort is too large and too important to be done in a vacuum; therefore, with the Regiment's help, we will be able to clearly articulate the capabilities the Signal Regiment will provide to the new modular Army in all joint, interagency and multinational operations.

Mr. Meredith is a Department of the Army civilian and presently holds the position of doctrine branch chief, Concepts and Doctrine Division, Directorate of Combat Developments, United States Army Signal Center. His background spans 31 years of service to the Signal Regiment. He is a retired master sergeant with over 20 years of service. He has held several positions including first sergeant, Combat Developments noncommissioned officer, and TRADOC Operational and Systems Architecture branch chief. He has been a part of the Army Chief of Staff's focus groups, Task Force Modularity and Task Force Network. Other key positions include service as a Senior Enlisted Career Management Noncommissioned Officer responsible for major Signal Military Occupational Specialty restructure action for MOS 31U, and project manager for the Signal Regiment's Total Army Analysis program.

Acronym QuickScan

C4 – Command, Control, Communications and Computers
FM – Field Manual
FY – fiscal year
JTRS – Joint Tactical Radio System
JNTC-S – Joint Network Transport Capability-Spiral
MOS – Military Occupational Specialty
TRADOC – Training and Doctrine Command
UA – Unit of Action
UE – Unit of Employment
WINT-T – Warfighter Information Network-Tactical

TSM update

Updates from Training and Doctrine Command systems managers for satellite communications, tactical radio and Warfighter Information Network-Tactical

Providing the bridge to the future network with commercial wideband SATCOM

by LTC Gene Griffin

"Limitations in communications bandwidth at corps level and below, particularly in an expeditionary environment, remain our single most serious deficiency."
GEN Peter J. Schoomaker,
Army Chief of Staff

"JNTC-S is needed to fill a bandwidth capability gap for C2, CSS and Intel and beyond-line-of-sight communications support down to the battalion level."
LTG Steven Boutelle
Army CIO/G6

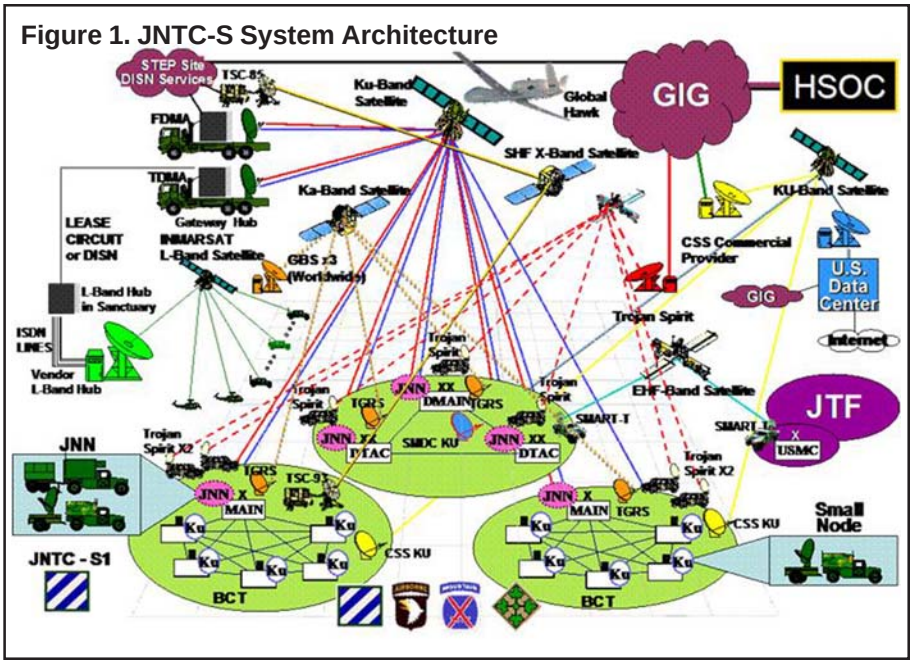
Army Transformation initiatives, coupled with the Information Technology revolution, recently created a dramatic increase in the Army's information throughput requirements. At the tactical/expeditionary level, the shortfall is most pronounced for modular brigade combat teams operating at doctrinal distances that far exceed our current line of site capabilities. This translates to a previously un-resourced beyond line-of-sight capability at brigade, battalion and company echelons that current military BLOS satellite communications capabilities cannot meet. Even though emerging Army and Department of Defense satellite constellations and terminal systems will tremendously increase BLOS capabilities, several programmatic factors will cause this current gap to persist through 2010.

These factors include: (1) competition with other services for the limited government resources now available (2) initial operational capability of the Wideband Gapfiller System not occurring until fiscal year 2006 with full operational capability in 2010 (3) IOC of the Advanced EHF system not occurring until FY08 with FOC in 2011 (4) budget cuts and delayed launches of Mobile User Objective System and Transformational Satellite that pushes those initial satellite capabilities into the 2010 for MUOS and 2014 for TSAT (5) limited SATCOM-on-the-Move capabilities today (6) and funding limitations for Teleport/Hub Node support.

At a time when our nation is at war, the throughput requirements gap has led to several valiant, but less than optimal solutions to mitigate the tactical risk by filling the current warfighter SATCOM needs via commercial means. These solutions have been successful in many ways, but have led to the fielding of incompatible networks and systems, while many times leaving deployed units paying for expensive airtime costs. This article discusses the recent Army-wide events that bridge the throughput requirements gap with commercial wideband SATCOM as the Army transforms from a limited Current-Force satellite-communication architecture consisting of multiple networks to a single, integrated, Warfighter Information Network-Tactical and Joint Tactical Radio System - enabled LandWarNet architecture of the future.

Given the stated realities of our military SATCOM programs and our continued need for commercial SATCOM augmentation in the foreseeable future, the Army recognized that we must quickly move forward with a smarter approach to commercial augmentation of military SATCOM capabilities. Battle labs, Research, Development and Engineering Centers and the acquisition communities enthusiastically responded capitalizing on emerging technologies as well as and several earlier SATCOM successes with the 3/2 Stryker Brigade Combat Team, the Army's "Connect the

Figure 1. JNTC-S System Architecture



Logistician" initiative, the U.S. Army Intelligence Center's Trojan Spirit system, and Space and Missile Defense Command systems (see *Army Communicator,* Vol. 29 No. 2).

The Signal Center led an Army-wide working group to develop a Bridge to Future Networks Capabilities Production Document that was approved by the Army Requirements Oversight Council in October 2004. This BFN CPD articulates the Army's near term operational requirements for a BLOS communication capability and begins to bring many of the various DoD and commercial SATCOM programs and initiatives together. The resulting operational architecture seen in Annex A of the BFN CPD will bring robust SATCOM capabilities down to the battalion level and to integrate the command and control, intelligence and logistics requirements.

The system architecture in support of the BFN CPD is called the Joint Network Transport Capability-Spirals (See Figure 1). Several spirals will be developed to insert SATCOM capabilities to modular units in synch with Operation Iraqi Freedom deployment schedules. JNTC-S provides for the infusion of available WIN-T capabilities now and is an initial step towards a "networked"- enabled Future Force. The JNTC-S architecture was a coordinated effort among various organizations, to include the Battle Command Battle Labs, SIGCEN, Training and Doctrine Command Futures Center, Casualty Area Command, NETCOM, Combined Arms Support Command, USAIC, PEO C3T, PEO EIS, CECOM and DA staff.

In addition to using the existing military SATCOM constellations and terminals, the centerpiece of the resulting system architecture is the use of commercially available Ku-band satellites with an integrated suite of state-of-the-art baseband, switching and termination equipment. The use of commercial Ku-band SATCOM has many performance and availability advantages, to include much higher throughput rates and the ability to upgrade many of the fielded Ku-band terminals to Ka-band once the first WGS satellite is launched (June 2006). Key systems in the architecture using commercial Ku-band are:

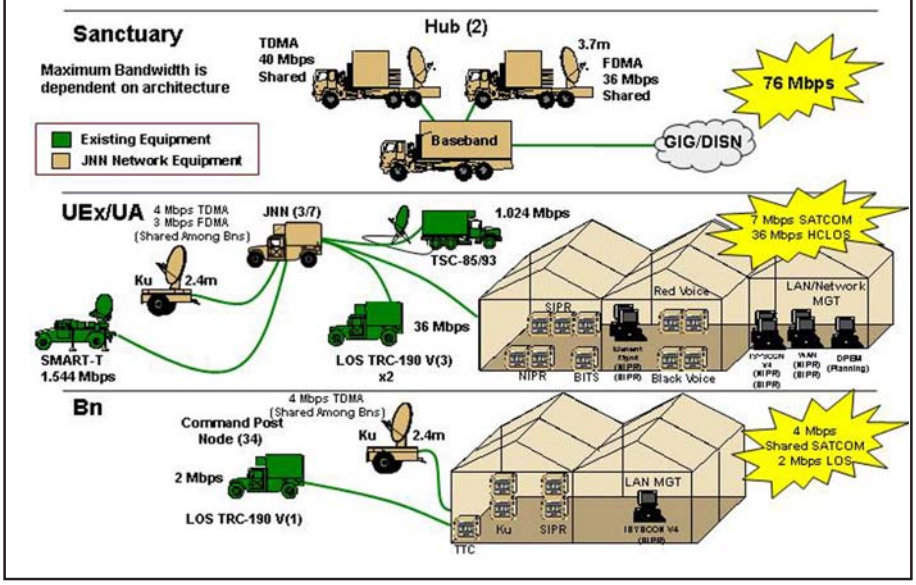
(1) Joint Network Node-Network consisting of the Joint Network Node, the Battalion Command Post Node, the Ku SATCOM trailer and the Hub Node.
(2) Trojan Spirit
(3) Global Broadcast Service Transportable Ground Receiver Suite
(4) Combat Service Support Very Small Aperture Terminal
(5) Space Support Element Toolset - Light

Within the approved JNTC-S architecture, commercial L-band enables situation awareness and communications for on-the-move combat platforms at the platoon and company echelon using the Force XXI Battle Command Brigade and Below - BFT and various Total Asset Visibility systems for Combat Service Support requirements. Although this L-band solution brings never-before seen capabilities to tactical echelons, the goal is to migrate this on-the-move capability to commercial Ku–band then eventually Ka-band (WGS) and P-/L-band (MUOS) military satellites. Such migration should help minimize L-band costs while improving operational support to the warfighter.

The first key – Joint Network Node-Network

The first key JNTC-S system utilizing commercial wideband SATCOM is the JNN-N. The JNN-N provides up to two Hub Nodes, 16 JNN's, and 43 Battalion Command Post Nodes per UEx with a total JNN-N system throughput capacity of 76 Mbps. Each Hub Node consists of three communications shelters; one 3.7 meter satellite terminal capable of establishing 10 Frequency Division Multiple Access nets, one 3.7 meter satellite terminal capable of establishing ten Time Division Multiple Access nets, and a baseband van to provide switching, routing, and to tie the multiple subnets into one network. Additionally, the Hub can be used to gain Defense Information Systems Network services. In addition to handling the commercial Ku-band network, JNN-N accommodates the use of the following existing military

Figure 2. Joint Network Node (JNN) Components for 3rd ID



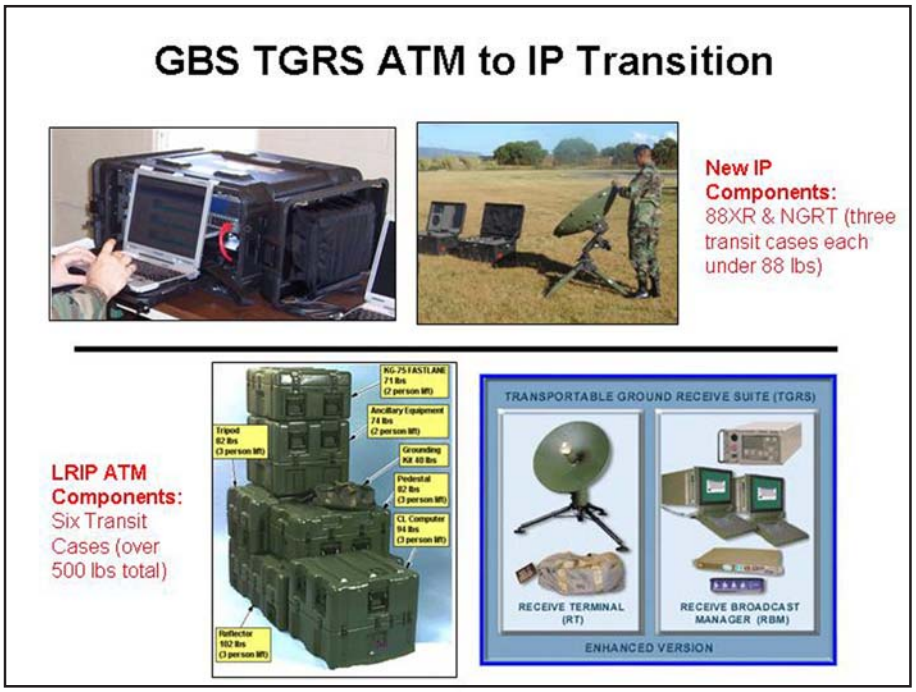
SATCOM and LOS systems: AN/TSC 85/93, Secure Mobile Anti-jam Reliable Tactical Terminal and high capacity line-of-sight. It will be upgraded to handle WGS Ka-band when that constellation becomes available. The JNN's and Battalion Command Post Nodes receive the Ku-band traffic via a 2.4 meter satellite antenna mounted on a trailer.

For the 3rd Infantry Division , a total of two JNN Hubs, 10 JNNs and 34 Battalion Command Post Nodes were recently fielded (see Figure 2). Commercial Ku band lease agreements are coordinated with the Combatant Commanders and DISA.

The second key – TROJAN SPIRIT

The second key commercial wideband system is Trojan Spirit. Trojan Spirit provides the critical Top Secret/Special Compartmented Information and wideband communications connectivity from deployed modular units to Theater and Homeland Security Operations Centers intelligence assets, and National Intelligence products and services. Using Trojan Network Control Centers located at Fort Belvoir, Va., and Fort Bragg, N.C., the forward deployed commander has access to Non-Secure Internet Protocol Router, Secure Internet Protocol Router, Joint Worldwide Intelligence Communications System, and National Security Agency net services. The Department of the Army G-3 has approved fifteen TS/SCI Points of Presence within each UEx. However, the 3ID will deploy with six TS/SCI POP locations for the Operation Iraqi Freedom-2 rotation, each supported by a Trojan Spirit system.

In subsequent fieldings to additional modularity UEx formations, six of the 15 TS/SCI POPs (two at UEx headquarters and one per BCT Main) will be covered with Trojan Spirit systems and the other nine with a JNN and Intelligence gateway equipment. All of these capabilities will fall under the BFN umbrella as this capability migrates to WIN-T. The first step in the migration within the BFN is to conduct a proof of concept that tunnels TS/SCI information from the TS/SCI POP through the JNN network to the TNCC and other specific users. The SIGCEN and INTELCEN Directors of Combat Development have developed an update to the existing Trojan Spirit to WIN-T Migration Plan that is to be published later this year.



(Above) Figure 3. GBS Transportable Ground Receive Suite (AN/TRC-4) and IP Transition

(Right) Figure 4. CSS Very Small Aperture Terminal System

The third key – Global Broadcast Service

The third key JNTC-S component is the Global Broadcast Service network. The GBS network consists of the Transportable Ground Receive Suite (See Figure 3), Theater Injection Points consisting of a Tactical Theater Injector and Theater Satellite Broadcast Manager, three Primary Injection Points and GBS Satellite Broadcast Manager associated with the PIPs.

GBS uses military Ka-band and commercial Ku-band augmentation to provide high speed (23.5 Mbps), one-way information flow of data and multimedia information, such as imagery, maps, weather, logistics, air tasking orders, video, etc. GBS supports the data needs of key systems such as All Source Analysis System, Integrated Meteorological and Environmental Terrain System, Digital Topographic Support System, Distributed Common Ground System - Army, as well as large products from Weather and

Radar Processor and Commercial Satellite Imagery Library. GBS also includes the ability to broadcast tactical Unmanned Aerial Vehicle and other video down to the maneuver battalions and provides CNN broadcasting services. Access to broadcast services from various agencies and systems are coordinated by the COCOM Theater Information Managers and managed by the GBS SBM in accordance with respective COCOM Standard Operating Procedures and the Joint Forces Command GBS Information Guide (February 2003). The SBM also maintains a Help Desk to assist users with information requests and troubleshooting their equipment. The GBS system is currently under revision to replace its Asynchronous Transfer Mode-based Low Rate Initial Production components with Internet Protocol receive suites. However, due to the compressed time schedule, 3ID will receive six LRIP ATM- based AN/TRS-4 terminals (one per maneuver BCT, one in the G-2 Fusion Cell within the UEx Main, and one in the UEx TAC). Beginning in May 2005, units will begin receiving the IP-capable TGRS based on the approved DA fielding schedule.

The fourth key – CSS VSAT

The fourth key commercial wideband system is CSS Very Small Aperture Terminal. CSS VSAT is the third generation of CSS SATCOM that was fielded during OIF and continues in use today. CSS VSAT provides wideband NIPRNET connectivity for Small Battle Unit data and to all major logistical nodes across the Army. CSS VSAT enables forward deployed maneuver and support battalions to reach key Theater and Army Enterprise sites located in CONUS and in sanctuary with speed, precision and high reliability. The CSS VSAT system's total weight is 407 pounds packed in five transit cases and includes a 1.2 meter antenna (see Figure 4).

Combined with the wireless CSS Automated Information System Interface system, CSS VSAT provides flexible connectivity down

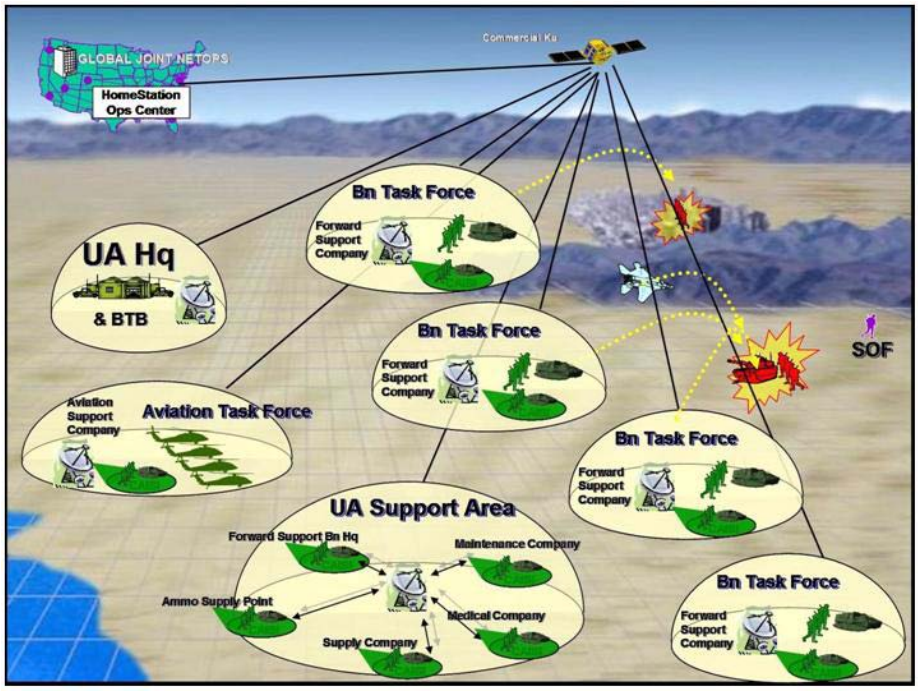
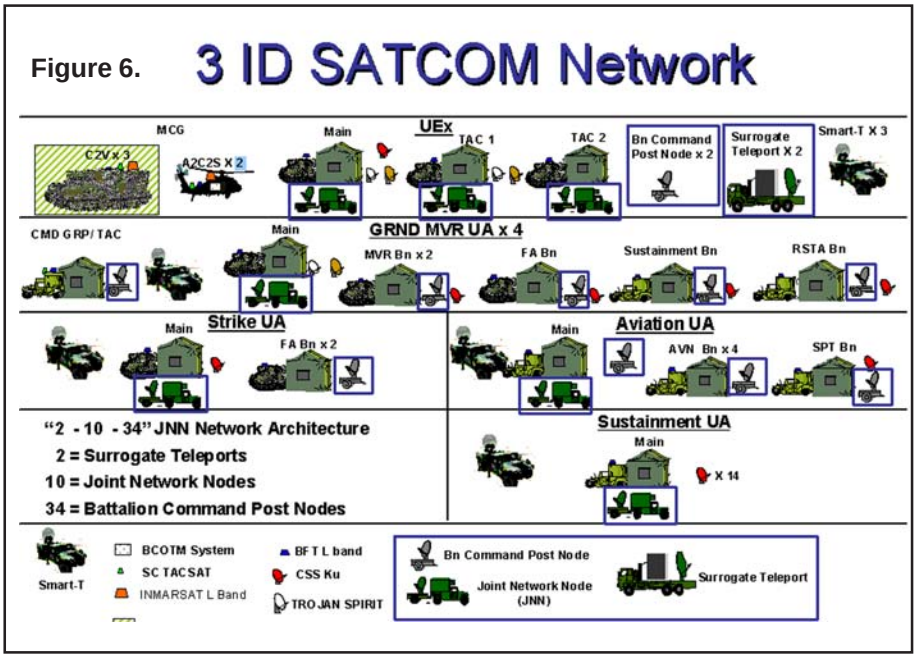


Figure 5. CSS VSAT Architecture



to the Unit Level Logistics System-Ground, ULLS-S4 Module, Medical Communications for Combat Casualty Care (MC4), Systems Analysis and Mission Support , TC-AIMS II, and Battle Command Sustainment and Support System systems located at the company and battalion level (See Figure 5). The CSS VSAT system NETOPS is monitored by the CSS Automation Management Office at the UEx level and managed by the CSS VSAT Network Operations Center located at Fort Belvoir, Va. Coordination is required between the CSS AMO and the UEx G-6 NETOPS for assured connectivity and to ensure the system is included in the UEx G-6 Information Assurance/Computer Network Defense plans.

The 3ID and 101st ID have been fielded 34 systems and 10th ID will receive 32 systems. Fielding priorities for the remaining UExs and SBCTs will follow the Army

Over Time Model. The CSS VSAT program is fully funded for all units across all components of the Army. CSS VSAT is also in operational use by the U.S. Marine Corps' 2nd Force Service Support Group and has been deployed in support of National Training Center, JRTS and Homeland Defense First Responder missions for Hurricane Relief in Florida.

MAJ Angel Nieves and Chief Angel Montero, 3ID CSS AMO, are extremely pleased with the CSS VSAT results. Montero states that the system more than doubles the daily requisitions with no dropped requisitions or errors, provides quicker and more accurate status updates, and keeps leaders, wrench turners and clerks off the road saving time and lives. During JRTC rotations and the Division MRX, logistics leaders conducted maintenance meetings via teleconference and "drop disks" were no longer needed.

The fifth key – Space Support Element Toolset-Light

The last key is the Space Support Element Toolset-Light provides the Space Support Element within the UEx TAC with encrypted broadband (Ku-band) voice, data, and fax via the SATURN terminal (fielded with either a 1.2 meter or 1.8 meter antenna). The system's data rate is one Mbps downlink and 256 Kbps uplink and allows Internet and NIPR access. The SSET-L provides space assets analysis, space environment situational awareness, and space-based Imagery Intelligence and Signals Intelligence products to the warfighter.

Leaders of the charge

PEO C3T has the acquisition management lead to field this assembly of BFN CPD driven capabilities in a coordinated manner to the Army. The PEO uses an onsite office led by a lieutenant colonel to coordinate fielding with respective command, control, communications, computers, intelligence, surveillance, and reconnaissance program managers (PEO C3T, PEO IEW&S, PEO EIS, CECOM) and each Division's G-staff. Equipment fielding quantities are resourced constrained; therefore, DA- level Equipment Resourcing Conferences are required to make tough decisions on what is "good enough" for each UEx. Units will be reset and upgraded to the approved Modified Table of Organization and Equipment requirements as Army funding becomes available.

The PEO C3T Trail Boss office for 3ID, headed by LTC Vincent Amos, sets the standard for other offices to follow. At the time of writing this article, Amos had successfully fielded the new commercial Ku-band SATCOM capabilities and integrated them with existing commercial and military SATCOM systems to 3ID (see Figure 6). In less than six months, the office conducted a total of 225 New Equipment Training courses to train and field over 3800 items of communication equipment. The recent success of the October 2004 3ID Division MRX proves the incredible capability the JNTC-S architecture brings.

The first four JNTC spirals have been defined for the 3ID (Spiral 1), 101st ID (Spiral 2), 4th ID (Spiral 3), and 10th ID (Spiral 4). The 3ID's spiral is complete with Spirals 2-4 occurring in FY05. The 101st Division's Trail Boss office, headed by LTC Douglas Kuehl, was recently stood up with network and material started in January 2005 and will continue for several months. The PEO will soon stand up the 4th ID and 10th ID Trail Boss offices for their scheduled FY05 fielding.

The remaining spirals and their compositions are still being worked in coordination with OIF deployment schedules, unit conversions to modular organizations, and available Army funding. In FY 06, Spirals 5-7 will build on the successes of the JNTC-S architecture.

Work will continue

The outstanding work to date by the Signal Regiment to develop a consolidated capabilities document and the resulting system architectures is a leap in the right direction. However, the recognition remains that there is more work to do. Even with the launches of the emerging military satellite constellations, we will most likely never fulfill all of the Army's requirements with government systems and there are still multiple SATCOM efforts that appear to be addressing the same requirements.

With this in mind, the TRADOC System Managers for Battlefield Communications and Satellite Communications (TSM-BC and TSM-SATCOM) jointly held a Satellite Conference Oct. 18-21, 2004, to ensure all the documented SATCOM requirements, programs, and initiatives are captured with the ultimate goal of finding further opportunities to consolidate SATCOM efforts and to migrate current systems to less expensive, more capable SATCOM where appropriate. Results will also serve to communicate to the warfighter, and Army decision makers the recommended path from current SATCOM capabilities to ultimate future force capabilities found in JTRS and WIN-T/HC3. Initially, this effort will focus on the relative near term time period (today through 2009) which will incorporate the launches of WGS constellation, the first launch of the AEHF satellite constellation, and the expected SATCOM-on-the-Move requirements migration to WIN-T Block 1 and JTRS. Follow-on efforts will serve to coordinate the efficient transition of current capabilities to follow-on WIN-T and JTRS blocks and to recommend plans for the continued use of commercial SATCOM, where appropriate.

LandWarNet, the Army component of the Global Information Grid, will transform the operational Army into a network-enabled, knowledge-based force capable of successfully supporting the COCOM in a joint fight. This leader-centric network must use satellite communications to fulfill the warfighter's requirement for a single, integrated BLOS

communications capability. The host of emerging military satellite constellations, with continued commercial augmentation, teleport upgrades, JTRS and WIN-T will collectively provide the backbone for the Future Force's ability to achieve joint connectivity from the Soldier in the foxhole to Continental United States- based strategic and national level assets. To bridge the gap between today and ultimate fulfillment of the LandWarNet vision, the JNTC-S architecture is accelerating the fielding of available capabilities and capitalizes on the performance and availability of commercial Ku-band SATCOM.

Acronym QuickScan

3ID – 3rd Infantry Division
AMO – Automation Management Office
AROC – Army Requirements Oversight Council
ASAS – All Source Analysis System
ATM – Asynchronous Transfer Mode
BCBL – Battle Command Battle Labs
BCS3 – Battle Command Sustainment and Support System
BCT – Brigade Combat Team
BFN – Bridge to Future Networks
BLOS – Beyond Line of Sight
C4ISR – Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CAC – Casualty Area Command
CAISI – CSS Automated Information System Interface
CASCOM – Combined Arms Support Command
CECOM – Communications Electronics Command
COCOM – Combatant Commanders
CONUS – Continental United States
CND – Computer Network Defense
CPD – Capabilities Production Document
CSIL – Commercial Satellite Imagery Library
CSS – Combat Service Support
CSS VSAT – Combat Service Support Very Small Aperture Terminal
DA – Department of the Army
DCD – Directors of Combat Developments
DCGS-A – Distributed Common Ground System-Army
DoD – Department of Defense
DISA – Defense Information Systems Agency
DISN – Defense Information System Network
DTSS – Digital Topographic Support System
FBC2BC – Force XXI Battle Command Brigade and Below
FDMA – Frequency Division Multiple Access
FOC – full operational capability
FSSG – Force Service Support Group
FY – fiscal year
GBS – Global Broadcast Service
HCLOS – High Capacity Line-of-Sight
HSOC – Homeland Security Operations Center
IA – Information Assurance
IMETS – Integrated Meteorological and Environmental Terrain System
IMINT – Imagery Intelligence
IOC – initial operational capability
IP – Internet Protocol
JNTC-S – Joint Network Transport Capability-Spirals
JNN – Joint Network Node
JNN-N – Joint Network Node-Network
JTRS – Joint Tactical Radio System
JWICS – Joint Worldwide Intelligence Communications System
LRIP – Low Rate Initial Production
MC4 – Medical Communications for Combat Casualty Care
MTOE – Modified Table of Organization and Equipment
MUOS – Mobile User Objective System
NET – New Equipment Training
NIPR – Non-Secure Internet Protocol Router
NOC – Network Operations Center
NSA – National Security Agency
NTC – National Training Center
OIF – Operation Iraqi Freedom
PEO C3T – Program Executive Office for Command, Control and Communications - Tactical
PEO EIS – Program Executive Office for Enterprise Information Systems
PIP – Primary Injection Point
POP – Points of Presence
RDEC – Research, Development and Engineering Center
SAMS – Systems Analysis and Mission Support
SATCOM – satellite communications
SBCT – Stryker Brigade Combat Team
SBM – Satellite Broadcast Manager
SBU – Small Battle Unit
SIGCEN – Signal Center
SIGINT – Signals Intelligence
SIPR – Secure Internet Protocol Router
SMART-T – Secure Mobile Anti-jam Reliable Tactical Terminal
SMDC – Space and Missile Defense Command
SOP – Standard Operating Procedure
SOTM – SATCOM-On-The-Move
SSET-L – Space Support Element Toolset-Light
SSE – Space Support Element
TAV – Total Asset Visibility
TDMA – Time Division Multiple Access
TGRS – Transportable Ground Receive Suite
TIM – Theater Information Managers
TIP – Theater Injection Point
TNCC – TROJAN Network Control Center
TRADOC – Training and Doctrine Command
TRGS – Transportable Ground Receiver Suite
TSAT – Transformational Satellite
TSBM – Theater Satellite Broadcast Manager
TS/SCI – Top Secret/Special Compartmented Information
TTI – Tactical Theater Injector
UAV – Unmanned Aerial Vehicle
ULLS-G – Unit Level Logistics System-Ground
USAIC – U.S. Army Intelligence Center
VSAT – Very Small Aperture Terminal
WARP – Weather and Radar Processor
WGS – Wideband Gapfiller System
WIN-T – Warfighter Information Network-Tactical

With this capability, the newly modularized divisions will go into the fight well-equipped to achieve decision superiority on the battlefield.

LTC Griffin is currently assigned as the military deputy for TSM-SATCOM at Fort Gordon, Ga. He is an Acquisition Corps officer with various assignments and certifications in program management, test and evaluation, and research and development. His operational experience consists of typical command and staff assignments as a Combat Engineer. Griffin graduated from USMA in 1987 with a Bachelor of Science in mechanical engineering and received a masters in acquisition management from Florida Institute of Technology in 1996. Griffin acknowledges the time and efforts of those at the Signal Center, PM-TRCS and PEO-IEWS who assisted in ensuring the accuracy of this article.

TSM-UPDATE -TR

Joint Tactical Radio System:

by Douglas A. Wilson

The Joint Tactical Radio System is vital to the Department of Defense transformation to leader-centric operations, one of four programs so identified by Office of the Secretary of Defense. First and foremost, the JTRS program provides tactical users in all Services with a common family of interoperable tactical radio systems. The fielding of JTRS will provide a new mobile networking capability that will bring a greater and faster data throughput capability to the field. It will un-tether the commander from the Tactical Operations Center. In addition to bringing this new networking capability, it will replace the functionality of several radio sets with a single tactical radio system reducing the communications equipment footprint in our warfighting platforms. The common radio family approach will provide logistics and training efficiencies.

The JTRS Joint Program Office manages the Software Communications Architecture and common waveform software. Services lead hardware development programs to provide the radio systems needed for "clusters" of like capabilities. The two major clusters for the Army are Cluster 1 *(vehicular and rotary wing)* and Cluster 5 *(man-pack, handheld and embedded form factors).* Product Managers in the Army's Program Manager for Warfighter Information Network – Tactical are leading the development and procurement of Cluster 1 and Cluster 5 Joint Tactical Radio Sets.

Cluster 1: The JTRS Cluster 1 program is on track for the December 2004 Early Operational Assessment. The EOA will provide sufficient information to an Over-Arching Integrated Product Team for approval to purchase Long Lead materiel for Low Rate Initial Production. Initial single channel JTR Set capability will be available at the EOA beginning in January/February 2005, followed by the introduction of Enhanced Position Location Reporting System, Wideband Networking Waveform and Link-16 waveforms in February 2005. The multi-channel JTR Set capability will be available in March 2005. The EOA is tentatively scheduled to end in May 2005.

Cluster 5: In May 2003, the Defense Acquisition Executive designated the Army as the lead for Cluster 5. The Cluster 5 effort will provide United States forces with man-pack, handheld and small form fit *(embedded)* radio sets for a variety of mission requirements, including communications for dismounted personnel, unmanned aerial and ground vehicles, sensors and munitions. The award of the development contract was July 16, 2004, to General Dynamics C4 Systems, a business unit of General Dynamics. Competing contractor, International Telephone and Telegraph, filed a protest in late July 2004 which resulted in a stop work order. Government Accounting Office adjudicated the protest and granted permission to proceed with the development on Oct. 21, 2004. The PM is currently coordinating with General Dynamics to mitigate the 84-day schedule loss due to the protest.

Cluster AMF: The Airborne Maritime Fixed JTRS acquisition program is a combined Air Force and Navy product line with Army, Coast Guard, Marine Corps and Joint Program Office participation. The AMF JTRS radios will provide airborne, surface, subsurface and fixed station platforms with multi-band, multi-mode, software definable JTRS equipment to satisfy existing and future requirements for DoD Joint interoperability. The AMF JTRS program has a two-phase development strategy: Pre-System Development and Demonstration and SDD. Pre-SDD is focused on the system architectures and initial designs for the AMF JTRS, as well as identifying possible cost-effective hardware and software commonality across the operating domains. The purpose of this 15-month effort *(executed concurrently by two contractors)* is to define system and interface requirements and to proceed with initial development of the AMF JTR Set through Preliminary Design Review. The preliminary design of each selected contractor will enable the use of commercial-based products and standards to the maximum extent possible and foster high component commonality, while maintaining maximum flexibility and focusing on minimizing initial capability cost. SDD will be a full and open competition, with options for LRIP. It will include the post-PDR development of a modular AMF JTRS design and associated

form factors. The AMF JTRS communications system shall support growth, technology refresh, and technology improvement with minimum effect on its installed equipment, software and platform interfaces.

Enhanced Position Location Reporting System:

The Enhanced Position Location Reporting System fielding preparation continues. Retrofit of existing EPLRS-equipped units such as the 4th Infantry Division, 1st Cavalry, the 1st Stryker Brigade Combat Team, and SBCT-2, will be completed during the next two calendar years. The retrofit of the 4th ID began in August 2004. The training sessions for the 124th Signal Battalion were completed at Fort Gordon in September 2004. Initial training sessions in support of SBCT-4 were also completed at Fort Gordon in September 2004. EPLRS is one of the key data communications backbones supporting the Army's tactical Internet and ADA sensors, as well as weapons systems.

Mr. Wilson became a Department of the Army Civilian, October 1980, after serving three years in the Marine Corps and seven years as a high school teacher, coach and administrator. His assignments have included the Soldier Support Center, Fort Benjamin Harrison, Ind., team leader of training developers. From 1983 to 1985 he was assigned to the Office of the Project Manager, Saudi Arabian National Guard Modernization Program, Saudi Arabia. He returned to Fort Harrison in 1985 as the SSC Test Design Coordinator for more than 1000+ exams. In 1987 he was promoted to run the HQ TRADOC Training Technology Field Activity at the SSC.

Wilson co-authored a evaluation and standardization training module for Directorates of Evaluation and Standardization which was exported throughout the Army. In 1989 Headquarters TRADOC also sent him on temporary duty to the east coast as the only civilian to work on the SNOCAP Project, a program whereby this handpicked TRADOC team designed/developed training for Drug Enforcement Agency operatives assigned to South America to interdict the flow of illicit drugs into the United States.

In 1990 Wilson moved to Fort Monroe working with Special Projects Branch, Futures Training Division, Training Development & Analysis Directorate, Office of the Deputy Chief of Staff for Training. There he worked as a manager/coordinator of research projects including major Army Video Tele-training experiments. From September 1994 through July 1995 He was detailed to the Combat Training Centers Directorate, ODCST, as an operations team leader and division chief. He reported to Fort Gordon, July 31, 1995, as the Transmission Systems Department Director for the 15th Signal Brigade. In March 2000, Wilson was assigned as the deputy TRADOC System Manager for Tactical Radios.

Definition

SNOCAP – was an operation begun in the late 1980s and early 1990s by the U.S. Army and the Justice Department (specifically the Drug Enforcement Administration) to stop the flow of illicit drugs from South America to CONUS, the worst one being cocaine, which is sometimes referred to as "snow." Thus the play on words was to put a cap on the flow of "snow" to the U.S.A.

Acronym QuickScan

ADA – Air Defense Artillery
AMF – Airborne Maritime Fixed
C4 – command, control, communications and computers
EOA – Early Operational Assessment
EPLRS – Enhanced Position Location Reporting System
DoD – Department of Defense
GAO – General Accounting Office
HQ – headquarters
ID – Infantry Division
ITT – International Telephone and Telegraph
LRIP – Low Rate Initial Production
JTRS – Joint Tactical Radio System
JRT – Joint Tactical Radio
ODCST – Office of the Deputy Chief of Staff
OIPT – Over-Arching Integrated Product Team
PDR – Preliminary Design Review
PM – Product Manager
PM-WINT – Program Manager for Warfighter Information Network – Tactical
Pre-SDD – Pre-System Development and Demonstration
SBCT-1 – 1st Stryker Brigade Combat Team
SSC – Soldier Support Center
SDD – Systems Development and Demonstration
TDY – temporary duty station
TRADOC – Training and Doctrine Command
U.S. – United States
WNW – Wideband Networking Waveform

Training Update

University of Information Technology Training Update

by LTC Keith M. Perkins

Completed University of Information Technology Simulations:

We have posted new updated versions of our four completed simulations to our website (https://uit.gordon.army.mil):

- ❖ AN/TRC-173 for military occupational specialty 25Q, 25P
- ❖ Force XXI Battle Command Brigade and Below for MOS 25U (and all digital soldiers)
- ❖ AN/GSC-52 for MOS 25S (Air Force and Navy)
- ❖ Base Subscriber Node for MOS 25C, 25F, 25P

These updates feature an enhanced simulation player designed to allow all four simulations to reside on the same personal computer.

Simulations under development:

We are currently reviewing beta versions of two simulations:

- ♦ Tactical Internet Management System, for MOS 25B (scheduled for release in fiscal year 2005)
- ♦ Digital Tactical Operations Center, for MOS 25B (scheduled for release in FY 05)

We have added four more simulations to our development efforts:

- ♦ Joint Network Node for MOS 25F, 25Q, 25B and managers (scheduled for release in FY 05)
- ♦ Ku Band Satellite Terminal for MOS 25S (scheduled for release in FY 05)
- ♦ High Capacity Line-of-Sight Radio for MOS 25Q, and other Signal MOS (scheduled for release in FY 05)

FBCB2 Simulation screen shot.

- ♦ AN/TSC-156 (Phoenix) for MOS 25S (scheduled for release in FY 06)

Proposed Simulations:

What's next? Depending on funding, the following systems are candidates for FY 05 simulations: AN/TSC-85D, AN/TSC-93D, Integrated Digital Skills Trainer (S6), Enhanced Position Location Reporting System Network Manager, Satellite General Principles Trainer, Base Band Node, Joint Network Management System and others.

TRADOC Executive Agent for LLC:

The Executive Agent (Fort Gordon) is currently working with Training and Doctrine Command to grow LLC across TRADOC with Department of the Army funding starting in FY06 for two more installations:

- ■ Fort Leavenworth, Kan.
  - o Combined Arms Center
  - o Command and General Staff College
  - o National Simulation Center
- ■ Fort Leonard Wood, Mo.
  - o Military Police School
  - o Engineer School
  - o Chemical School

Additionally, the Executive agent is continuing to develop the LLC Architecture relative to the Army Training Information Architecture.

More information about the Lifelong Learning Concept, Lifelong Learning Centers, and UIT Simulations can be found at our website: https://uit.gordon.army.mil.

LTC Perkins is the chief of the Simulations and Lifelong Learning Materials Branch of the Directorate of Training at Fort Gordon, Ga. He is a FA-57, simulations operations officer. He received his Masters of Science in modeling, virtual environments and simulations from the Naval Postgraduate School, where he worked on the America's Army Video Game as a programmer (helicopter physics) and actor (sniper instructor).

Acronym QuickScan

ATIA – Army Training Information Architecture
BBN – Base Band Node
BSN – Brigade Subscriber Node
CAC – Combined Arms Center
CGSC – Command and General Staff College
DA – Department of the Army
DTOC – Digital Tactical Operations Center
ENM – EPLRS Network Manager
EPLRS – Enhanced Position Location Reporting System
FBCB2 –Force XXI Battle Command Brigade and Below
HCLOS – High Capacity Line-of-Sight
IDST – Integrated Digital Skills Trainer
JNMS – Joint Network Management System
JNN – Joint Network Node
LLC – Lifelong Learning Center
MOS – Military Occupational Specialty
MP – Military Police
NSC – National Simulation Center
PC – Personal Computer
KS – Kansas
TIMS – Tactical Internet Management System/ISYSCON V4
TRADOC – Training and Doctrine Command
UIT – University of Information Technology

Signals

Enlisted news ... officer news ... warrant-officer news — from the enlisted and officer divisions at Office Chief of Signal, Fort Gordon, Ga.

Officer Notes

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You can get answers to questions about the Microsoft® certification program, apply for a test voucher, register for the exam of your choice, and other tasks associated with the program at https://www.dantes-microsoft-test.com/.

Acronym QuickScan

DANTES – Defense Activity for Non-Traditional Education Support
DEPH – DANTES Examination Program Handbook

Enlisted Notes

Global Command and Control System ASI H5

The Global Command Course System course has been reduced from the four-week course to a two-week course effective Oct. 1, 2004. This action was approved due to the various commands inability to release Soldiers to attend the four-week course.

The reduction of the length of the GCCS course does not in any way diminish the integrity of the course.

The Global Command and Control System course will continue to be a Department of the Army certificate producing course.

This action should allow for more certified GCCS administrators to properly operate the Global Command and Control Systems.

For the fiscal year 2004 the Global Command and Control System course was not used if this persists the course will be removed from the Signal Centers inventory tentatively by fiscal year 2006.

Acronym QuickScan

GCCS – Global Command Control System

Deletion of MOS 25D

by SFC Calvin F. Bembry

The decision to delete, add modify a military occupational specialty is always complex. The Signal Center has submitted an action to delete our MOS 25D. I want to provide our readers the information on why we did this and the way ahead.

The Office Chief of Signal conducted a viability study of all Signal military occupation s pecialties in 2001. It concluded that MOS 25D was no longer a viable MOS. Authorizations continue to diminish primarily as a result of the fielding of the Defense Message and Tactical Messaging Systems.

Another contributing factor to the reduction of 25D positions has been force modernization and the use of positions as bill payers by other proponents.

This Military Occupational Classification and Structure action was initiated in March of 2004; the action was approved in October 2004. From this deletion the following positions will transfer to MOS 25B; Communication Security, Drill Sergeant, Recruiter, Instructor and Training Development Positions. Note: not every Soldier will reclassify to 25B; only those serving in positions mentioned will transfer to 25B.

Deletion of 25D will eliminate the capper MOS 25Y; 25Y will be deleted with functions, positions, and Soldiers transferring to 25B. MOS 25B will be re-titled; "Information Technology Specialist" and made a Single track MOS (E-1 through E-9)

25D Advanced Individual Training and Basic Noncommissioned Officer Course will mirror 25B's beginning Oct. 1, 2006. This will reduce amount of Soldiers returning for retraining in the 12-week transition course. The course begins on Oct. 1, 2007, to train Soldiers who attended AIT & BNCOC prior to Oct. 1, 2006. Sergeant first class will not require transition training.

Deletion was announced by Department of the Army in October 2004 via Notification of Future Change Effective date of deletion is Oct. 1, 2007. Media to be used includes, article in the *Army Commu-*

nicator, on the OCOS website, Chief of Signal/Regimental Command Sergeant Major visits, NETCOM CSM Conference and the annual Signal Symposium.

SFC Bembry works in the Enlisted Division, Office Chief of Signal, Fort Gordon, Ga.

ACRONYM QUICKSCAN

AIT – Advanced Individual Training
BNCOC – Basic Noncommissioned Officer Course
COMSEC – Communication Security
MOCS – Military Occupational Classification and Structure
MOS – Military Occupation Specialties
NOFC – Notification of Future Change

Signal history

Signal history articles of interest to the Signal Regiment

SIGNAL CORPS MUSEUM SUPPORTS COMMUNITY WITH OUTREACH PROGRAMS

by Robert Anzuoni

The U.S. Army's Signal Corps Museum at Fort Gordon, Ga., conducted several outreach programs to educate people about the important role of the Signal Corps and Fort Gordon in our history. The programs provided support to community activities while giving the museum an opportunity to reach a large, captive audience.

In July, the museum participated in a World War II camp for children sponsored by the North Carolina State Museum of History. The whole camp lasted a week, but the first day provided an opportunity for the museum to teach the children about life in the Army during World War II. Topics included training, uniforms, insignia, field equipment and communication equipment. The children were taught about WWII V-mail and given photo copies of it for use during the week.

July brought the chance to shed light on Signal history and celebrate our nation's independence. The museum participated in a 4th of July parade which honored Normandy veterans on their 60th Anniversary of D-Day. In addition to the parade, the museum took part at the Fort Gordon 4th of July celebration which was open to the public by setting up a special exhibit. Nearly 20,000 people were able to see museum exhibits during the celebration.

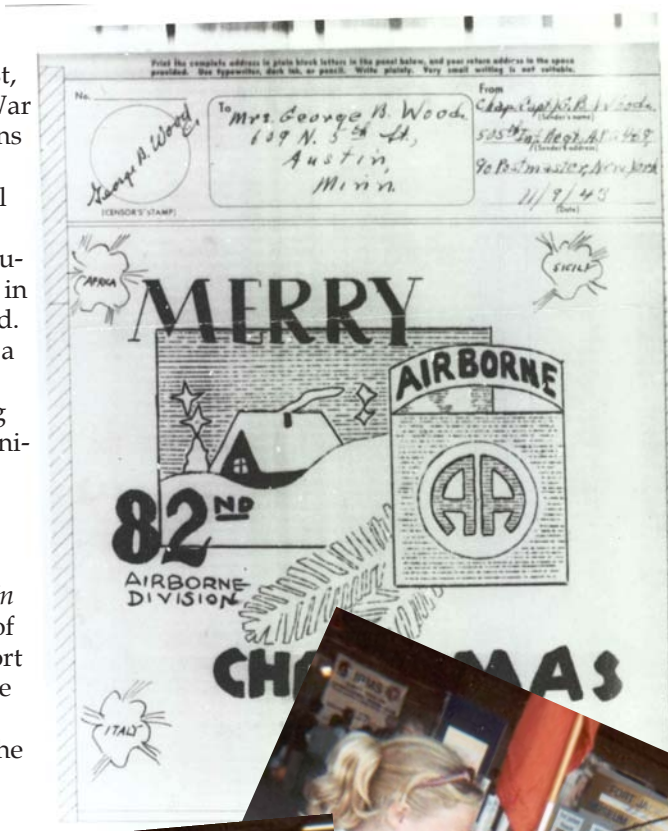
The Signal Corps Museum outreach takes Signal history to the people at Boshears Air Show at Daniel Field, Augusta, Ga., Oct. 17. The children display joy as they sit in a WWII jeep with an SCR-528 radio.

In August, Augusta Harley-Davidson hosted an antique vehicle show. With their assistance, the museum was able to transport and display a WWII Harley-Davidson WLA motorcycle. The event allowed another group in the community to see the museum actively supporting local events while promoting the Signal history of the U.S. Army.

September brought two more big events to Fort Gordon – The Professional Cowboy Association Rodeo and Oktoberfest. The rodeo, provided an opportunity for the museum to reach a different audience. The Oktoberfest, starting Sept. 30, ran for four days and brought thousands of people to Fort Gordon. The combination of rides, food, music and drink brought a wide range of visitors from children to retired military. The Signal Corps Museum provided exhibits ranging from a Civil War Signal Corps detachment to a WWII message

center complete with uniformed living history interpreters. On post, the museum also provided Civil War Signal living history demonstrations through an organizational history day for members of the 551st Signal Battalion.

October provided the opportunity for the museum to participate in three programs in a two day period. On Oct. 16, the museum provided a special display at the "Ride for the Fort", a program designed to bring awareness to surrounding communities of the significance of Fort Gordon. That evening, a special exhibit of the Signal Corps in Vietnam was set up to support a preview of the documentary film *In the Shadow of the Blade*. A portion of this documentary was filmed at Fort Gordon. Many veterans, who were interviewed for the film, were present that evening. On Oct. 17 the museum set up a WWII message center at the Boshears Air Show at Daniel Field in Augusta. Thousands of people attended and were able to see the Signal Corps Museum exhibit.



(Left) A World War II V-Mail from a Soldier with the 82nd Airborne is pictured. Children receive a blank V-Mail form when visiting the museum to encourage interest in learning about signal communications in history.

(Below) The Signal Museum participated in the Celebrate Freedom Festival School Day Nov. 5 at a local school. The children try a WWII SCR-536 Handie-Talkie.

(Below left) School children visit the museum exhibits to learn.

In November the museum joined four Army museums from Fort Jackson, S.C., for the annual Celebrate Freedom Festival at Woodward Field in Camden, S.C. Nearly 150,000 people attended the three day event. The first day was reserved for school groups and brought 2,000 students from kindergarten to high school to the museum exhibits.

Such outreach programs provide a unique opportunity for the Signal Corps Museum to reach larger audiences than its casual day-to-day visitors and a special chance to educate additional segments of the population about the contributions our Soldiers make to our nation. Best of all, when the museum joins with an existing event, the museum does not have the worries of marketing, staffing, organizing and funding a large event. The Signal Corps Museum is already preparing for more outreach programs for 2005.

To find out more, go to the U.S. Signal Museum web site at: http://www.gordon.army.mil/ocos/museum/

Mr. Anzuoni is the museum director for the U.S. Army Signal Museum, Fort Gordon, Ga.

Acronym QuickScan

WWII – World War II

Information sought on Signal units and individual participation in the

Global War on Terrorism

The commanding general of the U.S. Army Signal Center has tasked the Signal Center Command Historian Office with collecting, cataloging and preserving the operational experience of Signal units and personnel during the Global War on Terror.

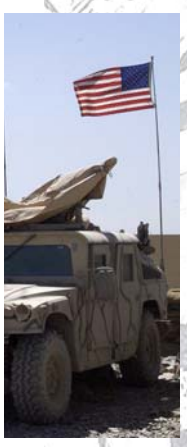
The GWOT is defined as any military operation performed by the United States Army since Sept. 11, 2001, to include, but not limited to: Operation Noble Eagle, Operation Enduring Freedom and Operation Iraqi Freedom. This effort is being conducted with the assistance of the JANUS Research Group, Inc. a local contractor on Fort Gordon. JANUS will employ subject matter researchers/data collectors to help identify data requirements, coordinate collection of the data, obtain the data and preserve it in digital and hard copy form in accordance with accepted document preservation techniques. The types of information sought include any unclassified documents, hard copy or digital, pertaining to the participation or involvement of any Signal unit or Signal personnel in the fight against the Global War on Terrorism.

Documentation may include, but is not limited to, lessons learned related to Signal operations, either unit, technical or personnel assessments. All necessary information to write, construct and document unit and personal participation in the GWOT can be found on the Signal Home Page of Army Knowledge Online. The point of contact at JANUS is Jim Timmerman, phone: (706) 364-9100 Ext. 187, or e-mail: GWOTcollection@gordon.army.mil.

All information collected will be deposited into the Signal Corps archives at Fort Gordon, which holds documents and materials related to almost 150 years of Signal Corps history. All members of the Signal Regiment are encouraged to contribute to the history and heritage of their branch so that future generations may know of their accomplishments during the GWOT.

It is very important that all members of the Regiment make every effort to honor and preserve the history of the Signal Corps. We are living in historic times and many of you have made significant contributions during the many operations in the Global War on Terror. Your experiences are now part of Signal History.

As the guardians of the Corps, it's our responsibility to ensure it is preserved in every way possible.



Acronym QuickScan

AKO – Army Knowledge Online
GWOT – Global War on Terror
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
ONE – Operation Noble Eagle

What is the future of Troposcatter in the Army?

History, successes, usage and upgrades supporting the Integrated Theater Signal Battalion

by CPT Brad E. Rhodes

Executive summary

Transformation Signal strategy: create a deployable, scaleable, modular Signal force with standardized capability, equipment and training across all Compos.

– 2003 U.S. Army Signal Symposium discussion on force structure/design

Introduced at a time when tactical satellite terminals were few, Army troposcatter systems linked one of the largest military communications networks ever installed during Operation Desert Storm. The proven value of the troposcatter medium was seen again during Operation Iraqi Freedom, extending critical command and control links across the theater of operations. The ability to extend large communications "pipes" without accessing an on-orbit satellite has been important to network planners. Flexible usage of troposcatter systems for installing medium range links is becoming a doctrinal employment norm.

As customer satellite requirements continue to expand beyond available bandwidth, current troposcatter systems will continue to fill the gap. As the Global Information Grid continues to grow, Army troposcatter assets will support all levels of expeditionary operations from UA, UE_x and UE_y to strategic sustaining base.

The following discussion centers on current and future usage of one part of the longhaul communications capability – light and heavy troposcatter systems. Specific areas reviewed include:

- Current usage of troposcatter systems in support of OIF
- Successful troposcatter operations by Army National Guard "specialized" signal units
- Review of the Integrated Tactical Signal Battalion concept use of troposcatter assets recommending a cross battalion mix of light and heavy systems
- Projected doctrinal use of troposcatter systems and flexible usage concepts
- The modernization of current light and heavy troposcatter systems to meet expanding user requirements in the GIG

The implementation of the ITSB concept has expanded the projected use of troposcatter systems. This reuse of available longhaul assets should prove beneficial in Signal Corps support of the Army and Joint Warfighters.

Purpose

Tactical troposcatter systems are a critical part of Army longhaul communications assets. From being the primary backbone provider in Operation Desert Storm to augmenting tactical satellite system usage in OIF, troposcatter systems have been successfully used to extend networks supporting the warfighter. Of particular note are the successes of the "specialized" Army National Guard units that have either light or heavy troposcatter systems. The addition of more TACSAT assets and the projected launch of the Wideband Gapfiller Satellite system may seem to point to the obsolescence of troposcatter systems. Unfortunately, even with the launch of WGS, user requirements will still far exceed available GMF bandwidth. As a result, the new Integrated Theater Signal Battalion model provides for troposcatter assets in every battalion whether Active, National Guard or Reserve. The troposcatter systems in the ITSB are projected to handle longhaul switch-to-switch of data communications on an extended battlefield. The capabilities of troposcatter systems should be considered similar to TACSAT assets without using limited GMF bandwidth.

This white paper advocates continued Army use of troposcatter systems to extend critical tactical and

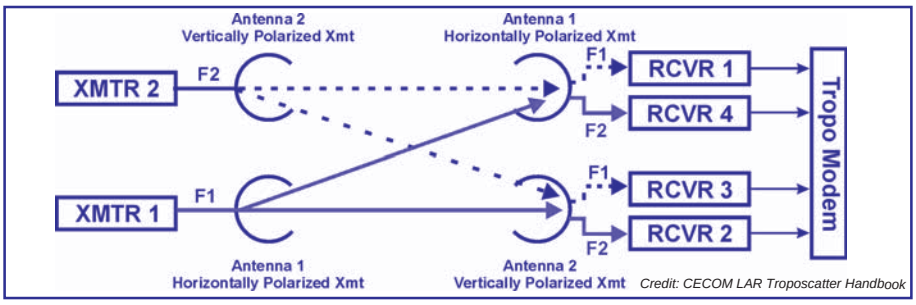


Figure 1. AN/TRC-170(V)2 Quad Diversity Reception

strategic communications in the future, while upgrading the equipment to support cutting-edge data technologies.

Troposcatter history and recent usage

Multi-channel troposcatter communications systems were first fielded to the United States military (Air Force) in the mid-1980s to provide longhaul extension for Joint Tri-Tac networks. The first extensive use of high data rate troposcatter communications in a military operation was during Operation Desert Storm. More than 100 troposcatter communications systems were used to provide the longhaul backbone for one of the largest tactical networks ever installed. The early to mid-1990s saw the delivery and fielding of the AN/TRC-170(V)2 (heavy) and AN/TRC-170(V)3 (light) troposcatter systems to the Army and Air Force. At the same time, the United States Marine Corps received the AN/TRC-170(V)5 (light) troposcatter system variant. The Army's troposcatter systems were either heavy or light. The heavy troposcatter system variant was designed with a maximum planning range of 150 miles and maximum reliable data rate of four megabytes per second. Additionally, AN/TRC-170(V)2 systems support both dual (space) and quad (space and frequency) diversity modes of operations.

Operating in dual diversity mode, the AN/TRC-170(V)2 system has complete redundancy with two high-power amplifiers, four receivers, two transmitters and two synthesizers. The light troposcatter system variant was designed with a maximum planning range of 100 miles and maximum reliable data rate of two megabytes per second. The AN/TRC-170(V)3 only operates in dual diversity mode with no redundancy. Although both troposcatter system types are considered tactical, light is better suited to tactical operations. Heavy is best used to extend communication from sustaining base to tactical

Figure 2. 143rd Signal Company in Iraq

mission areas due to the reliability provided by the quad diversity.

In March 2003, the U.S. and its Coalition partners invaded Iraq beginning OIF. Similar to Desert Storm, troposcatter systems saw extensive use by the 11th Signal Brigade and the USMC. At one point during combat operations, troposcatter systems were arrayed from northern Kuwait to Baghdad providing critical longhaul "backbone" communications. When the 7th Signal Brigade relieved 11th Signal Brigade in January 2004, troposcatter saw continued usage. For example, 7th Signal Brigade's Alpha Company, 72nd Signal Battalion deployed TROPO teams in support of the USMC's 1st Marine Expeditionary Force involved in combat operations in Iraq.

Other communications links were installed taking advantage of troposcatter's ability to provide "big pipes" without accessing a satellite. The successful usage of troposcatter systems in OIF further demonstrates the value of this communications medium while pointing to the modular Signal Corps of the future.

Success of Army National Guard Troposcatter Systems

The first phase of OIF included two Army National Guard units – the 356th Signal Company (Heavy TROPO) from Arizona and the 114th Signal Company (Light TROPO) from South Carolina. These units installed their troposcatter systems in the network starting in May 2003 and operated over the vast deserts of Kuwait and Southern Iraq. In March of 2004, the 356th and 114th were relieved by the 143rd Signal Company (Heavy TROPO) from Colorado and the 321st Signal Company (Light TROPO) from Nevada.

Although mission operations were drawing down due to commercialization, the 143rd and 321st quickly proved their value. The 143rd's link from Camp Virginia, Kuwait, to Umm Qsar in Southern Iraq proved to be one of the most stable links in the OIF II network. 321st's systems and links have proven just as reliable. The 143rd and 321st Signal Companies proved that longhaul troposcatter communications can work effectively when employed by experienced operators.

The 143rd Signal Company is authorized eight AN/TRC-170(V)2 troposcatter systems. The systems are housed in full-size S-280 shelters carried by M923 (5-ton) trucks. The new M1078 (LMTV 2.5-ton trucks) each carry one system's antenna pallet which houses two nine-and-a-half-foot diameter dishes and the necessary installation hardware.

Depending on the terrain, trained Soldiers can install a Heavy TROPO system in four to five hours.

The 143rd Signal Company can install a total of four 150-mile links with a maximum reliable data rate of four megabytes per second each.

The 321st Signal Company is authorized sixteen AN/TRC-170(V)3 troposcatter systems. The systems are housed in S-250 shelters carried on heavy Humvees. The Quick Reaction Antenna pallets are also carried on Humvees. The AN/TRC-170(V)3 antennas are six feet in diameter. Expert operators can install a Light TROPO system in one to two hours. The 321st Signal Company can install a total of eight 100-mile links with a maximum reliable data rate of two megabytes per second each.

Within two weeks of recovering equipment from the port, the 143rd and 321st conducted relief in place of several TROPO links in system. Neither unit experienced any major problems with vehicles or equipment. This success is a direct result of the ongoing comprehensive organizational maintenance program in the National Guard. One may assume that National Guard vehicle and communication systems see less usage than active component equipment, leading to better equipment availability rates.

Although this is partially true, equipment not used and not maintained will have just as many problems as equipment used frequently and not maintained. One critical addition to each unit was needed environmental control units. Both units were able to obtain the necessary 18,000 British Thermal Unit ECUs and support equipment during the mobilization/deployment process to provide adequate cooling for systems in desert operation.

Both the 143rd and 321st are single system – troposcatter – companies. This structure has directly contributed to operator competency. Many of the operators in both units have been assigned since the initial fielding of the systems. These 31Rs (now 25Qs) are proficient in the installation, operations and maintenance of their systems because of extensive training during drill weekends and at annual training. The 25Qs in both units can make TROPO "go".

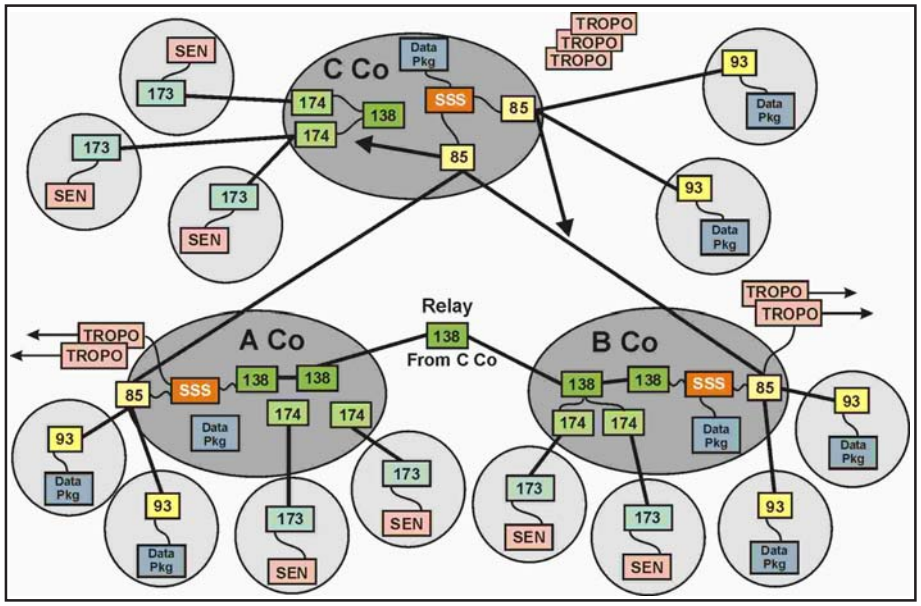
In Kuwait, the 143rd was tasked to reconstitute six AN/TRC-170(V)2 systems belonging to the permanently assigned theater tactical signal company. Exercising the "maintainer" portion of their 25Q military occupational specialty, the TROPO system "specialization" of 143rd soldiers gave them the confidence to perform up to depot level maintenance to accomplish the reconstitution. This system specialization has also increased the operators' ability to be creative when it comes to installing AN/TRC-170s in less than ideal conditions. During this deployment, both light and heavy antenna systems have been installed on concrete bunker blocks to either clear ten-foot concrete barriers or achieve the appropriate antenna take-off angle. This type of antenna installation would have been extremely difficult for less experienced operators.

Projected Troposcatter use in the Integrated Theater Signal Battalion

The Signal Corps at the echelon-above-corps stands at the beginning of a major change in force structure. That change in force structure is called the ITSB. The concept was first tested in the 7th Signal Brigade with the cross-leveling and consolidation of equipment between the three separate numbered companies of the 72nd Signal Battalion and the lettered companies of 44th Signal Battalion. The resulting ITSB structure had three line companies each including switching, line-of-sight, tactical satellite, light troposcatter, cable and data equipment. Within the companies of the 72nd Signal Battalion exist, deployable light, medium, and heavy communications packages organized to support any type of assigned signal mission.

The ITSB concept gave the company commander everything needed to provide services at the EAC level to include beyond line-of-sight assets. The more modular ITSB signal company can stand alone in customer support capabilities.

The ITSB concept reorganizes existing EAC signal equipment across the Active (Compo 1), National Guard (Compo 2), and Reserve (Compo 3) components. For the Compo 2 and Compo 3 units, ITSB provides a cascade of both TASCAT (AN/TSC-93Cs and AN/TSC-85C) and troposcatter assets (AN/TRC-170 [V2 and 3]) where none may have been available previously. The cascade of satellite equipment to Compo 2 and 3 units



Credit: LTC Paul LaDue

Figure 3. Projected ITSB Employment (6)

will likely match up with the fielding of "Phoenix" TACSAT systems to Compo 1. Since troposcatter equipment is found primarily in the National Guard and Reserve, it is likely some active component units will cross-level these assets. There are currently three projected ITSB models for TROPO assets: light, heavy and mixed. Focusing on troposcatter equipment specifically, the light battalion will only have AN/TRC-170(V)3s, the heavy battalion will have only AN/TRC-170(V)2s, while the mixed battalion will have some light and some heavy systems.

Under the current ITSB concept put forward, the active component has four light, three heavy and two mixed battalions. The National Guard and Reserve appears to have a similar mix. The present ITSB model aims to use troposcatter for long-haul switch-to-switch links. In the era of readily available TACSAT equipment and increasing satellite bandwidth, it may make sense to plan on using troposcatter systems to provide "back-up" or "alternate" links.

It is important to consider the differences between light and heavy troposcatter systems when doing so. Light troposcatter systems are capable of providing up to a two-megabyte per second link with a planning range of 100 miles. Heavy troposcatter systems can provide up to a four-megabyte per second link with a planning range of 150 miles. Set up times between the two system types are vastly different; it takes one-two hours for light versus four-five for heavy.

This tactical/strategic distinction should be considered when making the final decisions on the execution of the ITSB concept. Making some battalions strictly light TROPO will lock them into more tactical missions, whereas battalions with only heavy TROPO will be restricted to more strategic/sustainment base operations. Both light and heavy troposcatter systems have advantages and disadvantages in data rates, planning range, setup times and transportation requirements. The present ITSB concept should be modified such that all battalions have a mix of heavy and light troposcatter systems. This gives the commander the capability to support both tactical and strategic mission in the same package. Such flexibility will be critical as UE_x and UE_y support requirements are better defined. Additionally, a mix of light and heavy troposcatter systems can be used to support variable data rates up to four-megabytes per second, theater unique scenarios, and joint force interfaces (i.e. troposcatter links between the Army, Marines and Air Force).

Finally, system specialization should be integrated into the ITSB concept. Today's 25Q soldier must be proficient on more than ten tactical and commercial radio systems to include; the TRC-190s, TRC-170s, TSSR and high-capacity line-of-sight. Each radio system requires the operator have a certain level of specialization to be used efficiently.

Although a 25Q may be expected to know the basics of each radio system in their MOS, not allowing them to spend an extended amount of time on a single system may be detrimental to signal operations. ITSB commanders should consider equipment specialization as another key to mission success and allow 25Q soldiers when assigned to a system to stay with it at least six months or more to develop the appropriate level of proficiency.

Defining a strict team/system specialization concept for all radio systems in the 25Q military occupational specialty would enhance unit installation, operation and maintenance capabilities.

Future Troposcatter upgrades/usage

Ultimately, both light and heavy troposcatter systems will see use in Army longhaul communications into the near future. Technological upgrades should be considered to ensure these systems are viable in the ever-expanding Global Information Grid.

Army troposcatter systems have proven useful in both Operation Desert Storm and Operation Iraqi Freedom. Both the light and heavy variants provide the communications planner with the means of extending a relatively high data rate link without using critically short satellite resources. Although the upcoming launch of the Wideband Gapfiller Satellite will provide the warfighter with much needed bandwidth, current user requirement still outstrips this new capability.

Unfortunately, both light and heavy TROPO are still outfitted with older Digital Group Multiplexing/ Tri-Tac equipment. In order to extend the lifespan and usefulness of the TRC-170, several actions should be considered.

Troposcatter Radio Systems require increased bandwidth above the 4.096 Mb/s level.

Present bandwidth processing capabilities of the AN/TRC-170 severely limits required services of OIF customers in theater. An increased bandwidth will improved capabilities of providing total communication services to the warfighter and would allow greater use of the system. Additionally, an increase in bandwidth would improve the efficiency of long haul and tactical transmission while helping communications requirements in the joint operation environment.

Joint tactical operations require high speed, multimedia communications and information flow to garrisoned forces and to in-transit and deployed mobile forces. Many individual services required by the warfighter today, (e.g., Predator, JWICS, VTC, AN/TYQ-127) have data file sizes ranging from hundreds of kilobits to several megabits per second, which require significant bandwidth to transmit. The majority of these high profile and critical circuits require at least 2-4 MB of bandwidth to operate these circuits. The existing AN/TRC-170 modem is not compatible with these increased bandwidth requirements due to its limited bandwidth capacity of 2MB. The acquisition of Defense Satellite Communications

System satellite links (i.e. X-band) are a scarce commodity and the funding for commercially leased satellite links (Ku-Band) can be costly. They either cannot support, or would have difficulty providing high-bandwidth services without significantly limiting or curtailing other critical two-way voice/data network services to the warfighter. Most existing high bandwidth systems operate in point-to-point configuration and at fixed locations systems using large antennas. *The Conduct of the Persian Gulf War—The Final Report to Congress,* April 1992, highlighted the limited ability of current military and civilian satellite communication systems to provide responsive, high-capacity communications to deployed, mobile tactical units.

A high capacity AN/TRC-170 capability is needed to provide timely dissemination of information products, such as imagery, intelligence information, missile warning, weather, record message traffic, joint and service unique news, education, training, video, Morale, Welfare and Recreation programming, and/or other desired information services within a short amount of time. The DoD's support in the acquisition and implementation of an upgraded AN/TRC-170 modem would provide worldwide, high capacity, full duplex transmission of a variety of high-speed data updates, high quality imagery and other information products to supported forces.

The AN/TRC-170 should support existing and proposed information dissemination requirements appropriate for wideband transmission. The service should provide expeditious delivery of selected data to deployed tactical forces and commanders. The AN/TRC-170 should support routine operations, training and military exercises, special activities, crises and the transition to and conduct of opposed operations short of nuclear war. The need for high capacity data flow results from growing emphasis on providing joint operational commanders and tactical units with tailored products and services required for successful mission accomplishment. There is an immediate need for an upgraded AN/TRC-170 modem to provide this high capacity information flow to warfighters. Upgrading the AN/TRC-170 has the potential to significantly overcome existing capacity limitations of current and planned communications systems.

Upgrade both light and heavy TROPO systems with the latest multiplexing equipment such as FCC-100s and Promina switches. The TRC-170(V)2 has more space for additional or upgraded multiplexing gear than the TRC-170(V)3. As miniaturization has shown, just about any free space in a communications shelter can be adapted to meet a specific need. Similar to the "Charlie Model" upgrades for the AN/TSC-93 and AN/TSC-85 TACSAT systems, the latest commercially available upgrades for TROPO modems, synthesizers, up/down converters, transmitters, receivers and HPAs should be included in any upgrades.

Modems and multiplexers that support real-time data compression should also be considered in troposcatter system upgrades.

Improving the two variants of troposcatter systems in this manner would extend their service life and provide access to a pool of commercially available parts. Modems and multiplexers that support real-time data compression should also be considered in troposcatter system upgrades.

Even as upgrades are considered, actual usage of troposcatter systems should be re-evaluated. Troposcatter links should continue to be used for long-haul switch-to-switch connectivity where TACSAT assets are unavailable. Troposcatter should continue to be used to provide parallel links backing up primary TACSAT links. As seen in OIF, TROPO links can be flexibly employed in their LOS mode when standard LOS and TSSR radios cannot meet planning distances or link reliability margins. In addition to these critical mission areas, troposcatter should be used in conjunction with both light and heavy data packages, especially when reliability is critical and TACSAT resources and assets are in short supply. For example, deploying a light TROPO system and light data package in lieu of TACSAT frees up a critical mission asset and still provides the customer with reliable communications. Both commanders and planners should be made aware of the capabilities, flexibility and reliability provided by their troposcatter systems.

Modernizing the Army troposcatter fleet gives the Signal Corps another critical tool to use in support of the warfighter. Appropriate use of troposcatter systems will help signalers to build and extend robust communications networks in the Joint environment.

Summary

From Desert Storm to ongoing action in OIF, usage of the troposcatter medium has allowed the expansion of the network to meet customer requirements. The implementation of the ITSB concept further expands the role troposcatter will play in future communications requirements. With TACSAT being cross-leveled across the ITSB battalions, troposcatter will become an even more critical piece of longhaul communications. Each battalion should have a mixture of light and heavy systems to give the commander the appropriate flexibility to meet any combination of tactical and strategic missions. Soldiers manning troposcatter systems in the ITSB concept should be given enough time to "specialize" on their systems to ensure operator effectiveness.

Within the ITSB model, troposcatter systems should not only be considered for switch-to-switch connectivity, but also for stand-alone data package extensions. Finally,

upgrading current troposcatter systems with the latest commercially available transmission and multiplexing equipment will extend the service life of a valuable part of the Army longhaul arsenal. The future for troposcatter systems in the Army is bright – extending the GIG looking forward to transformational communications.

References

1) CECOM LAR Handbook: *Operation of Tactical Troposphere Scatter Communications Terminals*, 01 May 2002

2) *Joint Tactical Radio System Fact Sheet: AN/TRC-170(V) Digital Tropo-Scatter Radio Terminal*, 01 February 2002

3) *Material Field Plan For the Digital Troposcatter Multichannel Radio Set, AN/TRC-170(V)5*, USMC, 23 July 1992

4) *Reference Guide for Network and Nodal Managers,* Version 4.0.2, 06 July 1998

5) *Army Space Circular-3* Updated 2003

6) Officer Professional Development Brief *Modularity*, 03 June 2004, LTC Paul Ladue, Commander, 67th Signal Battalion

7) *The Conduct of the Persian Gulf War—The Final Report to Congress,* April 1992

8) Current Operations and Lessons Learned in support of OIF I/II

CPT Rhodes is commander of the 143rd Signal Company assigned to the 72nd Signal Battalion, 7th Signal Brigade in support of Operation Iraqi Freedom II. Rhodes wrote this article as a whitepaper for the 143rd Signal Company, dated Aug. 26, 2004.

Acronym QuickScan

AT – annual training
BTU – British Thermal Unit
C2 – command and control
DGM – Digital Group Multiplexing
DoD – Department of Defense
DSCS – Defense Communications System
EAC – Echelon Above Corps
ECU – environmental control units
GIG – Global Information Grid
HCLOS – high-capacity line-of-sight
HPA – high-powered amplifiers
Humvee – high mobility multi-purpose wheeled vehicle
IOM – installation operation and maintenance
ITSB – Integrated Tactical Signal Battalion
JTRS – Joint Tactical Radio System
LOS – line-of-sight
MEF – Marine Expeditionary Force
MWR – Morale, Welfare and Recreation
MOS – military occupational specialty
OIF – Operation Iraqi Freedom
OPD – Officer Professional Development
QRA – Quick Reaction Antenna
TACSAT – tactical satellite
U.S. – United States
USMC – U.S. Marine Coprs
WGS – Wideband Gapfiller Satellite

Circuit check

News and trends of interest to the Signal Regiment

Understanding Joint Assignment Policies

by MAJ Darrell Gregg and MAJ Michael Anderson

This article was originally written in November 2004 by MAJ Michael R. Anderson, Functional Area 52 Assignment Officer, U.S. Army Human Resources Command-Alexandria, to be published in the NBC Report *magazine. Anderson graciously agreed to co-author this document slanted towards the FA24 and FA53 functional areas.*

After serving as the FA24 assignment officer and the FA53 assignment officer for more than two years, and now serving as the deputy division chief of Functional Area Division, at Army Human Resources Command, one topic that always seems to generate the most questions (and the most confusion) is joint assignment polices. The goal here is to clear up some of the confusion out in the field and answer many frequently asked questions we receive on a daily basis.

Joint Duty Assignments are positions that are on the Joint Duty Assignment List. The JDAL is a master document listing more than 3,000 Army positions approved as joint billets by the Joint Staff . JDA billets can be divided into two categories: Joint Critical and Joint. Joint Critical positions require the officer to have the 3L Additional Skill Identifier, or otherwise known as the Joint Specialty Officer identifier. I will explain later how an officer obtains the 3L ASI.

If the authorized position is not on the JDAL, then it does not qualify for joint tour duty credit. Many Department of Defense organizations have Army authorizations that are not on the JDAL. If serving in one of these positions, you will not receive joint tour credit. The tables below illustrate how FA24 and FA53 authorizations are divided among the different categories.

FA24 Joint Requirements				
Unit	Non-joint	Joint	Joint-Critical	Total
EUCOM	0	4	0	4
JFCOM	1	0	0	1
CENTCOM	0	1	0	1
SOUTHCOM	0	1	1	2
USASOC	0	0	0	0
TRANSCOM	0	1	0	1
JITC	2	0	0	2
NORTHCOM	0	3	0	3
NORAD	0	2	0	2
STRATCOM	0	4	0	4
USAFA	2	0	0	2
PACOM	0	2	0	2
JICPAC	2	1	0	3
USFK	0	1	0	1
NATO	2	6	1	9
OSD	0	1	0	1
DISA	17	15	1	33
NIMA	2	0	0	2
DIA	3	0	0	3
DTRA	1	0	0	1
Totals	**32**	**42**	**3**	**77**

Distribution of FA24 and FA53 authorizations as of Nov. 4, 2004. Only approved authorizations are shown.

Joint Law and Policy

The Goldwater-Nichols Act of 1986 was passed in order to improve the performance and war-fighting capabilities of our military in a Joint environment and to ensure that the uniformed services would send high-caliber officers to joint duty assignments. The Act and its subsequent amendments have been fully integrated into United States Code Title X. Without getting into too much detail, this legislation (and resulting Department of Defense policy) established the following:

- Promotion goals for officers serving in Joint positions
- Mandatory tour lengths (managed down to the day)
- Education and training requirements
- General Officer approval on all Joint Assignments
- Joint Specialty Officer Nomination Process
- Distribution of officers to be assigned to Joint positions following MEL-1 Training
- Annual Report to Congress – The Army's Report Card
- Requirement for General / Flag officers to be JSOs prior to promotion (effective Sept. 30, 2007)

Assignment /Promotion Management

Title X of U.S. Code establishes promotion goals for officers that have joint experience in order to ensure high quality officers are sent to joint positions, not just to Army staff positions. The law states that

Officers who are serving, or have served, on the Joint Staff are

FA53 Joint Requirements				
Unit	**Non-joint**	**Joint**	**Joint-Critical**	**Total**
EUCOM	0	7	0	7
JAC	0	1	0	1
JFCOM	0	5	0	5
CENTCOM	0	6	2	8
USASOC	0	4	0	4
SOUTHCOM	0	0	0	0
USASOC	0	0	0	0
TRANSCOM	0	7	1	8
JITC	1	0	0	1
NDU	3	0	1	4
JFSC	1	0	0	1
NORTHCOM	1	2	0	3
JTF-CS	0	1	0	1
NORAD	0	0	0	0
STRATCOM	0	10	0	10
JIOC	1	2	0	3
USN ACT	0	2	0	2
USAFA	0	0	0	0
PACOM	0	0	1	1
JICPAC	0	0	0	0
ALCOM	0	1	0	1
USFK	1	3	0	4
NATO	5	16	0	21
IADB	1	0	0	1
OSD	1	3	0	4
JCS	0	6	1	7
DISA	9	3	0	12
DLA	1	0	0	1
NIMA	1	0	0	1
DIA	9	1	0	10
DTRA	1	0	0	1
WHCA	1	1	0	2
DARPA	1	0	0	1
Totals	**38**	**81**	**6**	**125**

expected, as a group, to be promoted at the next higher grade at a rate not less than the rate for the officers in the same military service in the same grade and competitive category who are serving, or who have served, on the headquarters staff of their military service (i.e., Army Staff).

Additionally, the law states that JSOs are expected to be promoted under the same goal as officers with Joint Staff experience. Officers who are serving, or have served, in JDAs are expected to be promoted at a rate that is not less than the Army average. Department of Defense policy states that officers serving, or have served, in OSD have the same goal as officers serving on the Joint Staff.

All officers nominated for a JDA must be approved by a General Officer. At HRC, the Director of Officer Personnel Management Directorate is briefed on every officer nomination. If an officer is at risk for promotion to the next higher grade, he may not be approved by the Director (unless skills and experience dictate otherwise). Because of this, Assignment Officers at HRC screen all JDA nominations very carefully to ensure that the Army is sending a high caliber officer to the joint command.

Does serving in a JDA or having served in a JDA give an officer an advantage for promotion? Based on our analysis, the answer is no. Although the promotion board members will see the annotation made for joint service (as well as for Army Staff service), there has been no statistical correlation over the last three years between joint duty and selection for lieutenant or colonel. Although officers who serve in JDA positions have a higher selection rate than officers who do not, the reason for their selection is the overall strength of their file. Promotion board results are never changed in order to meet joint promotion goals. However, since HRC rarely places an officer who is at risk for promotion into a JDA, the Army continues to meet its joint promotion goals every year.

Tour lengths

Each joint billet has a mandatory tour length. Generally, the tour length is 36 months and this is counted down to the day. An officer must serve a complete tour in order to receive "full joint tour credit." The four most common ways in which an officer may leave a joint tour early and still receive full tour credit are:

1. **Constructive Credit.** This option allows an officer to leave up to 60 days early and is generally used for professional development reasons only (school, taking command, etc.) Constructive credit approval depends on the average joint tour length for the Army. If the Army average is very close to 36 months, then approval may be difficult to obtain.

2. **Critical Occupational Specialty Take-out.** This option allows an officer (initial JDA only) to leave after 22 months. However, this option is only available to combat arms and engineer officers. Therefore, FA24/53 officers only have three options.

3. **Multi-Tour Takeout.** This option allows an officer to leave after 24 months (to the day) time on

Defense University schools, e.g., National War College or Industrial College of the Armed Forces.

Joint Skill Identifiers

Officers who receive full joint duty credit for completion of a JDA in an approved JDAL position will earn the "3A" ASI. If an officer serves in a billet with a tour length of 12-18 months, he is only awarded cumulative joint duty credit and does not earn the 3A ASI, e.g., a one year USFK tour. Once the officer has 36 months of cumulative joint duty, he is awarded the 3A ASI. An officer qualifies for the 3L (JSO) ASI under one of four categories and is approved by the Secretary of Defense.

Category A - You complete JPME II en-route to your first joint assignment and then complete your first joint tour. As long as you attend JCWS before actually leaving your joint assignment, you are considered as part of this category.

Category B - You complete a critical operational skill tour and JPME II.

Category C - You do Category A in reverse order. That is, you complete a first joint tour, followed by attendance at JPME II.

Category D - You complete two or more joint tours successfully, but never complete JPME II requirements.

Twice a year, usually in the spring and fall, the Joint Staff submits a list to the SECDEF of all officers eligible to receive the 3L ASI. This used to be a board process, but now it is just a staffing action. Officers in Category C and D require a waiver in order to be awarded the 3L ASI. This is limited to ten percent of the total awarded the identifier. Officers in Category A almost always are awarded the 3L ASI.

MEL-1 distribution

Joint law also dictates the distribution policy for officers who attend the National Defense University for Senior Service College and achieve Military Education Level one status. Two major constraints of the law are:

1. All JSOs must be assigned to a JDA as their next duty assignment following graduation from one of the NDU schools.

2. More than 50 percent (defined as 50 percent plus one) of all non-JSO graduates from each NDU school must be assigned to a JDA as their next duty assignment. One half of the officers subject to that requirement may be assigned to a JDA as their second assignment, if necessary for efficient officer management.

Assignments of officers coming out of the MEL-1 producing schools of NDU are staffed through the Joint Policy Section of OPMD to track Army compliance. Because of these requirements, OPMD limits the number of JSOs attending NDU. This allows more officers to earn the 3L ASI (since they will have completed all of the JPME requirements prior to their JDA) as well as gives OPMD a larger pool of officers to meet the greater than 50 percent into a JDA requirement.

This creates a potential disadvantage for FA24/53 officers when working the NDU slate. Because we do have a relatively large number of JDA positions, many FA24/53 LTCs will already have the 3L ASI and slating them for NDU, Washington, D.C., versus the Army War College, Carlisle, Pa., becomes difficult.

Joint Task Force credit

Officers can now receive cumulative joint duty credit for service on qualifying temporary Joint Task Force headquarters staff. This program has been expanded to include some non-combat operations JTFs. Officers can self-nominate themselves by answering a simple questionnaire regarding their "qualifying" tour(s). Upon successful completion of the questionnaire, the data is forwarded to the respective Service representative for verification and/or endorsement. This initiative authorizes joint credit for individuals assigned to specified JTF HQs for 90 + consecutive days (retroactive to August 1992). To view the list of qualifying JTF headquarters and complete a questionnaire, visit the following OSD website: https://www.dmdc.osd.mil/jtf/owa/jtf_main.home.

Conclusion

Thanks to LTC Robert Shirley OPMD's Joint Policy Section for the assistance provided for this article. Understanding all of the policies and regulations concerning joint duty can be difficult and information often needs clarifying. For more information, concerning joint policy or assignments, contact MAJ Darrell Gregg at E-mail: darrell.gregg@hoffman.army.mil or by phone at 703-325-2761 commercial; DSN 221; fax: 703-325-8111; DSN 221; or MAJ Rodney Dunham, the FA24/53 assignment officer at Email: rodney.dunham@hoffman.army.mil; or phone: 703- 325-3114; DSN 221; fax: 703- 325-8111; DSN 221. .

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22nd Signal Brigade Executes Corps CPX VICTORY START

by MAJ Maureen J. O'Connor

The 22nd Signal Brigade, having returned from Operation Iraqi Freedom, is in the midst of transformation while continuing to support U.S. Army Europe's Victory Corps. After leaving all of the unit's data extending packages in system for 3rd Signal Brigade and III Corps to use for OIF-2, the 22nd Signal Brigade units reconstituted, refurbished and

obtained additional communications assets to support the V Corps in Germany.

Through steadfast hard work and mission focus, this mighty brigade hastily fielded and conducted new equipment training days before V Corps' first major simulation exercise, VICTORY START, in October 2004. Through the dedication and determination of the Soldiers and leaders, 22nd Signal Brigade successfully enabled V Corps to communicate again. As the brigade now prepares for future operations, plans are in place to upgrade and improve the ability of the warfighting commanders in V Corps to more efficiently command and control their units.

During the reconstitution phase of their redeployment, the Soldiers of the brigade were faced with a tremendous amount of restore and repair tasks due to the harsh environmental conditions the equipment was exposed to during the many months in system. In addition, the unit faced major personnel turnover and the training requirement for the newly arrived Soldiers was great.

Even the Soldiers returning from deployment but not leaving the unit required refresher training as it had been many months since they had actually installed their systems. Finally, the battalions each experienced key upgrades to some of their equipment that also required time and training – both of which were scarce resources as the V Corps exercises loomed on the horizon.

In recognition that mobile subscriber equipment would remain the workhorse in the V Corps network for some time to come, the 22nd Signal Brigade worked in concert with the program manager for the Tactical High Speed Data Network upgrade and funded what they called the Quad Multiplex upgrade for some of their units. The QMUX upgrade included the installation of Extended Range Enhanced Transmission Group Module/Order Wire and High-Speed Forward Error Correction circuit cards, fiber-optic modems

22nd Signal Brigade Data Package

with fiber cables, and most importantly the QMUX box used for the THSDN 8 Mb fielding. What the QMUX upgrade did not include was the high speed line-of-site radios used in THSDN 8Mb. The capability gained with QMUX was increased bandwidth. From 1024 Kbs links, the newly upgraded systems allowed 2048 Kbs links to be installed. The 17th Signal Battalion was the first to successfully complete the QMUX upgrade in the spring. The 32nd Signal Battalion also completed the QMUX upgrade for four of six node center switches, one large extension node and all 26 small extension nodes. In a simultaneous effort, the tactical satellite assemblages in the 578th Signal Company of the 440th Signal Battalion received the Enhanced Tactical Satellite Signal Processor upgrade which allows for an aggregate data rate of 8.216 Mbs where each group port was upgraded to support up to 2,048 Kbs.

Because the 22nd Signal Brigade left all of the data packages they had in system in Iraq, the Department of the Army, G-6 funded six replacement data packages for the brigade. Naval Air Command in conjunction with BAE Systems was chartered to integrate these systems.

The first three of the six data packages arrived in September 2004. Because of lessons learned from the brigade's OIF deployment and recent operational requirements specifically in the information assurance arena, the packages were actually reconfigured as they were delivered. The end result was a Promina 400 multiplexer based package with a hub capability for LandWarNet (U) and LandWarNet (C) connectivity packaged in transit cases.

Though not delivered with the first three systems, a private branch exchange, video teleconferencing and Defense Red Switch Network suite were added capabilities provided to V Corps command posts. Because organic satellite transmission systems were not part of the packages, the 22nd Signal Brigade used the newly upgraded tactical satellite assets on hand to provide transmission means.

On the local area network side of the command posts, the Corps Automation Office also received new servers for their initial active directory migration late in the summer. The automation section built the tactical servers under this new architecture. In addition, they

built new servers for collaboration tools such as Sharepoint and other services in September to be used in both garrison and tactical environments on the LandWarNet (U) and (C) networks.

Just weeks before the VICTORY START exercise, not only were major hardware and software configurations being made but an intensive training program was instituted at all levels.

The most significant of these was the training program for the three newly identified data package teams. From cable making and basic routing instruction to advanced firewall implementation and accessing Defense Information Systems Network networks through Defense Satellite Communications System Standardized Tactical Entry Point facilities, these Soldiers attended an intense five-week data package "Boot Camp" under the experienced tutelage of CW3 Freeman Myers, the senior network technician for 22nd Signal Brigade.

By late September, the 22nd Signal Brigade deployed to Grafenwoehr training area and Wiesbaden Army Airfield to support the V Corps' first major simulation exercise since their return from Iraq. With incredible hard work and focused leadership, the Soldiers of the brigade provided exceptional support for the exercise and were commended for their accomplishments.

Projecting forward, the 22nd Signal Brigade continually seeks ways to improve capabilities. As the Army transforms, the main effort for resources is being appropriately focused toward the transformation of Units of Action. As a result, no new equipment fielding from the Army is expected to come to the Signal units in the V Corps in the near future. The 22nd Signal Brigade will improve upon existing capabilities by incorporating the three additional data packages that have arrived in November and will leverage available resources provided from V Corps to fund additional upgrades.

In the plans are continuing with the QMUX upgrades to the remaining battalions including the two Division Signal Battalions to enhance the V Corps infrastructure. Additionally, replacements for command and control vehicles for on the move operations left in Iraq will be provided. Finally, network management tools will be incorporated from team to Brigade level to enhance capabilities for network operations elements.

A tremendous effort was demonstrated by the warriors in the 22nd Signal Brigade over the past year. From redeployment and reconstitution challenges encountered, the soldiers transitioned immediately to new equipment upgrades and the follow on training accompanying the upgrades.

Expertly, they negotiated these challenges to culminate in a superb performance at the V Corps' VICTORY START exercise. As the 22nd Signal brigade forges ahead, they will continuously improve upon their capabilities to provide the best communications support available for the warfighting commanders of V Corps.

MAJ O'Connor is the brigade network engineer and chief of the Systems Integration Branch of the 22nd Signal Brigade in Darmstadt, Germany. She is a FA24, information systems engineer. She received her master's degree in information technology management from the Naval Postgraduate School in 2003. As the chief integrator, O'Connor has been responsible for the fielding, training, maintenance and employment of the brigade's data packages as well as the architect for the deployed MSE and data package network.

Army & industry working overtime to supply Improved Tactical Headsets for troops in Iraq

Headsets protect hearing, allow communication in up-armored humvees

by Stephen Larsen

FORT MONMOUTH, N.J. – MAJ Ron Claiborne has a pretty good idea how Santa Claus feels at Christmas.

Like the jolly fellow up at the North Pole, Claiborne gets mail every day asking him to please provide a certain something. In Claiborne's case, he is being asked for more improved tactical headsets – as many he can get his hands on, as quickly as possible.

The ITH is designed to protect Soldiers' hearing and to allow them to communicate in the high-noise environment of the M1114 up-armored humvees and other light tactical vehicles being used by the Army in Iraq.

"I get e-mail or phone calls almost every day from Soldiers - and even from parents of Soldiers," said Claiborne, who is the Army's assistant product manager, Vehicular Intercommunication Systems, with the project manager, Defense Communications and Army Transmission Systems, here. "They're all asking for headsets for use in convoys in Iraq."

Lately, though, Claiborne has felt more like Scrooge than Santa, as the Army struggles to acquire sufficient quantities of the improved tactical headsets, which are being manufactured by Bose Corporation under a subcontract with Northrop Grumman Corporation. The hurdle is that the Improved Tactical Headset is a completely new, revolutionary design that is being rushed into production to satisfy the Army's needs in Iraq.

"The Army had not planned on needing the new headsets until sometime in late 2005," said Claiborne. "But we don't have the luxury of waiting for our original planned production date – we have Soldiers in Iraq who need these headsets *now* - so Bose is working with us to produce ITHs on an accelerated production and delivery schedule. Bose has been tremendous in working with the Army to get their product into the field. They've even added a second shift at

Northrop Grumman's and the Army's request."

Claiborne said there are "around 2,000" ITHs currently fielded – all in Iraq - and that Bose is currently able to produce between 125 to 400 ITHs a week.

"Our goal is to get production and fielding up to between 500 to 700 ITHs per week by the end of January," said Claiborne. "Then, after we satisfy all requirements for M1114 humvee headsets in Iraq, we hope to be able to field them to the rest of the Army beginning in July 2005."

Why such a clamor for the ITH? Claiborne points to its features. Designed to fit under the standard U.S. Army Personnel Armor System Ground Troops helmet and the newer Advanced Combat Helmet, the ITH provides hearing protection through both active and passive noise reduction technologies and enables Soldiers to communicate in the high-noise environment - up to 95-plus decibels – typical of the M1114 up-armored humvee.

"The ITH is based on the same active noise reduction technology Bose uses in their consumer headsets," said Claiborne.

Claiborne added that Soldiers can wear the ITH for extremely long periods without discomfort because of the reduced clamping force on users' ears and its light weight – it weighs only about 16 ounces. Additionally, he pointed out that Bose also has a special patent on ear cushion material, which further increases comfort.

Feedback from Soldiers in Iraq

Claiborne said that the ITH will be replacing nearly 15,000 "emergency issue" IH and older models currently in use. Soldiers of the 1st Cavalry Division deployed to Iraq have had mixed feelings about the "emergency issue" interim headset.

"I don't like it (the emergency issue interim headset), it's uncomfortable under the helmet," said SFC Jamie Favreau, "and it's only over the left ear so I can't listen to the other radio."

"With the wires dangling, you can't get it off quickly enough to dismount," said 2LT Guy Malatino. "We need something you can just pop off to dismount."

Iraq convoy with Improved Tactical Headset inset. Headsets are being requested as fast as available for the noise reduction they provide.

"It's too bulky under the Kevlar (helmet)," said 1LT John Shaeffer, about which SSG Dawn Hodges agreed, though he added, "the two times we did use it, it worked well."

SGT John Blair, though, gave the interim headset high marks.

"I love it," said Blair. "We used it once and we were sold on it. In an AAR (after action report) the lieutenant asked what the troops thought about it, and they said 'Yeah!' The first time Soldiers use it, that's what they want. Humvees don't muffle very well - plus the armor holds the noise inside - plus there's noise from weapons - but we can communicate clearly with the headset."

Blair told how the headset allowed his unit to maintain communications when their convoy was ambushed.

"The second time we were on a convoy, coming back from Tajii, we were ambushed from above and behind - armor piercing bullets - and we were able to communicate throughout the firefight," said Blair.

Claiborne said that the Improved Tactical Headset will go a long way towards solving the shortcomings of the Interim Headset.

"The 'emergency issue' Interim Headset doesn't provide any hearing protection from the noise in the M1114 Humvee," said Claiborne. "The Army's goal is to replace every Interim Headset with the new ITH so that the soldiers have adequate safety and protective equipment and reduce hearing loss medical claims."

Also, he said, the new ITH can be put on or quickly removed without requiring a soldier to remove their helmet – "this is an absolute requirement for Soldiers who might have to quickly dismount from their humvee for combat or security operations," said Claiborne.

He cautions, though, that whether Soldiers have the interim headset or the improved tactical headset, they must ensure their helmet is adjusted for a correct fit before putting on the headset.

"You can't wear the helmet like 'Sarge' or 'G.I. Joe,'" said Claiborne. "For either headset to fit properly and provide the most comfort and functionality, the headband in the helmet and all of the support straps need to be adjusted properly for a correct fit."

Claiborne said that he also has feedback from MAJ Matt Paige, the

project leader for the M1114 Up-Armored humvee, who was on temporary duty in Iraq.

"Paige said that every Soldier he spoke to who had the Improved Tactical Headset had only positive things to say," said Claiborne. "The Soldiers told him the ITH is very comfortable, and does a great job in canceling out background noise and allowing them to communicate. One M1114 crew told him they were wearing the ITH when a tank was operating nearby, and the M1114 driver was not only able to keep in constant contact with the gunner through the headset, but that the headset canceled out almost all of the background noise from the tank. Prior to getting the improved tactical headset, the driver or vehicle commander wouldn't have been able to communicate with the gunner in a safe manner because of the tank turbine engine noise levels."

West Point study

The effectiveness of the Improved Tactical Headset's active noise reduction technology was supported by a study completed in early December by cadets in the Engineering Psychology department of the U.S. Military Academy, West Point, N.Y.

Cadets Edward "Flip" Klein and Jon Wertz, under the leadership of research coordinator MAJ Dan Smith, studied the effect of noise cancellation on sound localization, comparing use of the interim headset with the improved tactical headset. Their study subjects were 21 undergraduate cadets, ranging in age from 18 to 22 years old.

In a sound chamber, Klein and Wertz set up eight speakers in a five-foot diameter ring; placed at ear level every 45 degrees. They played the sound of 95 dB humvee vehicle noise, and tested each subject's ability to localize the sound of AK-47 gunfire.

Klein said they conducted their study with the "talk-thru" feature enabled in the ITH, which allows binaural (stereo) monitoring of ambient noise.

"Because the interim headset has only one ear cup, Soldiers must use an ear-plug in the left ear," said Klein, "Which they often don't do in a 'real-world' convoy, both because it is uncomfortable for extended periods and because it effectively mutes hearing in that ear."

"The study supported our hypotheses, which were based on signal detection and sound localization theory," said Wertz, "that the improved tactical headset allows Soldiers to better localize the direction of exterior sounds – in this case, AK-47 gunfire – although there is a degree of typical front-rear confusion." He added that they have a statistically significant confidence in their results of greater than 95 percent.

"In practical terms, this means a Soldier wearing the new ITH headset has a better chance of identifying the direction of incoming sniper fire than a Soldier wearing the older Interim Headset," said Claiborne.

Claiborne suggested that the cadets possibly do further study – "we've been considering adding an ambient noise amplification, or 'bionic hearing' feature to a variant of the ITH," he said. "We've also had a number of requests for a wireless version."

Smith, Klein and Wertz are planning more experimentation with the ITH for the spring semester. "The bottom line for now," said Smith, "is that the improved tactical headset protects Soldiers' hearing, enables intra-vehicle communication and increases Soldiers' ability to localize sound, such as gunfire."

So how do all the Soldiers and units out there clamoring for the improved tactical headset get it for their up-armored humvees?

"The Light Tactical Vehicle PM who's fielding humvees has the bumper and serial numbers of each M1114 that has the interim headset and will replace it with the ITH as soon as we can get them sufficient quantities to do so," said Claiborne.

Claiborne said that some units have just begun getting the ITH as "part of the package" when they receive a brand-new up-armored humvees directly from the fielding location in Iraq; other units with light tactical vehicles other than the M1114 must provide the funds themselves for vehicle intercom system kits – which include a master control station, two crew stations, mounting hardware, special connectors and cables and, typically, three headsets per vehicle.

"Resourceful units are planning and budgeting to upgrade their vehicle intercom systems from the older (AN/VIC-1) systems – with do not support the newer headsets or active noise reduction – to the newer (AN/VIC-3) system using 'reset' funds after they redeploy from Iraq or Afghanistan," said Claiborne.

For information about availability or technical characteristics of the Improved Tactical Headset or Vehicle Intercom System, contact MAJ Ron Claiborne at (732) 532-5415 or Ronald.Claiborne@us.army.mil.

Mr. Larsen writes for the Program Managers Defense Communicationa and Army Transmission Systems, Fort Monmouth, N.J.

PM DWTS COMPLETES FIELDING CSS VSAT/CAISI TO 3ID, STARTS FIELDING TO 101ST, 10TH MOUNTAIN DIVISION

by Stephen Larsen

FORT MONMOUTH, N.J. – Continuing to march forward in implementing the Army Deputy Chief of Staff for Logistics' (G-4) initiative to "Connect the Logistician," the Project Manager, Defense Communications and Army Transmission Systems' Product Manager, Defense Wide Transmission Systems completed fielding of Combat Service Support Very Small Aperture Terminal satellite communications systems and the CSS Automated Information Systems Interface to the 3rd Infantry Division at Fort Stewart, Ga., on Oct. 8, and has started fielding the system to of the 101st Airborne Division (Air Assault) at Fort Campbell, Ky. and the

10th Mountain Division (Light Infantry) at Fort Drum, N.Y.

The combination of CSS VSAT and CAISI increases readiness by giving Combat Service Support Soldiers in the field the ability to electronically transmit supply requisitions and receive near-real time status reports on their orders. The system also enhances force protection by greatly reducing the need for Soldiers to get into convoys and risk being ambushed in hand-delivering disks containing detailed logistics orders to other locations, or in travelling to maintenance meetings, which they can conduct "virtually" via CSS VSAT/CAISI.

All told, PM DWTS fielded 40 CSS VSAT systems to the 3ID and non-divisional support units, replacing the 11 prototype systems that they had previously fielded for the 3ID's use during their rotation through the National Training Center, Fort Irwin, Calif., from May 22 - June 18.

Improvements to an already-robust system

According to John Andrews, program readiness manager for PM DWTS' assistant product manager, DWTS-Belvoir, the new CSS VSAT model requires less RF (radio frequency) energy and allows for manual pedestal positioning. It also features a slightly larger antenna dish - a two-piece dish with interlocking connections that is 1.2 meters in diameter, compared to .96 meters for the prototype model.

"It might seem like a small increase," said Andrews, "but that increase allows for greater beam coverage and means less rain-fade degradation" – the weakening of transmission caused by raindrops absorbing and scattering electromagnetic signals travelling through the atmosphere.

CWO-2 Angel Montero, Combat Service Support Automation Management Office technician for the 3ID, who ran prototype CSS VSAT's through their paces during the 3ID's NTC rotation, and gives the system high marks as "a beast – a combat multiplier," agreed that the new dish antenna is an improvement "to an already-robust system."

The new model of the Combat Service Support Very Small Aperture Terminal satellite communications system, featuring a slightly larger antenna dish - a two-piece dish with interlocking connections that is 1.2 meters in diameter, compared to .96 meters for the prototype model. That small increase allows for greater beam coverage and means less rain-fade degradation – which translates into better performance by putting users right on the edge of the Ku (12 to 14 GHz frequency range) footprint.

"Across the water, in Iraq, the bigger (1.2 meter) dish offers better performance because there will be no degradation of service, as you could have with a smaller dish," said Montero.

Andrews said that the new CSS VSAT model has a smaller logistics footprint on the battlefield - it fits into four transit cases, as opposed to five cases for the prototype model - and weighs 519 lbs. vs. 609 lbs. for the prototype – a reduction of 113 pounds.

These small improvements will reap big dividends, according to Montero.

"That makes the system a whole lot more transportable," said Montero. "It makes it easier for the maneuver units to load it. And since we (CSS AMO personnel) are carrying spares, it makes it easier for us to move around, as well."

During the 3ID's rotation at the NTC, Montero and his Logistics Assistance Representative, Bill Flynn of the U.S. Army Communications-Electronics Command, took the spirit intended by the term "Connect the Logistician" and went even further, adding additional capabilities beyond the ability to transmit data – including text messaging, text conferencing, collaboration software, Voice Over Internet Protocol telephone capability, and the ability to remotely monitor and correct users' problems – often before users even know they had a problem. Now, they have documented what they accomplished so new units getting CSS VSAT will have a "rock-solid" foundation as a starting point.

"We started at the NTC as a 'test' system," said Montero. "Now we have a fixed infrastructure in place, all diagrammed-out, so every brigade that goes out can start at the same point, every brigade has the same capability."

Units that can immediately benefit from the foundation laid by Montero, Flynn and the 3ID are the 101st Airborne Division (Air Assault), to which APM DWTS-Belvoir started fielding CSS VSAT's on Oct. 6, and the 10th Mountain Division (Light Infantry), to which they started fielding CSS VSAT's on Oct. 13.

According to MAJ Michael Devine, APM DWTS-Belvoir, his team will field 32 CCS VSAT's to the 101st Airborne Division and 24 CCS VSAT's to the 10th Mountain Division. He said they expect to complete fielding to the 101st Airborne Division in January 2005 and to the 10th Mountain Division by July 2005.

Part of a 'Comms-on-the-move' architecture

In the big picture, Devine said, his team's fielding of CSS VSAT/CAISI ties in with the Army's three-tiered Joint Network Transport Capability-Spiral initiative, which includes the "Connect the Logistician" program, the Joint Network Node and the Trojan Special Purpose Integrated Remoted Intelligence Terminal.

"These are all designed to give

the Army the ability to communicate reliably in a non-linear battlespace," he said. "These programs will increase bandwidth available to troops, provide an IP (Internet protocol) architecture and give Warfighters and their commanders access to the .mil network."

As a Soldier in a tip-of-the-spear unit, Montero looks forward to when this comes to fruition.

"What does CSS VSAT tie together with JNN and Trojan SPIRIT do for the Warfighter?" asked Montero. "If everything works as advertised, it's going to give us the most robust communications capability in the history of warfare – from there, your only limits are the imagination."

Mr. Larsen is a public affairs officer, Project Manager Defense Communications and Army Transmission Systems at Fort Monmouth, N.J.

LEADER TRANSITIONS

KILGO ASSUMES COMMAND OF 78TH

by Bill McPherson

CAMP ZAMA, Japan – LTC Mitchell L. Kilgo assumed command of the 78th Signal Battalion from LTC William Montgomery III June 28, 2004, in ceremony.

COL Brian J. Donahue, commander, 516th Signal Brigade officiated, and MAJ William Cater served as commander of troops. The 78th's CSM Darrell Calton helped pass the battalion colors to his former and new bosses.

In his remarks, Donahue thanked Montgomery and his wife Maria for their service the past two years. Montgomery will next be assigned to the Joint Command-South in Germany.

"Bill, your vision and leadership expertly guided the battalion's Soldiers, civilians and master labor contractors in significantly improving your portion of the Pacific LandWarNet in support of over

LTC Mitchell L. Kilgo (left) accepts the 78th Signal Battalion colors from COL Brian J. Donahue.

9,000 warfighters and other customers across eleven separate installations here on Honshu," Donahue said.

"All this in a period of great change in our Army – an Army at war, and transforming to a Campaign Quality Army with joint and expeditionary capabilities," Donahue continued.

Donahue singled out several battalion accomplishments under Montgomery's leadership, including an $11 million enhancement in information infrastructure and a ten-fold increase in Secure Internet Protocol Network capability.

Donahue then welcomed Kilgo and his wife LaTonya to their new command.

"Mitch, I am confident you will enjoy the special challenges, responsibilities and opportunities with the U.S. Army Japan. You inherit a team of highly professional and dedicated Soldiers, civilians and MLCs to help you get the job done."

In addition to assuming command of the 78th, Kilgo serves concurrently as the G-6 for U.S. Army Japan and as the director of information management for the garrison.

Following the ceremony, the Kilgo's were welcomed to the 78th at a reception. Distinguished guests included MG Elbert Perkins, commanding general, USARJ; CSM Charles Hopkins of USARJ; and CSM James W. Anderson of 516th Signal Brigade.

Kilgo came to Japan from Fort Belvoir, Va., where he had served as Network Enterprise Technology Command's liaison officer to 1st Information Operations Command and the National Capitol Region, and as the chief, Information Assurance and Computer Network Defense Division, Army Network Operations and Security Center.

A distinguished military graduate and Reserve Officer Training Corps scholarship recipient, Kilgo earned a Bachelor of Science degree in mathematics and natural sciences from Virginia Union University in 1987 and a Master of Science degree in systems technology (joint command, control and communications) from the Naval Postgraduate School in 1995.

His company command was with Support Command, 1111th Signal Battalion, Fort Ritchie, Md., and Site-R. He later served as assistant chief of staff, deputy G-6, and executive officer, 122nd Signal Battalion, 2nd Infantry Division.

Kilgo's awards and decorations include five Meritorious Service Medals, three Army Commendation Medals, an Army Achievement Medal, an Air Force Achievement Medal, the Korean Defense Service Medal, and the Parachutist Badge.

Mr. McPherson is with the 516th Signal Brigade.

DOUGLAS AND KADET NEW ENLISTED LEADERS AT 30TH AND 78TH

by Bill McPherson

FORT SHAFTER, Hawaii – Two new command sergeants major joined the 516th Signal Brigade this past summer, taking the senior enlisted helms at the 30th and 78th

CSM Phillip D. Douglas Sr.

CSM Brenda J. Kadet

Signal Battalions.

CSM Phillip D. Douglas Sr. joined the 30th Signal Battalion, Wheeler Army Air Field, Hawaii, June 17. He succeeded CSM Joseph McKinnon, who transferred to Korea.

CSM Brenda J. Kadet succeeded CSM Darrell Calton at the 78th Signal Battalion, Camp Zama, Japan, July 20. Calton transferred to Fort Huachuca, Ariz.

Douglas returns to the 516th after having once served as detachment sergeant for Headquarters and Headquarters Detachment, 58th Signal Battalion, Okinawa.

He entered the Army on Feb. 27, 1979, as a 36C wire systems installer. Throughout his career, Douglas has served in every enlisted leadership position from team chief to command sergeant major. Prior sergeant major assignments include command sergeant major, 304th Signal Ballion, Korea, and senior noncommissioned officer evaluation system evaluator, Quality Assurance Office, U.S. Army Sergeants Major Academy.

He is currently a Ph.D. candidate in education leadership from TOURO University International. Douglas earned his master's degree in education from National Louis University, Evanston, Ill., in 2000, and is a graduate of Excelsior College, Albany, N.Y., where he earned his Bachelor of Science degree in liberal arts in 1997.

Among his previous key assignments, Douglas served as noncommissioned officer-in-charge for the deputy chief of staff, plans, 5th Signal Command, Mannheim, Germany; first sergeant of HHC, 44th Signal Battalion, Mannheim; and first sergeant of both Delta Company and Headquarters and Headquarters Company, 86th Signal Battalion, Fort Huachuca.

He has also had assignments at Fort Gordon, Ga.; Nuremberg, Germany; Fort Bragg, N.C.; Frankfort, Germany; and Fort Hood, Texas.

Among his awards and decorations, Douglas holds the Meritorious Service Medal with four oak leaf clusters, the Army Commendation Medal with two OLC, the Army Achievement Medal with one silver cluster, the Military Volunteer Service Medal, Basic Airborne Wings and the Drill Sergeant's Badge.

Douglas' professional affiliations include the SGT Audie Murphy Club, Signal Corps Regimental Association and Phi Delta Kappa.

Kadet came to Japan from Fort Bliss, Texas., where she was a member of class 54 of the United States Army Sergeants Major Academy.

She entered the Army on Aug. 30, 1984, from Indiana, Pa., and attended basic training at Fort Jackson, S.C., and advanced-individual training at Fort Benjamin Harrison, Ind. She has earned a bachelor's degree in computer science from Strayer University.

Kadet's previous assignments include the Defense Communications Agency, Washington D.C.; 201st Signal Support Company, Yongsan, Korea; Personnel Command, Alexandria, Va.; U.S. Army Special Operations Command, Fort Bragg; U.S. Army Special Operations Integration Command, Fort Bragg; Joint Special Operations Command, Fort Bragg; and the U.S. Army Office of Military Support, Washington, D.C.

Her awards and decorations include the Defense Meritorious Service Medal (2nd OLC), the Meritorious Service Medal, the Joint Service Commendation Medal, the Army Commendation Medal (3rd OLC), the Joint Service Achievement Medal, the Army Achievement Medal, Master Parachutist Wings, Canadian Parachutist Wings, Australian Parachutist Wings and the Air Assault Badge.

Mr. McPherson is with the 516th Signal Brigade.

AWARDS

HHD, 59TH SIGNAL BATTALION TAKES ARMY SUPPLY EXCELLENCE AWARD

by CPT Earl A. Zortman and SSG Clifton Divine

FORT RICHARDSON, Alaska – Headquarters and Headquarters Detachment, 59th Signal Battalion has won the Chief of Staff of the Army's Supply Excellence Award for fiscal year 2004 in its category (Modified Table of Organization and Equipment, Level I (A), Company/Battery/Troop/Detachment).

SGT Marcus T. Carroll, HHD supply noncommissioned officer-in-charge, received certificates from GEN Peter J. Schoomaker, chief of staff of the Army, and SGM of the Army Kenneth O. Preston, and an engraved plaque from LTG Claude Christianson, the Army's deputy chief of staff, logistics (G-4) at a Pentagon award ceremony Sept. 1. CPT David Griffin, HHD com-

LTC Gerald Miller (far right), Commander, 59th Signal Battalion, and LTG Stephen W. Boutelle (third from left), Army CIO/G-6, pose with members of the detachment's logistics team and the Supply Excellence Army plaque

mander, also represented the battalion at the ceremony.

Following the ceremony, Carroll and Griffin and other awardees were given a tour of the Pentagon, and attended an awards banquet honoring the SEA winners that night at a hotel in Alexandria, Va.

Griffin praised HHD's logistics team for winning the award. The HHD had been selected as the Army's runner-up in its category last year.

"We have competed for many years; so the basics were not a problem," Griffin explained. "The inspectors are senior warrant officers with 20-plus years of logistics experience. They have traveled around the world looking at the best of the best; so you can't impress them by merely having all of the hand receipts up-to-date. You have to project confidence and convince them that you are a logistics professional who has no peers. SGT Carroll and his team did that, and that's why they won."

LTC Gerald Miller, commander, 59th Signal Battalion, said, "The attention to detail, pride in work, and quiet professional attitude displayed by these highly competent supply professionals is indicative of their daily approach to supply excellence."

"The goal of our supply team was to improve upon last year's runner-up status," Miller added. "They met their goal and then some. We are all very proud of their accomplishment."

Prior to becoming a finalist at this year's Department of the Army level, the HHD, 59th Signal Battlion won the Supply Excellence Award in its category at both the 516th Signal Brigade and at the U.S. Army Network Enterprise Technology Command.

"Evaluation methodology for the Army's SEA program is designed to complement the existing Command Supply Discipline Program," said Robert Boisvert, S-4 officer, 516th Signal Brigade.

"Winners in each category are nominated to the U.S. Army Quartermaster Center and School," Boisvert said. "On-site evaluations are then conducted by technically qualified teams assembled by the U.S. Army Quartermaster Center and School, with emphasis placed on extremely stringent evaluation criteria."

Boisvert said the Total Army Worldwide Supply Conference conceived the SEA in 1984, and implemented the first inspections in 1986 to identify and reward Soldiers and units that demonstrate exemplary logistical procedures.

CPT Zortman is with the 59th Signal Battalion, Fort Richardson, Alaska, and SSG Divine is with the 516th Signal Brigade, based in Fort Shafter, Hawaii.

OF INTEREST

115TH SIGNAL BATTALION NEW DISTINCTIVE UNIT CREST RESULT OF LONG BATTLE

Commentary by CSM Steve Boatwright

One of those cold January mornings at Fort Campbell, I was sitting there looking at a picture of our battalion crest and I thought it was a shame that nothing on the crest made any reference to us being a Signal battalion. I decided that I would have a contest to design a new battalion crest and discussed my idea with LTC Anthony Glenn Cottles, my battalion commander, who supported the idea.

The contest was open to every soldier in the battalion and the guidance I gave was that all designs must include our current linage that was depicted on our current crest. I gave them something like a couple of weeks with the deadline being Jan. 16 to turn in their designs. We put together a committee comprised of – LTC Anthony Glenn Cottles, MAJ Richard E. Curtis, MAJ Mark R. Thornton, CW4 William T. Crosslin and myself would review all the designs and select a winner.

There were 20 entries submitted for consideration and the winning entry was submitted by SPC Dennis Lyles of Alpha Company. I

CSM Steve Boatwright

"Amazingly, the only difference in the old crest and the new one is the signal wig-wag flags. As I state we are proud of our past lineage, but just felt it was time to let the world know we are a Signal battalion. I have been the battalion command sergeant major for 10 years and have proudly worn our unit crest for 34 years, but it sure will feel good to put the new one on!" - CSM Steve Boatwright

then e-mailed the Institute of Heraldry to find out what the process was to make a change to our crest. Well, they hurt my feelings real quick by telling me that according to AR 670-1 Chapter 28 subparagraph 22b no changes could be made to a distinctive unit insignia. A couple of weeks later I was on the U.S. Army home page and noticed a link to unit insignia and patches. After clicking on Signal it brought up every Signal unit in the Army with pictures of the unit shoulder patch and DUI along with the symbolism and description.

I read that on one of them that the distinctive unit insignia had been amended and changed on a certain date. As I continued to look at them, I found that there were 24 Signal units with DUIs that had been amended and changed. I e-mailed The Institute of Heraldry back with my new information and again was told a unit could not change a DUI after it was approved. So I call them the next day and vented my anger and made it known I wanted an explanation as to how other units had made changes to their DUI. Again I was told that a change could not be made to a DUI once it was approved; however I could submit a request for an exception-to-policy to allow a change in the design of the insignia for the 115th Signal Battalion.

So on Feb. 2, 2004, I submitted the request along with the drawing of our design going through the 142nd Signal Brigade Headquarters, The Institute of Heraldry, to Headquarters Department of the The Army Uniform Policy. The 142nd decided to hold the request and get comments from the retirees and former commanders at a meeting in May. The retirees and former commanders were all in agreement with the proposed change and the request was forwarded onto the Institute of Heraldry.

In July I was notified that HQDA Uniform Policy had turned down the request because a couple of situations must exist to merit an exception to the policy. One was a heraldic error in the design of the insignia or the design has become offensive through changing societal sentiment and secondly changes in insignia tend to distract from their historical significance and diminish the bond of unity and affiliation of former unit members and unit associations with the current organization. I sent my rebuttal to these issues, but was still told the approval was denied.

As fate would have it, the day I got the answer back COL Alan R. Lynn, commander 3rd Signal Brigade, and CSM Johnny Dorsey, 3rd Signal Brigade command sergeant major, were visiting our Soldiers and sitting in the office as I read the e-mail. I said a few things that were ugly and then explained to them what was going on. Lynn told me to get all the documents I had dealing with the request that he and Dorsey knew the folks at HQDA and would see what he could do to help get the request approved. When I got back from leave in November, I had a letter dated Oct. 29, 2004, from Department of the Army, the Institute of Heraldry stating that the exception-to-policy to allow a change in the design of the distinctive unit insignia for the 115th Signal Battalion had been approved. They requested was my comments and/or concurrence on the suggested designs as soon as possible and would then complete the development process and provide me with information on ordering the insignia and a new organizational flag. The original design and symbolism were approved March 30, 1954, and redesignated for the 115th Signal Battalion Dec. 8, 1960.

So finally after almost 44 years, the 115th Signal Battalion has a distinctive unit crest that depicts our proud Signal heritage.

CSM Steve Boatwright is the command sergeant major with the 115th Signal Battalion, Camp Freedom, Mosul, Iraq. Boatwright enlisted in the Alabama Army National Guard Jan. 18, 1970, and has spent his entire career with the 115th Signal Battalion. He has held duty positions as a team chief, section sergeant, food service sergeant and first sergeant and was appointed to his current position of battalion command sergeant major Sept. 1, 1995. The significance of the change to the DUI is realized in the expression of Soldiers who now can display their Signal heritage. It makes the process worth the long wait.

COMMENTARY

MEETING THE CHALLENGES

The Chief of Staff of the Army addressed the AUSA SMA Luncheon Oct. 25, 2004, at the New Washington Convention Center presenting an overview of today's challenges to transform the Army and remain relevant and ready.

Thank you, SGM Preston. Good afternoon, everyone. It is great to have a chance to say a few words to this audience — our sergeants major. You are the backbone of our Army. Our Non-Commissioned Officer Corps is unique in the world—the envy of all others. There is not another Army, anywhere, that can match the overall quality, the adaptability and the leadership skills that we have in our NCO Corps. Let me say up front — I am very proud to serve with you.

I want to take some time today to talk about change and continuity, and the role I expect our NCOs to play as we move forward. We are moving toward our overarching goal of remaining relevant and ready, today and tomorrow, by providing the Joint Force with essential capabilities to dominate across the full range of military operations.

Why are we changing? After all, change can be unsettling in any organization, but when you try to change something as big and complex as the United States Army, change can be downright disruptive. We have all heard someone say, "Why fix it if it ain't broke?" We get used to doing something one way, it works, and then the "good-idea guy" comes along trying to change everything.

We are changing to remain relevant and ready. The Cold War is over.

Back in the Cold War, we knew who our greatest potential enemy was, we knew where we would fight him, we knew what equipment and capabilities he would have, and we knew what doctrine he would use.

The world has changed. Ambiguity is the rule. Uncertainty is the norm. And so our Army must change to build the force that can defeat the challenges that lie ahead.

We are at war, and our homeland is perhaps in more direct danger than at any time in our lifetime. The Global War on Terror and a state of conflict will not just fade away, it will persist at some level for the foreseeable future. Our self-declared enemies seek to destroy our way of life. Our country is engaged in a war of ideas, and we are in a conflict that many think will last for decades. This is a test of will!

This persistent state of conflict is the most significant aspect of the current global security environment. Our Army is transforming to better contribute in this new strategic environment with relevant capabilities. And we must have a sense of urgency.

Our circumstance today, as an Army serving our nation at war, is providing a tremendous strategic "window of opportunity." The convergence of our current momentum, our focus and the increased resources we are receiving give us an opportunity for change that we cannot afford to miss. We are setting ourselves forward today for the 21st century.

As our Army changes, our NCOs will continue to play a huge role, because you will help change our culture and provide continuity. NCOs will act as agents of change, while at the same time, remain the bedrock. You are the example upon which we build. As our Army changes, we are not changing what we expect of our non-commissioned officers. NCOs are the continuity, the foundation. Every NCO is a standard-setter—an example and a role model.

NCOs make an impact every day because of the special relationship you build with our Soldiers. What we are expecting from our NCOs as our Army changes is the continuation of the qualities that have made our Army the best.

My message to our NCOs today is that you are essential members of the team. You each have a "Team Jersey". Together, we can change or improve our Army's culture in five important ways. We must be effective members of the Joint team. We need to think of our Army as an expeditionary force. We need to encourage innovation and increase resiliency. And most important, we need to reinforce the Warrior Ethos in every Soldier.

Let me make a few points about each of these five cultural characteristics:

Jointness:

"Jointness" allows us to bring together capabilities and effects that create overwhelming dilemmas for our opponents. Our Army is integrating more joint capabilities into our training, leader development and education and we are moving toward greater joint interdependence with our sister services.

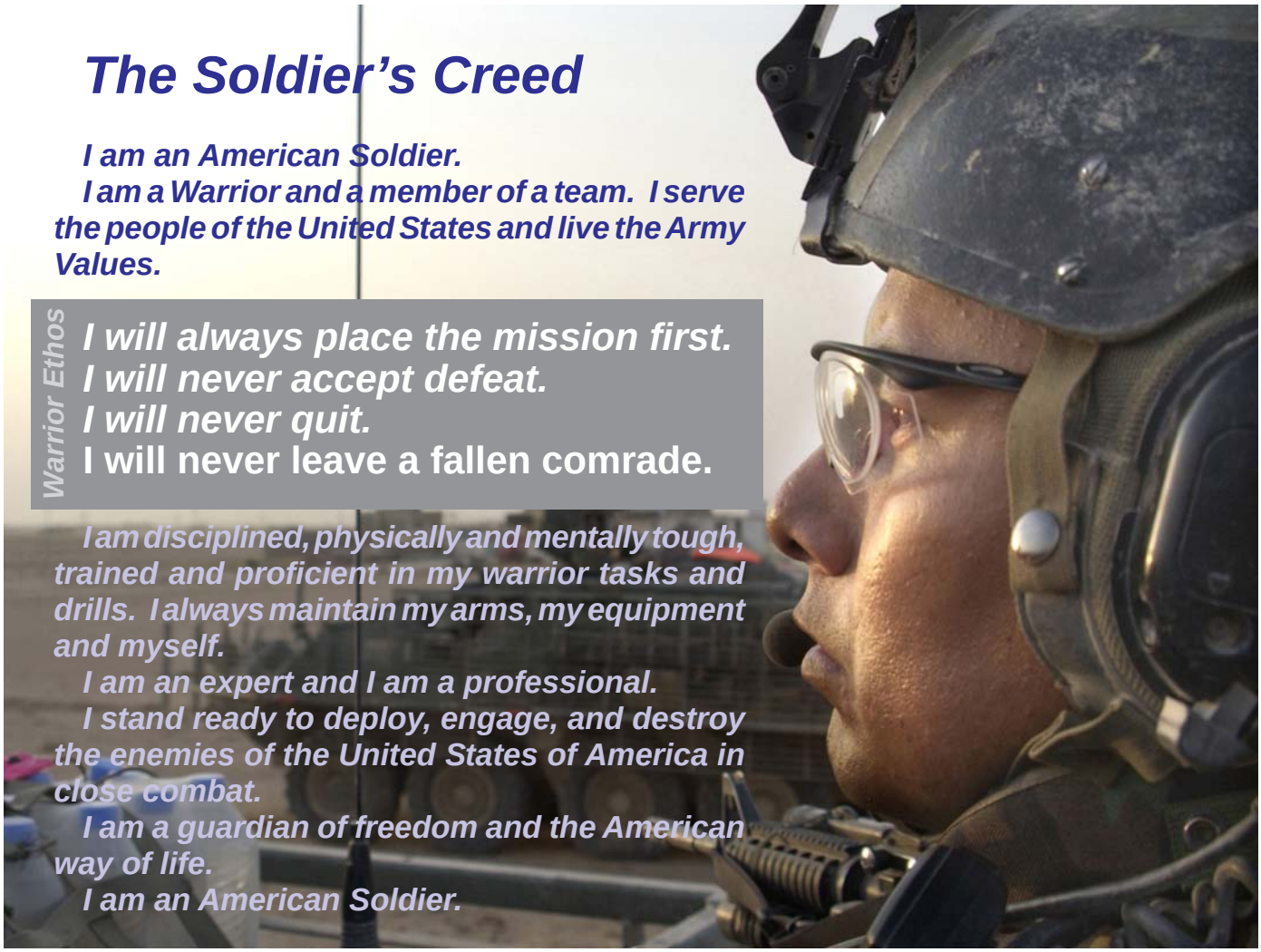
Joint interdependence purposefully combines service capabilities to maximize their total effects, while minimizing their relative vulnerabilities. Many of you have significant joint service and as we move to the future we need your help to make it a more common part of our Army's culture.

Expeditionary mindset:

As we increase our joint interdependence, we also need to sustain a second cultural aspect: our expeditionary mindset. In this globalized world, our enemies shift resources and activities to those areas least accessible to us. As elusive and adaptive enemies seek refuge in the far corners of the Earth, the norm will be short-notice operations, sometimes extremely austere theaters of operation, and action with incomplete information.

Soldiers trained in a joint and expeditionary context will be confident that they are organized, trained, and equipped to go anywhere in the world, at any time, in any environment, against any adversary, to accomplish the assigned mission.

Our Soldiers will have full understanding that they have competent and confident leaders at



every level, and that's where you get your greatest reward…by providing and growing that leadership.

A culture of innovation:

When we prepare our Soldiers for combat, we need to facilitate a third American trait: a culture of innovation. As leaders, we shape behavior. We must continue to challenge old ways of thinking and remove obstacles to innovation.

We must shape our Army culture to embrace change, reward innovation, encourage experimentation and test new ideas. We must continue to integrate into our institutions the lessons we have learned from our junior Soldiers and leaders as they fight and operate.

Promote and reward resiliency:

In addition to innovation, our Army depends on our NCO Corps to promote and reward resiliency, our fourth cultural strength. Resiliency is a measure of our ability to operate in ambiguous, adverse conditions. It is the quality that allows us to bounce back when we are hit by something tough and unexpected, and to get back on our feet and keep moving forward.

Our training is the best in the world, but war is dynamic, ugly and chaotic. The enemy is not predictable and the task-condition-and-standard in training cannot be expected to match every condition of war. The enemy will adapt and evolve, and we must train our Soldiers to be anticipatory and resilient to deal with rapidly changing and unexpected situations. Our Soldiers must be mentally prepared to deal with the uncertainty they will encounter, and bounce back when the enemy does not act the way we thought he would.

Our fifth cultural manifestation goes to the heart of everything we do—the Warrior Ethos. The Warrior Ethos is a crucial acknowledgement of longstanding Army values, an affirmation of the qualities that make a Soldier great. I didn't just put it out there because we needed something on the poster. There is a lot of power in this, and each of us must embrace and understand it. The Warrior Ethos is not only about being a good Soldier, but a good spouse, parent, friend and citizen.

The first line is "I will always place the mission first". It applies in combat, but it applies to everyday life too. We have to have goals, and we have to pursue them. If we don't have any purpose, we'll never

accomplish our professional or personal missions or objectives.

The second and third lines of the Warrior Ethos are "I will never accept defeat," and "I will never quit". That means we don't quit on the battlefield, and we don't quit in our career, our relationships or our dreams either.

The last line of the Warrior Ethos is "I will never leave a fallen comrade." This is about taking care of each other. We have a fundamental moral obligation as Soldiers to take care of one another. It is also about being a loyal friend and spouse, someone everyone can rely on.

Let me share a couple examples of NCOs that live the Warrior Ethos. Last November, we lost 17 Soldiers from the 101st in a Blackhawk helicopter collision near Mosul, Iraq. SGT Joshua Forbess survived that crash, but he lost an ear, half of his nose and he received extensive burns, broken bones and smoke inhalation injuries.

Nearly a year later, SGT Forbess is still recovering, and he wants nothing more than to be declared fully fit for duty so he can again take care of Soldiers —he wants to rejoin his team.

He did not hesitate when he said, "I'll go back. I'll go anywhere I have to go. I love my job. I love training Soldiers." And about his recovery, he said, "As long as you have heart…there's nothing to stop you."

SGT Forbess is an NCO who places the mission first. He will not quit and he will not accept defeat. He understands the Warrior Ethos and we wish him Godspeed as he continues his recovery.

Last April, SSG Raymond Bittinger placed the mission first. His Bradley section from the 1st Infantry Division was engaging insurgents in Buhritz, a small town in Iraq.

When the dismounts from first squad were pinned down by fire, SGT Bittinger took the initiative and deliberately placed his Bradley between the friendly dismounted infantry squad and the enemy fire, thus saving the lives of his comrades. He then used his vehicle to breach a hole in a brick wall for the dismounted Soldiers to move through, and continue the attack.

After six hours of intense urban fighting, the platoon was ordered to break contact. Just then, his wingman's 25-millimeter gun jammed, so SSG Bittinger moved his Bradley to cover his wingman's withdrawal.

The enemy fire increased, and in the hail of small arms and rocket-propelled grenades, SSG Bittenger's gunner, SPC Vandayburg, was fatally wounded. Despite being injured and disoriented himself, SGT Bittinger assumed control of the gun and continued to fight as he moved north to evacuate his gunner.

By renewing our commitment as warriors, we remind ourselves of some fundamental responsibilities, like being disciplined, physically and mentally tough, and staying trained and proficient in our Warrior tasks and drills.

At the forward operating base, SGT Bittinger had his driver take over the gunner's position. He gave him a short block of instruction on how to fire the gun, recruited a new driver and then went back out to the fight.

On the way back an improvised explosive device hit their Bradley, but they continued on and engaged the enemy forces, fighting until relieved the next morning.

SSG Bittinger said, "I consider myself a Soldier….. not a hero. I am an infantryman. It's my job. It's my duty." SSG Bittinger placed the mission first. He did not accept defeat. He did not quit. He did not leave his fallen comrade. He lives the Warrior Ethos, and for his leadership under fire he was awarded the Silver Star for his valorous actions.

Embracing the Warrior Ethos is critical. There are hundreds of examples like SGT Forbess and SSG Bittinger. But we still have work to do. Some events in Iraq have soiled our reputation, and it is more important than ever for our Soldiers to demonstrate the moral integrity of America's armed forces.

Some have let us down, and it makes things harder for everyone else. They lost their moral compass, and they forgot their Army values and did not live the Warrior Ethos. Discipline and leadership are everything.

Remember….. we distinguish our Army by the character of our service.

The Warrior Ethos is an integral part of the Soldier's Creed. The Soldier's Creed is anchored in the fact that every Soldier is a Soldier first, a warrior, regardless of whether they are a truck driver or an aviator, a mechanic or an infantryman.

The Soldier's Creed reminds us that we are part of a larger team, a team that serves the American people. By renewing our commitment as warriors, we remind ourselves of some fundamental responsibilities, like being disciplined, physically and mentally tough, and staying trained and proficient in our Warrior tasks and drills.

Fundamentally, warfare is a human endeavor. It is a test of wills. It is a test of things deep within us. As we embrace the Soldier's Creed, we can look our Soldiers in the eye and know they are ready to deploy, engage and destroy our enemies in close combat.

It is worth taking a moment to reflect on the commitment that our Soldiers have made, and re-commit ourselves to harnessing the power of our Soldiers as we take our Army into the future. When Soldiers recite our Creed at promotions, reenlistments, and other occasions, it confirms and re-energizes our solemn commitment.

It is based on the continuity of the Warrior Ethos, rooted in Army

values, and founded on the premise that service to our nation is an honor and a responsibility that requires self-sacrifice. The very notion of service is founded on the premise that you give more than you get.

Joint, expeditionary, innovative, resilient and adaptive warriors. This is the culture we seek. Our Army is more joint and expeditionary, while retaining and improving our more traditional campaign qualities. Our Soldiers are more adaptable, innovative, tempered by extensive combat experience and ready to face new challenges.

I have the utmost confidence in our NCO Corps. Together we can lead change to win this war and transform our Army. We are on the right track to make the most significant transformation since World War II, changing while we fight so that our Army stays relevant and ready, today and tomorrow.

In closing, I want to thank you for your service, and say once again how proud I am to serve with you. You hear a lot about "the greatest generation." I want you to know I think our NCOs and our Soldiers are the "newest greatest generation." Your country is proud of you, your Army is proud of you, and I am proud of each and every one of you. Thank you for all that you do to defend our Nation and God bless you.

Prior to his position as 35th Army Chief of Staff Aug. 1, 2003, GEN Peter Schoomaker spent 31 years in a variety of command and staff assignments with both conventional and special operations forces. He participated in numerous deployment operations, including DESERT ONE, Iran, URGENT FURY, Grenada, JUST CAUSE, Panama, DESERT SHIELD/DESERT STORM, Southwest Asia, UPHOLD DEMOCRACY, Haiti, and supported various worldwide joint contingency operations, including those in the Balkans. He served as the commanding general of the Joint Special Operations Command from July 1994 to August 1996, followed by command of the United States Army Special Operations Command at Fort Bragg, N.C., through October 1997. His most recent assignment prior to assuming duties as the Army chief of staff was as commander-in-chief, United States Special Operations Command at MacDill Air Force Base, Fla., from November 1997 to November 2000.

Acronym QuickScan

ACH – Advanced Combat Helmet
ARR – after action report
APM DWRS-Belvoir – Assistant Product Manager, DWTS-Belvoir
APM VIS – Assistant Product Manager, Vehicular Intercommunication Systems
ASI – Additional Skill Identifier
BAE – battle area evaluation
CASI – CSS Automated Information Systems Interface
CECOM – Communications-Electronics Command
COL – colonel
CPs – command posts
COS – critical operational skill
CSS – Combat Service Support
CSSAMO – Combat Service Support Automation Management Office
CSS VSAT – Combat Service Support Automation Management Office
db – decibels
DISN – Defense Information Systems Network
DoD – Department of Defense
DRSN – Defense Red Switch Network
DSCS – Defense Satellite Communications System
DUI – distinctive unit crest
EETGMOW – Enhanced Transmission Group Module/Order Wire
ETSSP – Enhanced Tactical Satellite Signal Processor
FAD – Functional Area Designation
FOM – fiber optic modems
HCLOS – High Capacity Speed Line of Site
HHD – Headquarters and Headquarters Detachment
HQDA – Headquarters Department of the Army
HRC – Human Resources Command
HSFEC-4 – High-Speed Forward Error Correction
Humvees – High-Mobility Multipurpose Wheeled Vehicles
ICAF – Industrial College of the Armed Forces
IH – Interim Headsets
ILE – intermediate level education
IP – Internet protocol
ITH – Improved Tactical Headsets
JCS1 – Joint staff J1
JCWS – Joint and Combined Warfighting School
JDA – Joint Duty Assignments
JDAL – Joint Duty Assignment List
JNN – Joint Network Node
JNTC-S – Joint Network Transport Capability-Spiral
JPME – Joint Professional Military Education
JSO – Joint Specialty Officer
JTF – Joint Task Force
LAN – local area network
LEN – Large Extension Node
LTC – lieutenant colonel
MEL – Military Education Level
MSE – Mobile Subscriber Equipment
MTOE – Modified Table of Organization and Equipment
NAVAIR – Naval Air Command
NCO – non-commissioned officer
NCS – Node Center Switches
NTC – National Training Center
NDU – National Defense University
NWC – National War College
OIF-1 – Operation Iraqi Freedom 1
OLC – oak leaf clusters
OPMD – Officer Personnel Management Directorate
PASGT – Personnel Armor System Ground Troops
PBX – private branch exchange
PM DCATS – Project Manager, Defense Communications and Army Transmission Systems'
QMUX – Quad Multiplexer
PM DWTS – Product Manager, Defense Wide Transmission Systems
RF – radio frequency
SEA – Supply Excellence Award
SECDEF – Secretary of Defense
SEN – Small Extension Nodes
SIPRNET— secure Internet Protocol network
STEP – Standardized Tactical Entry Point
THSDN 8Mb – Tactical High Speed Data Network
Trojan SPIRIT – Trojan Special Purpose Integrated Remoted Intelligence Terminal
VIS – Vehicle Intercommunication System
VOIP – Voice Over Internet Protocol
VTC – video teleconferencing

(Ccontinued from inside front cover)

confirmed our direction with LandWarNet.

For your part, I urge you to stay plugged in to the many sources of information that we are using to keep the Regiment informed on all of these issues as we continue to both plow new ground and review previous work to make things better. A prime example is the different MOS mix that modularity requires. As we evolve to a new MOS structure in the future, there will be near-term imbalances between the MOSs as we bring on new types of equipment and eliminate others. Signal Branch at Human Resources Command has already contacted many of our 25Q soldiers to encourage them to reclassify into a Signal MOS that is increasing in numbers such as our satellite operators and information system Soldiers. Our goal is to keep Signal Soldiers in the Signal Regiment! This change will continue, so each of our enlisted Soldiers must take a look at those critical qualifications that will allow him or her to have more options. Improving Armed Services Vocational Aptitude Battery scores is a prime example.

As we work hard on transformation, our nation's global war on terrorism continues. I know the operations tempo for our Soldiers across the Regiment and the Army is tremendous. Despite our continuing efforts to provide a more stable and predictable assignment pattern, this OPTEMPO will continue for a while longer as we work to reset the force in the modular structure.

As your Chief of Signal, I am enormously proud of you, and remain in awe of your individual accomplishments and the mission success of our units. I ask only that you stay as safe as you possibly can in all of the dangerous locations in which you are serving our country.

Acronym QuickScan

ASVAB – Armed Services Vocational Aptitude Battery
HRC – Human Resources Command
MOS – military occupational specialty
NCO – non-commissioned officer
OPTEMPO – operations tempo

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