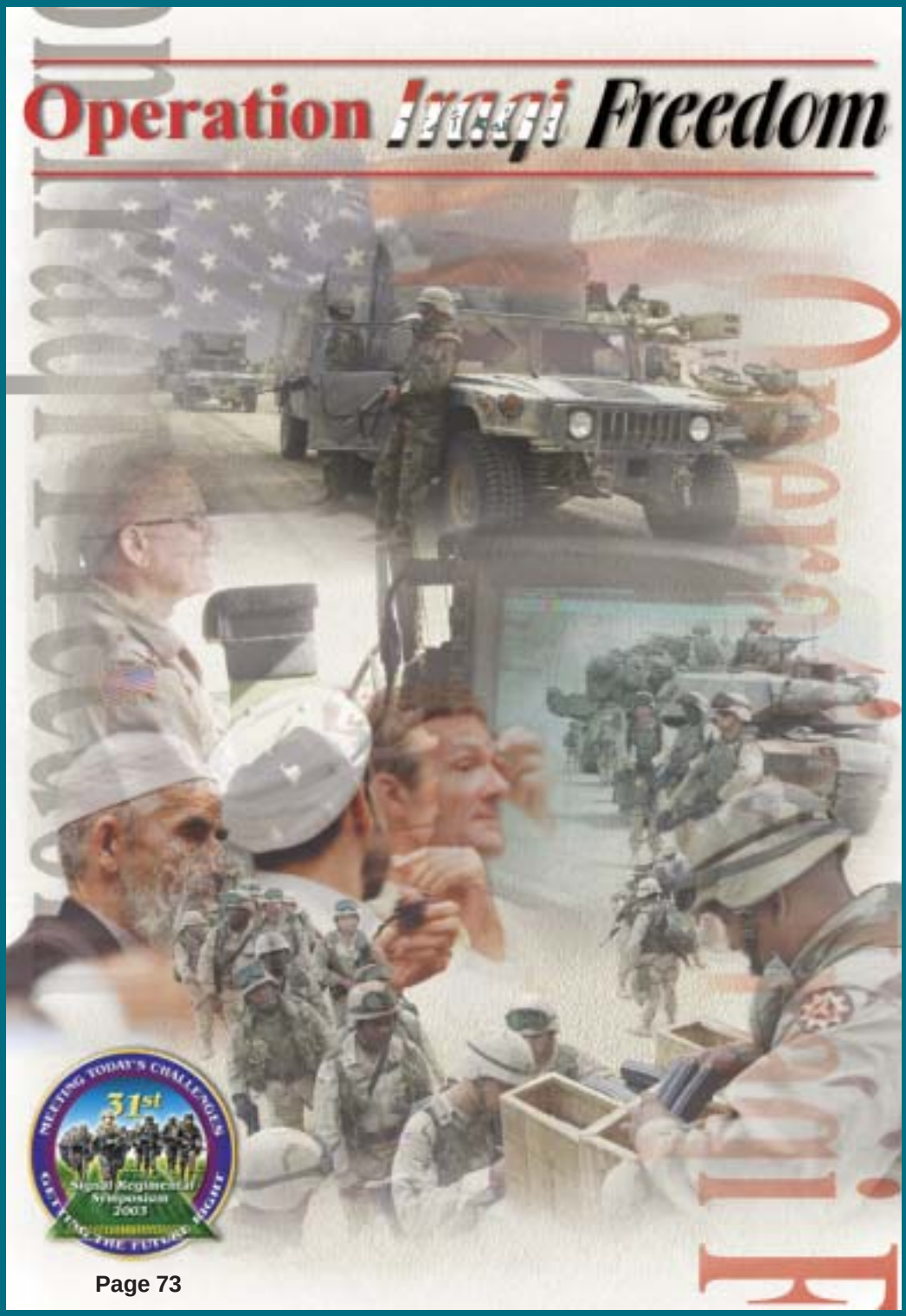
Army Communicator

Approved for public release; distribution is unlimited.
Headquarters,
Department of the Army

Voice of the Signal Regiment ❖ PB 11-03-3 Fall 2003 Vol. 28 No. 3



Page 73

❖ Special focus: Warfighter and DP-S, Pg. 2

❖ 509th OPS in Northern Iraq, Pg. 3

❖ Vital link between ports, USAEUR and CENTCOM, Pg. 4

❖ Tactical to installational, 63rd Sig Bn in OIF, Pg. 11

❖ Eyes of the mutiple launch rocket system, Pg. 15

Plus Grecian Fireball

Pages 25-49

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
2003		**00-00-2003 to 00-00-2003**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Army Communicator. Voice of the Signal Regiment. Vol. 28 No. 3, Fall 2003	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **U.S. Army Signal Center and Fort Gordon,Army Communicator,ATTN: ATZH-POM,Fort Gordon,GA,30905-5301**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**76**	

Chief of Signal's Comments

Our Regiment is at a turning point

To the Members of the Signal Regiment:

First of all, congratulations to all the members of our Regiment who have deployed in support of the nation's war on terrorism in this country and countries throughout the world. All Signaleers both active and retired are incredibly proud of what you've done and continue to do. It goes without saying that we are also proud of those soldiers and civilians of the Regiment who serve our nation at the tip of the spear in places like Korea, Bosnia and many others. After action reports and information from Afghanistan, Iraq and other theaters tell us that you are stretched well beyond what your current missions call for. You are providing support to fighting formations that, according to doctrine, ought not to be supported. I commend you for doing the right thing and supporting them.

The Regiment is at a turning point in its history; the likes of which haven't been seen since the days just before the fielding the Mobile Subscriber Equipment. While our MSE and Tri-Service Tactical systems have served us well, we must look at whether or not they are meeting the needs of the soldiers, sailors, airman and Marines that they support. We must provide commanders the critical services (non-secure Internet protocol router, secure Internet protocol router, Joint Worldwide Information Communication System, Defense Red Switch Network, video teleconferencing, collaboration and voice) needed to fight and win in the Joint, Interagency and Multinational operational environments that exist today and will exist in the future. These services must be provided within an operational construct that finds forces on-the-move, at-the-quick-halt, and at-the-deliberate-halt. Solutions to these challenges are out there and we welcome your help in developing them.

BG Janet A. Hicks
Chief of Signal

We believe that the system of the future force will be Warfighter Information Network-Tactical along with the Join Tactical Radio System. Both remain viable programs and are critical to our ability to support the Army's Future Force. However, COL Jeff Smith, commander 22nd Signal Brigade has accurately noted that "the soldier of 2010 is here today." We must find a way to bring capabilities to you today that will enable our Army as a part of the Joint Team to fight and win. The Signal Center is actively engaged in working proposals to change the way we support commanders in the field. Suffice to say that we are in need of a revolutionary approach to how we are doing business.

The theme of this year's Signal Regimental Symposium is "Meeting Today's Challenges, Getting the Future Right." I hope you can join us and help us solve the challenges that we face today.

BG Gregory Premo, our deputy commanding general, and I pray that you and your families are all safe and that those of you who are deployed will return home safely soon.

To all of the soldiers of the Regiment, remember that you are all warfighters. Train to fight. Be ready! Be proud! Soldier well! Soldier safe!

"The soldier of 2010 is here today." We must find a way to bring capabilities to you today that will enable our Army as a part of the Joint Team to fight and win.

U.S. ARMY SIGNAL CENTER AND FORT GORDON

COMMAND

Commander/Commandant
BG Janet A. Hicks
Command Sergeant Major
CSM Michael Terry

EDITORIAL STAFF

Editor-in-Chief/Graphic Designer
Janet McElmurray

Senior Adviser
Susan Wood

Illustrators
SGT Clifton McDonald

Photography
Linda Bartosik, Bob Fowler, Anthony Richiazzi, Ray Roxby, Michele Yeager, Charlie Cardimona, SSG Brian Lamar, Melvin D. Tarpley Jr., 509th Signal Battalion photos, Gene Curran, Jason Baer, Stephen Markowich and SGT Robert Jones

Army Communicator (ISSN 0362-5745) (USPS 305-470) is an authorized, official quarterly professional bulletin of the U.S. Army Signal Center, Fort Gordon, Ga. 30905-5301. Second-class official mail postage paid by Department of the Army (DOD 314) at Augusta, Ga. 30901 and additional mailing offices.

POSTMASTER: Send address changes to ***Army Communicator***, U.S. Army Signal Center, Fort Gordon, Ga. 30905-5301.

OFFICIAL DISTRIBUTION: ***Army Communicator*** is available to all Signal and Signal-related units, including staff agencies and service schools. Written requests for the magazine should be submitted to Editor, ***Army Communicator,*** U.S. Army Signal Center, Fort Gordon, Ga. 30905-5301.

This publication presents professional information, but the views expressed herein are those of the authors, not the Department of Defense or its elements. The content does not necessarily reflect the official U.S. Army position and does not change or supersede any information in other official U.S. Army publications. Use of news items constitutes neither affirmation of their accuracy nor product endorsement.

Army Communicator reserves the right to edit material.

CORRESPONDENCE: Address all correspondence to ***Army Communicator,*** U.S. Army Signal Center and Fort Gordon, Signal Towers (Bldg. 29808A), Room 707, Fort Gordon, Ga. 30905-5301. Telephone DSN 780-7204 or commercial (706) 791-7204. Fax number (706) 791-3917.

Unless otherwise stated, material does not represent official policy, thinking, or endorsement by an agency of the U.S. Army. This publication contains no advertising.

U.S. Government Printing Office: 1984-746-045/1429-S.

Army Communicator is not a copyrighted publication. Individual author's copyrights can be protected by special arrangement. Acceptance by ***Army Communicator*** conveys the right for subsequent reproduction and use of published material. Credit should be given to ***Army Communicator.***

ARMY COMMUNICATOR

Worldwide web homepage address http://www.gordon.army.mil/AC/
E-mail ACeditor@gordon.army.mil

PB 11-03-3
Fall 2003
Vol. 28 No. 3

Voice of the Signal Regiment

Table of Contents

Features

2 **The warfighter and the deployable communications package-strategic**
CPT Lynn Smolinski and CW2 Theodore Kantor

3 **509th Operations in Northern Iraq**
SGT Peter Fitzgerald

4 **Vital link between ports, U.S. Army Europe and CENTCOM**
1LT Nick Inge

6 **Web of integrated command controls forces in Operation Iraqi Freedom**
Timothy Rider

11 **From tactical to installational 63rd Signal Battalion in Operation Iraqi Freedom**
LTC John A. Rutt and CPT Jeremiah J. Jette

15 **Eyes of the multiple launch rocket system direct rounds to support frontline units**
Timothy L. Rider

16 **State of the art network provides faster more reliable information to the warfighter**
G6 Staff Members

19 **Special Ops Signal Battalion provides special support for OIF**
CPT Patrick Flood

25-49 **311th Theater Signal Command leads Grecian Firebolt '03**

50 **Network operations and security centers**
G3 Staff, 5th Signal Command

52 **Lessons are learned from Stryker Brigade Combat Team JRTC CERTEX**
MAJ Gregg Powell

57 **31Us make it happen in IT/IA**
SFC Curtis L. Rucker

73 **2003 marks the 31st Annual Signal Regimental Symposium**
Symposium cell members

Cover: The primary focus of the Fall edition of the Army Communicator is Signal presence and influence in Operation Iraqi Freedom. Cover by SGT Clifton McDonald

Page 25-49: Special Grecian Firebolt '03: The section covers the 311th Theater Signal Command and their participation in the annual exercise Grecian Firebolt and connected exercises. Section art by SGT Clifton McDonald

Departments

61 Circuit check
24 Training update
58 TSM update

Official:
JOEL B. HUDSON
Administrative Assistant to the Secretary of the Army
0325203

By Order of the Secretary of the Army:
ERIC K. SHINSEKI
General, United States Army
Chief of Staff

The warfighter and the deployable communications package - strategic

by CPT Lynn Smolinski and CW2 Theodore Kantor

Over the past months, units throughout U.S. Army Europe have deployed and shipped mountains of equipment in preparation for Operation Iraqi Freedom.

The 39th Signal Battalion was designated as the supported battalion for the brigade and received orders to begin preparation for possible seaports of embarkation and life support areas operations at various locations throughout its area of operation.

Local telecommunications companies within Belgium, the Netherlands and Germany were contracted to provide Integrated Services Digital Network and commercial analog telephone lines to support locations in Antwerp, Belgium; Rotterdam, the Netherlands; and Bremerhaven, Germany. The battalion also accompanied the 21st Theater Support Command, the 80th Area Support Group and the 598th Transportation Terminal Group on all reconnaissance to the ports and LSA locations to ensure the correct services would be available at those locations.

Once the local telecom companies activated the circuits, the 39th Signal Battalion conducted a pre-deployment rehearsal to validate the systems and to ensure the circuits were fully operational. The rehearsal and subsequent tests were accomplished through the cooperation and participation of Deployable Communications Package-Strategic teams from elements of the 2nd Signal Brigade.

The packages provided communications support to the 21st TSC, the 80th ASG and the 598th TTG in their mission to move equipment and troops out of Central Europe and into Southwest Asia. The packages were designed to provide data and video services, to include Army Secure Internet Protocol Routing, Army Non-secure Internet Protocol Routing and Secure / Non-secure Video-Teleconferencing at SPOEs and LSAs. The teams were made up of four to six soldiers or Department of the Army civilians who had received extensive training on all components of the DCP-S in the Mannheim training center located on Taylor Barracks.

U.S. Army Europe equipment being loaded on ship in Antwerp, Belgium.

The packages were constructed to provide the warfighter with a reach-back capability using fixed infrastructure and existing government systems, which could be easily provided by almost any telecom company in the world. Each of the ISDN lines at the SPOE and LSA can provide 128kb / seconds of bandwidth and can be directly dialed into any designated node in the network using either an improved multiplexer or the 3600 Series Cisco Router, which comes with each package. Additionally, the package provides the flexibility of dialing into a node using the router, which keeps the IMUX open for other packages or locations.

The 39th Signal Battalion and the other Signal battalions from the 2nd Signal Brigade (43rd, 52nd, 69th and 102nd) sent their DCP-Ss to several designated SPOEs, LSAs and convoy support centers throughout the western part of Europe.

The 39th Signal Battalion received orders in early January 2003 to deploy their team to the Antwerp SPOE. It received operational control of a team from the 43rd Signal Battalion to deploy to the Antwerp LSA. The team at the SPOE provided the warfighter with ASIPR, ANIPR and secure VTC, while the team at the LSA provided them with ASIPR and ANIPR.

During the latter part of March, the battalion was given orders to deploy teams to Rotterdam. At this time, the battalion received two additional DCP-S teams from the 52nd and 69th Signal Battalions. The 69th Signal Battalion provided the SPOE with ASIPR, ANIPR and secure VTC, while the 52nd Signal Battalion provided the LSA with ANIPR.

The DCP-S provides the warfighter with a command and control tool, capable of reaching back into the 5th Signal Command communications infrastructure, and giving them the ability to send and receive real-time critical information on equipment and troop movements deploying from home station to the SPOE. It also gave commanders the capability for movement control and fully enabled their staffs and movement control experts to control their assets.

CPT Smolinski was assigned to the 39th Sig. Bn. in January 2000 and held positions as a platoon leader, company executive officer, and assistant operations officer. CPT Smolinski deployed and served as the officer-in-charge of the communications team for the commander, Stabilization Forces, as part of Operation Joint Forge. CPT Smolinski currently serves as the battalion adjutant.

CW2 Kantor has served at Forts Knox, Harrison, McPherson, Hood, Rucker, Gordon, Bragg, Korea and presently Belgium where he serves as officer-in-charge of Plans, 39th Signal Bn.

CPT Smolinski and CW4 Kantor are with 2nd Signal Brigade.

ACRONYM QUICKSCAN

ANIPR – Army Non-secure Internet Protocol Routing
AOR – area of operations
ASG – Area Support Group
ASIPR – Army Secure Internet Protocol Routing
CSC – convoy support centers
DAC – Department of the Army Civilian
DCP-S – Deployable Communications Package-Strategic
IMUX – improved multiplexer
ISDN – Integrated Services Digital Network
LSA – life support areas
OPCON — operational control
SPOE – seaports of embarkation
TSC – Theater Support Command
TTG – Transportation Terminal Group
VTC – Video-Teleconferencing

509th Operations in Northern Iraq

by SGT Peter Fitzgerald

One day after paratroopers from the 173rd Airborne Brigade made their March 26 jump into Northern Iraq, a team from the 509th Signal Battalion arrived and began establishing communications.

"We set up as soon as possible because communications is key to survival in a tactical environment," said 1LT Kursteen Nelson, officer-in-charge of the Command and Control Force Enhancement Module communications package.

In just four hours Nelson's 12-member C2FEM package was set up and providing vital support for Operation Iraqi Freedom. The 173rd paratroopers, who had just made the first U.S. combat airborne drop since Operation Just Cause in Panama, now had communications on the ground in Iraq.

"Without communications, you're just flapping in the breeze," said SSG Bobby O'Mara, automations noncommissioned officer-in-charge, 173rd Airborne Brigade. "I place it at No. 1 in importance. We can now communicate with higher echelons."

The support the C2FEM provided included secure and non-secure Internet protocol router networks, Defense Switched Network lines and video teleconferencing capability. With the ability to communicate with warfighters on the ground, higher commands could continue battlefield operations in Northern Iraq.

SSG Verne Devere makes a crossover cable.

"Getting that connection in saves lives," said SPC Avery Costner, C2FEM information systems specialist. "Commanders can make decisions and communicate on the links we provide. The better we can communicate, the better we are as a fighting force."

Along with the 173rd, the C2FEM is supporting a number of other units deployed to Northern Iraq, including the 2/15th Field Artillery, the 4th Infantry Division and the 201st Forward Support Battalion.

The package has not only been providing tactical communications,

but was also able to set up a temporary Internet café for soldiers to communicate with family and friends during the deployment.

"That was a big morale booster," said SSG O'Mara.

Soldiers deployed in Iraq have had to contend with difficult conditions. The package has had to contend with sandstorms, muddy conditions and oppressive heat. They even had to move from their tents to bunkers because of the extreme temperatures. So far, they've subsisted on rations and meals-ready-to-eat.

Despite the harsh environment, Nelson said the package has done an outstanding job in coming together as a team and making the mission a success.

"Considering the living conditions, (the soldiers) have kept a good attitude," she said. "They've worked well together and learned what it means to be a team player - not just within the package, but with other units, too. When you work as a team, things happen."

CPT Christine Stevens, commander, Headquarters and Headquarters Detachment, 509th Signal Battalion, said the team has done a great job supporting Operation Iraqi Freedom. "Everyone is very proud of them," she said. "They're doing an amazing job."

Setting up tent after arriving from left to right: SPC Eddy Hong, SPC Nelson Lo, SPC Avery Costner and PFC Yolanda Baca.

Soldiers getting C2FEM support on the ground attested to the 509th effort. "The 509th has given us seamless communications," said SSG O'Mara. "They work wonders."

SGT Fitzgerald is currently the Public Affairs NCOIC for the 7th Signal Brigade in Mannheim, Germany. He has served as a journalist at Fort Leonard Wood, Missouri, and in Bosnia-Herzegovina. Fitzgerald was named Department of the Army and Department of Defense Print Journalist of the Year in 2000.

ACRONYM QUICKSCAN

C2FEM – Control Force Enhancement Module
MREs – meals-ready-to-eat

2nd Signal Brigade's supporting Operation Iraqi Freedom

Vital links between ports, U.S. Army Europe and CENTCOM

by 1LT Nick Inge

MANNHEIM, Germany — A primary mission of 2nd Signal Brigade during Operation Iraqi Freedom was establishing and sustaining United States Army Europe communications and information infrastructure for deployed combatant commanders.

The Brigade of Excellence played an integral role in the vital communications link between Iraqi-based warfighters and their command and control elements located in the European theater. The soldiers and civilians of 2nd Signal Brigade were critical elements of communications between U.S. Army Europe and Central Command locations possible. The brigade's presence was most evident during Fort-to-Port operations to move U.S. Army Europe elements to the Central Command area of responsibility, in the daily battle update brief video teleconference, and in providing tactical reach-back capabilities to deployed units via Standardized Tactical Entry Point facilities.

Fort-to-Port was the operation to move V Corps units from home station to their respective seaport(s) of embarkation with each unit's final destination being the CENTCOM AOR. Each of the units being deployed traveled to their respective deployed location via the 21st TSC's logistical highway. Along this logistical highway, the 21st TSC strategically placed installation staging areas, convoy support centers, deployment processing centers, barge sites and life support areas to facilitate the move of each deploying unit to and through the individual SPOEs. Using the Deployable Communications Package-Strategic and its state-of-the-art voice over data capabilities, 2nd Signal Brigade was the sole provider of communications and information management support at each of these sites. Services included video teleconferencing, Army Secret Internet Protocol Router Network access, Army Non-Secure Internet Protocol Router Network access, secure voice communication and the always indispensable telephone. Providing these mediums allowed the 21st to focus on logistical operations while the warfighter mentally prepared for the mission ahead.

The daily BUB VTC, both before and at the peak of combat operations in Iraq, was a challenge in itself. Participants included: Head

quarters U.S. Army Europe, Southern European Task Force Air Force/ 173rd Brigade, the 21st Theater Signal Command, 5th Signal Command, the 7Army Training Center, Headquarters 1st Infantry Division, Headquarters Eurpe Command, TF North, the 1st Armored Division, Headquarters Department of the Army, Armed Forces-Turkey Forward, ARFOR-Turkey Main, ARFOR-Turkey Port and the 201st Fire Support Battalion. The daily VTC allowed senior flag officers to direct, review and control troop movement within the theater and in the combat regions. The VTC also permitted commanders to directly communicate with subordinate units, which let the warfighters know they were supported by the chain of command at every turn.

This direct communication bolstered subordinate units' sense of purpose, esprit-de-corps and well-being.

Participants accessed the VTC via the USAREU VTC Hub or Defense Information System Network Video Secure Global through the Landstuhl STEP facility, which are both 2nd Signal Brigade assets operated and maintained by the 43rd Signal Battalion headquartered in Heidelberg, Germany. Capabilities provided by the 2nd Signal Brigade in support of the BUB VTC were essential to the flow of critical information between commanders and subordinates throughout Operation Iraqi Freedom.

The 2nd Signal Brigade also provided tactical reach-back capabilities to deployed units via STEP, a power projection capability that pushes strategic information services to the deployed warfighter. The STEP personnel and facilities enabled the theater commanders to reach back and communicate with their organizations and command groups on a daily basis, regardless of location.

The Command and Control Force Enhancement Module communications package, set up on Bashur Airfield, 509th's first location after arriving in Northern Iraq.

The 2nd Signal Brigade's STEP facilities served as receivers of tactical asset transmissions, which then provided strategic connectivity for the tactical units to VTC, ANIPR, ASIPR and long-local DSN service, among others. The STEP gateway provided communications used for command and control and logistical support of deployed units, as well as morale and welfare maintenance. The bottom line was that the seamless flow of communication and information management support afforded to deployed units by the military and civilian personnel of the brigade provided users with the same level of service as if they never left the garrison environment.

When circuits and services were installed and modified to support OIF, up to 70 percent of the brigade's theater signal capabilities were committed to meet OIF requirements. Following the completion of installation and modification of these circuits and services, sustaining wartime communications used nearly 50 percent of 2nd Signal Brigade's capabilities.

Furthermore, up to 90 percent of the 25 satellite connections during OIF and Operation Enduring Freedom were provided via the STEP facility, which served as communication paths to various operations in Southwest Asia and the Middle East.

The 2nd Signal Brigade's role in OIF was both demanding and intricate. However, the brigade and its personnel rose to the occasion and met the challenge head-on with the knowledge, experience, and determination necessary to accomplish the mission. The men and women of 2nd Signal Brigade know that missions like OIF will be the way of the future.

No matter what the mission, the 2nd Signal Brigade is adaptable,

SPC Nelson Lo covers up cables.

Acronym QuickScan

ARFOR – Armed Forces
AOR – area of responsibility
ANIPR – Army Non-Secure Internet Protocol Router
ASIPR – Army Secure Internet Protocol Router
BUB – Battle Update Brief
CENTCOM – Central Command
CSC – convoy support center
DPC – deployment processing center
DVS-G – Defense Information Network Video Secure Global
ISA – installation staging area
LSA – life support area
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
SPOE – seaport of embarkation
STEP – Standardized Entry Point
TF – Task Force
USAREUP – U.S. Army, Europe
VTC – video teleconferencing

flexible, and resilient enough to overcome any and all obstacles to provide warfighters with reliable and quality communications.

Providing dependable communications to our users has been our mission in the past, is our mission now, and will continue to be our mission into the 21st century and beyond.

1LT Inge is a 2000 Distinguished Military Graduate from University of Virginia in Richmond where he earned a commission as a Signal Corps second lieutenant and a bachelor's degree in political science. He is currently assigned to 5th Signal Command.

Blue Force Tracking success in OIF

Web of integrated command controls forces in Operation Iraqi Freedom

Previously non-digitized units host measure of digitization, interoperability for Operation Iraqi Freedom.

by Timothy Rider

CAMP DOHA, Kuwait – When the 4th Infantry Division joined the ranks of divisions and brigades operating in Iraq, rather than standing alone as the sole digital division, its computer screens showed instead it was just another digital Joe.

In October 2002, Headquarters Department of the Army tasked the system engineer for the 4th ID's digital equipment, Program Executive Office for command, control, communications – tactical, to digitally integrate units under the Coalition Forces Land Component Command command center, including the already digitized 4th ID, other Army divisions, U.S. Marines and United Kingdom forces.

And by the time ground forces crossed into Iraq in March, units previously considered non-digitized had also crossed a digital divide.

"Operation Iraqi Freedom was the first major coalition operation conducted as a networked force where ground components of the U.S. Army, U.S. Marine Corps and United Kingdom shared a computer-automated common operation picture," said COL Nick Justice, chief of staff of the Program Executive Office for Command, Control, Communications-Tactical.

The digital capability of the network provides network communications and a computer-aided picture of the ground situation spanning from U.S. Central Command Headquarters, in Doha, Qatar; to the CFLCC; down to front-line companies, troops and batteries, according to COL Justice.

Blue Force Tracker Instructor Bud Connett returns to Camp Doha from Camp Virginia, Kuwait, with his location in the desert displayed on the BFT display.

The Army's move to increased digitization, spawned in the 4th ID, had been spreading to Army units system-by-system since even before they were designated as the Army's first digitized division. Computer networks have been used to coordinate fire support using the Advanced Field Artillery Tactical Data System since the mid-1980s, according to AFATDS literature.

Last year, the coalition ground forces now in Iraq used several of the component systems of the Army Battle Command System – the name for the networked family of digital systems in the 4th ID, that support various battlefield functions, including fire support, air and missile defense, maneuver and logistics.

The 4th ID differs by having a greater density of computer-aided support. Also, its digital equipment was built as an integrated concept called a system-of-systems with a computer-aided capability to reach for and share information across brigades, battalions and companies and functional areas, according to

Training and Doctrine Command Program Integration Office Army Battle Command System reference guide.

Between February and August 2002 the Army upgraded the CFLCC Command Center, adding a suite of digital equipment and video displays according to LTC John Bullington, product manager of Blue Force Tracking, who oversaw the project.

As the year passed and operations in Iraq began to loom on the horizon, the Army began considering how to achieve digital interoperability among a complete ground coalition under the newly renovated command post. "They wanted to achieve the latest and greatest technology on the battlefield to fight the war and save lives," said John Sklinar, deputy director of the PEO C3T Special Projects Office.

Then between September 2002 and the commencement of operations in Iraq, the Army built a network to feed the new command center battlefield information. It equipped divisions now in Iraq with more than a thousand computers, provided thousands of hours of training and upgraded software to achieve a common operating picture of land forces.

What the effort intended to achieve was to increase interoperability: when military organizations operate together better because they share information across organizational boundaries, according to PEO C3T SPO Operations Chief, Joe Cellini.

Interoperability increases combat power and has been enabled by the 90s revolution in computer networks. Modern communications networks, "increase the reach, extent, and distribution of information married with the richness of content in ways that increase military effectiveness," said Fred Stein, an advisor to the Central Technical Support Facility, Fort Hood, Texas, and co-author of the book, "*Network Centric Warfare*."

Information reduces what 19th Century military writer Carl Von Clauswitz termed the Fog of War, said Mr. Stein. "Information properly distributed, properly enabled allows (a military force) to be in the right place at the right time. The mere knowledge of the terrain and the location of the forces increases combat power," he said. It also, "increases the enemy's requirements for information while driving down yours."

Ultimately, the measure of success of a network-enabled, digital force is increased operational tempo, said Mr. Stein.

Once considered an experimental unit, the 4th ID has been the testing ground for the concepts of interoperability since 1995, according to Al Mathis, director of operations of the Central Technical Support Facility, Fort Hood, Texas.

By August, PEO C3T project officers understood that greater interoperability would be desirable, but of the forces that would participate in OIF, only the 4th ID was trained and equipped to accomplish digital interoperability.

At the time the question remained: how can it be achieved for the others?

The hostage crisis

In August, PEO C3T supported Millennium Challenge 2002, a massive joint exercise significantly integrating the 82nd Airborne Division, U.S. Marines and the Army's newest Stryker Brigade, which also houses components of ABCS.

"The architecture for MC02 was the basis of understanding for taking on this task," said Mr. Sklinar of the digitization effort for what would equip OIF forces. Because of it, he said: "They had a good understanding what questions to ask, what problems there were, (and) how to overcome the interoperability issue."

While many of the staff from PEO C3T were involved in MC02, a Tiger Team was assembled to outline a plan for achieving interoperability for the possibility of a real war during a week of collaboration so intense, Mr. Cellini called it a hostage crisis. The most important first step, he said, was that they had to know specifically what they were trying to achieve.

"We defined interoperability as the ability to exchange specific items within the BFAs (battlefield functional areas)," said Mr. Cellini. By the end of the session, the Tiger Team established a criteria for interoperability that included: an operational picture of the battlefield shared between command posts showing friendly and enemy forces; the ability to exchange orders and graphics; the ability to perform specific inter-corps and joint operations; common air and air defense pictures; coordinated fires planning; and collaboration — a capability that allows commanders to have virtual meetings while on different parts of the battlefield.

Interoperability would be easier said than had. The problem, even within the Army, was that units were at different levels of maturity of digital equipment and the systems used were often incompatible, according to Mr. Cellini.

Incompatibility between computer systems results from differences between systems, communications media, radios, computers, operating systems, software and even physical incompatibility between wiring and connections, said Mr. Mathis.

Incompatibility is also psychological. Developers of functional area computer systems have historically built systems according to the requirements of the functional area with little requirement to interoperate with other systems. This creates a phenomenon called stovepiping, according to Charles Pizzutelli, director of the PEO C3T Force XXI Information Office.

An example of the kinds of challenges involved the 82nd Airborne Division, the all American paratroopers who jump into enemy territory with little equipment – markedly different from the heavily armored 4th ID.

The commander at the time, MG William H. Vines, had requested assistance with the digital equipment for the 82nd's Command Center at Fort Bragg, N.C. Sent to assist was Carol Wortman, a U.S. Army Communications-Electronics Command's lead developer for the

Product Manager for Blue Force Tracking, LTC John Bullington, checks out the first full-production model of the Army Airborne Command and Control System. A2C2S is a suite of five computer displays built in a UH-60 Blackhawk helicopter where a command staff can control a battle even during flight.

Maneuver Control System-Light.

Maneuver Control System-Light supports the functional area of maneuver and Ms. Wortman led a rapid development beta program to accomplish two goals: getting digital systems into the hands of units and incorporating the feedback from those users into reiterative improvements. Ms. Wortman's office would feed beta program suggested improvements into the ABCS system called MCS, (or to distinguish, MCS-Heavy) according to Ms. Wortman.

Both MCS and MCS-L provide command centers with a computer-generated display capable of incorporating, graphics, automated tracking information on friendly and enemy units and an array of tools for developing courses of action and orders, according to Ms. Wortman.

Within 10 days of arriving at Fort Bragg – flying there on Sept. 11, 2001 – Ms. Wortman had installed MCS-Light and stayed to assist with an exercise using the system.

The division was pleased with how it worked, Ms. Wortman said, and by November she was on her way to a 40-day stay in Afghanistan with the 1st Brigade of the 82nd Airborne Division in Afghanistan to do the same for their headquarters. She was soon adding new functions in an environment never imagined by the original developers, including new kinds of red icon. Red is the color of choice in digital systems for enemy forces but to distinguish armed Taliban fighters from some less-than-hostile tribal warlords required some creative tailoring of the visual display, she said.

"The brigade was anti digits," said Ms. Wortman of her early encounters. "Now, they love the system. The key is demonstrating that it's working. That's what gets them hooked."

Hooked they were. MCS-Light was working for the 82nd Airborne Division just the way they liked it. MCS-L, however, did not interface with the Army's variant of the Department of Defense master command and control system, the Global Command and Control System (GCCS and GCCS-A for Army variant). Other MCS-L users included the 3rd ID and the 101st Airborne (Air Assault) Division, according to MAJ Lance Scott, assistant product manger for GCCS-A.

A very different example of incompatibility involved the Advanced Field Artillery Tactical Data System, a system used to support the battlefield function of fire support. Units equipped with a later version could not interoperate with earlier versions because of incompatibility with earlier versions of the software, said LTC Dan Hughes, SPO military deputy chief of staff.

Equipping all units fully with 4th ID capabilities was discussed but rejected in short order. Considering that operations in Iraq might occur sooner rather than later, units would not welcome the turmoil of extensive re-tooling if wartime operations would be the first trial. "First you have to find the equipment and then you have to find time to do the training. We had to do all this with as little disruption to the units as possible," said Mr. Cellini.

Also at issue were that many of the 4th ID's digital systems had not been officially fielded, a process that includes passing combat-like trials in what is called an initial operational test and evaluation. The 4th ID, which was initially scheduled to conduct the trials, is now conducting operations in Iraq. Yet in August, officially, the priorities in PEO C3T remained preparation for the IOT&E.

"Equipping units with the same system was a massive undertaking for PEO C3T that would require personnel across all of PEO C3T's project manager's offices, to include technical personnel who were currently engaged in preparing for the IOT&E, as well as other high priority activities," said Mr. Cellini. "The PEO could not execute the task at hand unless DA (Department of the Army) redirected priority to focus on this effort."

On Sept. 25, the Army Requirements Oversight Council did just that. It redirected priorities and

funds, including those required for the scheduled Initial Operational Test and Evaluation of the command and control systems hosted in the 4th ID, and to instead focus on the possibility of military operations commencing in Iraq, said Mr. Cellini.

The buildup

Before solutions were found to the interoperability challenges and units could be equipped to support what would be OIF, the starting point had to be understood in detail, according to Mr. Cellini.

This meant, reading horse blankets, large organizational charts with graphical depictions of each vehicle and listings of its equipment. "This was a very important part of the process," said LTC Gale Harrington, project manager of Common Hardware Systems. Starting from what the unit had, it could be understood what additional equipment was need to support the architecture.

In October, the Central Technical Support Facility at Fort Hood, working with other locations, began a process of reiterative testing and redevelopment starting with a draft blueprint of the system architecture using the types of systems that would go to the units.

At the CTSF, a model of the network was set up and simulations of actual operational and action-coordinating processes were run through the various programs and communications gear in what is called threads testing. During the tests, simulations of operational message traffic are fed into the systems, first slowly and then at increasing rates. Where there were glitches replicating messages between systems, CTSF personnel developed solutions on-the spot, according to LTC Karen Saunders, deputy director of the Operation Enduring Freedom Task Force floor at the CTSF.

The CTSF places soldiers, the requirements community, material developers, product managers, industry, software programmers, engineers and technicians, the test community, trainers and systems in one place to rapidly work and re-work such challenges, according to a CTSF briefing.

To solve the problem of information exchange between GCCS-A and MCS-L, lessons learned from MC02 proved key. Essentially, the same solution that helped the 82nd Airborne Division interoperate with the Stryker brigade during MC02 – a software interface – was also a key to OIF interoperability, said MAJ Scott.

Although designers built GCCS-A — and for the Marines GCCS-Maritime — for echelons-at-corps and above, PEO C3T also equipped GCCS-A or GCCS-M to all divisions and selected brigades, alongside and connected to the in-house digital systems, according to MAJ Scott.

Also, PEO C3T equipped the Marine Corps-developed command and control system, C2PC, to various echelons, at the CFLCC Command Center and Army units. C2PC is considered a partner system with GCCS-A for the way it reads from the GCCS databases and displays the terrain and an integrated blue-red picture, said MAJ Scott.

For AFATDS, PEO C3T solved the incompatibility by equipping units to a recent, baseline version. Users representatives from the U.S. Army Training and Doctrine Command developed materials to provide delta training, training focused specifically on the differences between the older and the newer version, according to LTC Hughes.

While GCCS-A provided the solutions for interoperability at the higher echelons, a variant of the vehicle-mounted computer, Force XXI Battle Command Brigade and Below called BFT provided interoperability at lower echelons.

FBCB2 integrates location data from a position location guidance radio into a digital terrain map housed in the computer. Both terrain and vehicle location are displayed on a monitor. The computer also provides a messaging format and delivery database as well as a graphics generating capability for unit boundaries, obstacles and routes.

To share information, FBCB2 integrates with a communications device to receive the locations of other friendly units and distribute messages and graphics. In the 4th ID, FBCB2 communicates using a data radio (enhanced position locations reporting system), as stated in the program literature.

All maneuver units at company echelon in combat during OIF were equipped with one or more BFT systems, which consists of the FBCB2 computer, the PLGR and a satellite antenna, said LTC Bullington.

Aviation units were also equipped with BFT allowing the units to see and communicate with ground units and for ground assets to see and communicate with helicopters, according to LTC Bullington.

BFT provided a live-feed view of unit locations throughout Iraq shared by every BFT user even though units were sometimes hundreds of kilometers apart. Since BFT injects data directly into the GCCS-A database by satellite, the same data was incorporated into the common operating picture seen by Army divisions, V Corps, the 1st Marine Expeditionary Force, Coalition partners and CENTCOM Headquarters in Doha, Qutar, said COL Justice.

More than 1,000 BFT systems were delivered and operational before the war, according to LTC Bullington, but delivery of systems was only half the problem. Soldiers also needed to be trained.

As the user's representative, COL Tim Cherry TRADOC system manager for FBCB2 expected unit leaders and operators to be trained and ready on the FBCB2 system and knowledgeable of how the system could help them in combat. "Our job was to assist the program manager train the Operation Iraqi Freedom and Operation Enduring Freedom units on FBCB2 in a very condensed schedule," said COL Cherry.

"We identified early on that since we only had two days to train the leaders and operators, we needed to develop a pocket-sized handbook to issue to each

operator. This handbook was written in a way for the operators to walk through the important steps of operating the system. It also gave them some suggested FBCB2 tactics, techniques and procedures."

October to March were the most hectic and most rewarding monthsof his career said LTC Bullington who with his staff coordinated training, instruction, installations, and equipment to moving targets in Kuwait, Afghanistan, Fort Campbell, Ky.; Fort Belvoir, Va.; Fort Carson, Colo.; Fort Polk, La., Fort Riley, Kan.; and three locations in Germany.

"Tobyhanna, Department of the Army staff, units, the CTSF: If they hadn't backed it 100 percent we would not have been successful. We did nothing serially. Everything was parallel," said LTC Bullington.

Tobyhanna Army Depot was instrumental in designing and delivering installation kits for the system often on very short notice, said LTC Bullington.

As the CTSF tested and retested from October to December, different versions of the computer system components of ABCS continued to be upgraded or delivered to units, including the Advanced Field Artillery Tactical Data System, Air and Missile Defense Workstation, All Source Analysis System and the Tactical Airspace Integration System, according to a program brief.

PEO C3T also designated Forward Service Representatives to provide technical assistance with units during the war and to repair or coordinate support, according to LTC Gregory Fields, V Corps representative for FBCB2 and other Assistant Secretary of the Army for Acquisition Logistics and Technology equipment.

Rear area maintenance and operations centers were established here and at Camp Arifjan, Kuwait, where spare parts were housed, maintenance and repairs were performed and computers delivered where needed, said LTC Harrington.

The actions taken to support the interoperability criteria included:

- Aside from equipping units with equipment for fixed command centers, several ground and air versions of mobile command posts were built complete with a suite of networked software and equipment delivered to corps and division commanders to run the battles from inside moving UH-60 helicopter, Bradley Fighting Vehicle or Multiple Launch Rocket System vehicle bodies.
- Divisions and selected brigades were equipped with the Defense Collaborative Tool Set, which allows net meetings with video whiteboard and chat for up to 30 personnel.

"The common thread for the digital networks used in Operation Iraqi Freedom was the ABCS systems developed by soldiers of the 4th Infantry Division," said COL Justice who said the lessons learned from the digital experience with the Fourth provided insights into three significant areas: reducing network management, beyond-line-of-sight communications and focused training. "Their impact on the ground in Iraq was being felt by the enemy well before they arrived," he said.

"I wouldn't be surprised if 3rd ID and first Marine Expeditionary Force leaders said the reason they were able to move so rapidly and prosecute the war so efficiently was because of the situational awareness provided by FBCB2," said COL Cherry. "I have heard out of the top three successes in Operation Iraqi Freedom, FBCB2-Blue Force Tracking was number two. It was a definite winner."

Timothy Rider is with the Fort Monmouth Public Affairs Office.

ACRONYM QUICKSCAN

AFATDS – Advanced Field Artillery Tactical Data System
BFA – battlefield functional areas
BFT – Blue Force Tracking
CENTCOM – Central Command
CFLCC – Coalition Forces Land Component Command
CTSF – Central Technical Support Facility
EPLRS – enhanced position locations reporting system
FBCB2 – Force XXI Battle Command Brigade and Below
GCCS – global command and control system
GCCS-A – global command and control system-Army
GCCS-M – global command and control system-Maritime
ID – Infantry Division
IOT and E – initial operational test and eveluation
MCO2 – Millennium Challenge 2002
MCS-L – Maneuver Control System-Light
PEO – C3T – Program Executive Office for Command, Control, Communications – Tactical
PLGR – position location guidance radio
TRADOC – Training and Doctrine Command

From tactical to installational 63rd Signal Battalion in Operation Iraqi Freedom

by LTC John A. Rutt and CPT Jeremiah J. Jette

Staging area for the 63rd Signal Brigade as they deployed deep into Iraqi to establish an eschelon-above-corps tactical network to support theater logistic support areas from the Kuwaiti border to Baghdad.

The 63rd Signal Battalion deployed deep into Iraq upon initiation of the ground war, and installed an echelons-above-corps tactical network that supported theater logistic support areas from the Kuwaiti border to Baghdad. The 63rd deployed three companies into Iraq on the first few days of the ground war. Company C installed communications at three different LSA sites in central Iraq maneuvering the company a distance of over 1,150 kilometers in a month and a half before reaching the final mission site.

Company A installed communications in Eastern Iraq moving twice in a few weeks across a distance of over 200 km. Concurrently, Company B moved 150 km into Iraq and supported LSA Adder at Tallil Air Base.

It became very apparent early on that this mission at Tallil would grow beyond 63rd's tactical capabilities. In this article we specifically discuss the Company B mission in Iraq because of its relevance in future operations for Signal units and give insights into solutions to this tactical dilemma.

The 63rd Signal Battalion is a Tactical EAC Telecommunications Battalion that provides digital group multiplexing line-of-sight radios, single shelter switches, EAC small extension nodes, a large extension node and commercial off-the-shelf data packages. For the mission into Iraq our higher headquarters, the 11th Signal Brigade, augmented us with numerous Promina 400 Multiplexing nodes, Tropospheric scatter radio vans, Triband and GMF SATCOM systems.

On March 23, 2003, after convoying through the desert for two days, the battalion headquarters, BATCON and Company B, arrived at Tallil Air Base, ten miles southwest of An Nasiriyah, Iraq. Tallil Air Base was liberated by the 82nd Airborne Division during the first Gulf War and had not been an active Air Base since then. It was, however, the Headquarters of the Iraqi 11th Infantry Division only days before we occupied it. The day prior, the 377th Theater Support Command commander decided to move the location of LSA Adder from the planned site in the middle of the desert to the former Iraqi Air Force Base at Tallil 30 km away. This decision would become the reason that we would ultimately take on an installational communications role.

Company B's mission was to provide voice and data communications to the 377th TSC (Foward) commanding general, his staff and operations center. The 377th TSC was responsible for opening Theater LSA Adder. Added to this mission, Company B was tasked to provide gateway connectivity between the CFLCC theater network and V Corps tactical voice and data networks. Initially, the 22nd Signal Brigade located a corps node center at Tallil where we incorporated them into our operations installing SSS to node center links to integrate the two networks. From the first hours on site and for the next five months, Company B provided services to over 40 battalion-level and higher commands in a steadily developing strategic hub of logistical support.

The tactical network

Company B provided initial services to LSA Adder by installing one Promina 400 SA trunk link providing voice, non-secure internet protocol router and secure internet protocol routers routes via Triband satellite to a large EAC communications hub at Camp Arifjan, Kuwait. An internodal was installed to the collocated 22nd Signal Brigade node center via coax cable. The early days of combat operations went smoothly as the node center terminated all corps and division units with assigned SENs. This freed Company B to provide service solely to the theater subscribers at Tallil.

At this time, the company operations functioned the same as most tactical operations cells throughout the Signal Corps. The OPS, with all the automations

support and tracking tools, was collocated with the switch and data package. As in most tactical setups, relocation and flexibility were essential, therefore the OPS set up in two Standard Integrated Command Post tents side-by-side.

As the fight steadily progressed and the corps and divisional units on Tallil were jumping to other positions north, theater-level assets, none of whom had their own SENs, were replacing them. The changing corps boundaries signified the beginning of the shift from tactical to installation communications support. Our customer support requirement increased dramatically, causing a number of challenges. Technically, we could not support the increased subscriber bandwidth requirements while single-threaded into Kuwait. Arriving units also created a much larger footprint spreading throughout the twelve square mile area of the Air Base. In order to support these units, we employed three remote SENs, four remote multiplexer combiners, one line termination unit and over 30 Campus RS digital subscribe line (PairGain) modems to transport data via two or four strand wire. The backbone was improved when the 11th Signal Brigade provided us a TSC-93C TACSAT terminal and we engineered in two TRC-170V(2), Heavy Tropo Scatter Radios, with links into a large EAC hub at Camp Udairi, Kuwait. With these additions the network became a more redundant tactical structure.

The transition to installation support, architectural enhancements

As the mission progressed, the 11th Signal Brigade provided the equipment we needed to enhance our tactical architecture and give us Directorate of Information Management-like capabilities. The 11th Brigade Systems Control also reengineered the supporting data and voice network to ensure efficient use for these systems and give us a strong architecture. These systems included a Promina 400,

Members of the 63rd Signal Battalion deployed to Iraq to install an information management network.

which we deployed into Iraq with and used with our tactical systems; a readiness command switch with 100 commercial phones; and a USC-60A Flyaway Triband Satellite Terminal satellite system. These additional systems, when used with our tactical systems, significantly enhanced our quality of service adding more direct connectivity and bandwidth for SIPR, NIPR and Defense Switched Network access. We installed a link from our REDCOM to our SSS and another link to the Air Force REDCOM on Tallil that enabled an integrated joint voice network. Once these technical and operational enhancements were complete, we were a fully functioning installation support Signal unit.

The cable system on site also experienced a transformation throughout the mission. Upon initial tactical installation, WF-16 field wire and 26-pair cable was run extensively throughout the base for telephone and data modem connectivity. After the enhancements, we ran many reels of commercial 25-pair cable to large TOC locations to install REDCOM phone lines. All cables were buried and put into conduit we made in road cuts. Support from the Engineers to dig cable trenches and road cuts was essential to this work. During this phase of the operation we installed over 225 secure and non-secure telephones, and 35 miles of field wire, coax, CAT 5 cable, commercial fiber optic cable and commercial telephone cable on the base. On the data side we supported over 450 NIPR exchange accounts and nearly 300 SIPR accounts utilizing 38 PairGain modems for onsite connectivity.

Operational enhancements

While the addition of personnel and equipment allowed us to meet the technical requirements of the customers, the structure of the company operations proved to be inadequate. Many problems were encountered during this transition to installation support. The heat and sand encountered in the Iraqi desert proved brutal to the Data Package. The SICP tents that housed the OPS didn't properly protect this equipment from the harsh environment. The number of on-shift personnel inside the operations area (about nine at any one time) was extremely space-consuming considering the equipment already in place. Lastly, the customers from all the units we supported came into the Operations tent to put in service requests and personally assist and monitor the operators' troubleshooting of links.

In order to provide better customer service we had to organize operationally like a DOIM. While the battalion control continued to focus on the larger network for covering our Area of Operations, Company B turned their company operations into a customer service desk and their switch operations cell became a technical control facility. Company B soldiers built a room in an old Iraqi building and turned it into the Tallil Air Base TCF. Using plywood and two-by-fours, the soldiers built in a channeled floor for laying cable, wooden walls and added a 66K Btu air conditioner to keep the room cool. This drastically minimized the harsh desert conditions and the reliability of the equipment increased. TCF personnel operated the equipment while monitoring and troubleshooting the communications network. The TCF managed and operated the SSS, Data packages, Promina, REDCOM switch, PairGain DSL modems, wire, USC-60, Triband and radio transmission systems. In order to control the access of customers into the soldiers'

The 63rd set up a technical control facility. Company B soldiers built a room in an old Iraqi building and turned it into the Tallil Air Base TCF.

work area, a room inside an adjacent building was set up as the customer support center. The customer support center became the interface for all the S-6s and customers as well as a help desk. An operations officer and non-commissioned officer manned the center; receiving and tracking new service requests, trouble tickets, future operations and long-term site improvements. This gave all the units on Tallil a central location to call and visit for support requirements while leaving the company's operators free from distractions.

Meanwhile the 377th TSC moved north and was replaced by the 171st Area Support Group who took control as the base headquarters. The 171st ASG Signal staff quickly stood up as the G-6 planning and coordination cell for Tallil Air Base. They split the duties between two Signal majors. One acted as the traditional G-6/Sigo and the other focused on the installation data network. Needless to say both of these individuals and their soldiers filled a niche at Tallil that really increased effectiveness for customer support. The relationship between the 171st ASG Signal staff and the 63rd was absolutely critical to the success of this mission.

Commercialization

The future for the 63rd Signal Battalion at Tallil is dependent on the transition of tactical communications systems to commercial switching and transmission equipment. The addition of two Promina node links to the Air Force deployable Ku band Earth terminal on site will replace the three satellite links and one tropo link that currently provide us with connectivity outside of Iraq. Local subscribers will be provided service by the laying of commercial communications cable (25-, 50- and 100-pair) to all the operational TOCs, work places and sleep areas on the base. Running this cable through the existing manhole system on Tallil is a large undertaking and requires Engineer support but enhances the survivability of the cable systems. All these cables terminate at the TCF, and with additional scalable REDCOM switches. We will create a dial central office that controls all the telephone and PairGain DSL modem connections throughout camp. Upon completion of these upgrades, we remove all tactical equipment from the network and prepare for redeployment back to Fort Gordon.

Lessons learned: WEB based software applications

Many of our customers arrived expecting to continue to use their Army Knowledge Online Web mail accounts as their primary email service. Simply put, AKO Web mail did not work for our customers in this environment. In the first few days, our systems were quickly overwhelmed by the need for bandwidth due to Web based email applications. The quality of service for our customers dramatically improved once we migrated our customers off Web mail and onto Exchange server accounts provided by our Data Packages. Customers were extremely pleased with MS Exchange mail because it significantly sped up how quickly they could access and work their email. At one point, we had over 450 NIPR exchange accounts and nearly 300 SIPR accounts at Tallil off our Data Package servers. If we are to support Web based applications in the tactical environment, additional bandwidth is needed to support them. We supported the Army customers at Tallil with 1.8 megabyte of NIPR and 1.2 MB of SIPR and gave them an acceptable quality of service. This was adequate to support standard Web service and Exchange email, adding WEB mail services lowered the quality of service below acceptable levels for the customer.

There are many compelling reasons for using Web based software applications, such as AKO WEB email, in the future. They provide centralized management and access, reduce the number of servers across the Army, and in some cases provide a single source of actionable data across the Army enterprise. Web based applications are certainly the wave of the future in terms of software architecture. There are many such applications in development and are being fielded in the logistics community. We will require more directly connected bandwidth in the multiple megabit range in order to provide acceptable quality of service for the customers using these applications. Also, the type of architectures these applications use needs to be regulated to ensure they are not needlessly bandwidth inefficient.

Teamwork

G-6, S-6 staffs and Signal units working together for the overall good was critical to the success of this mission. We forged a great working relationship and we all worked together as a team. We had extraordinarily good relationships with the 22nd Signal Brigade elements, the 171st ASG Signal staff and the Signal officers and networking specialists who came from the units across Tallil, to include Army, Marine and Air Force, active and reserve units. Building this relationship and attitude was a significant force multiplier for us all and is absolutely essential in all operations of this magnitude. We conducted weekly G-6/S-6 meetings with all supported units.

Changing priorities

SIPR and tactical phones were our most important services during the war. NIPR and DSN connectivity quickly became more important

immediately following major hostilities. NIPR connectivity and DSN access became the measure of our quality of service from our customers' perspective. We had to readjust priorities and the systems architecture to meet this change.

Connectivity

It became apparent that direct connectivity to the NIPR and SIPR cloud and direct DSN access was much more important than redundancy. Redundant links simply force you into bottlenecks where quality of service suffered significantly. Direct connectivity via a Strategic Tactical Entry Point site or commercial equivalents, DKET, gave us much better quality of service.

Pre-combat preparation

When installing equipment that you have never trained with before it is essential to perform a data/switchex rehearsal with the actual mission engineering data to ensure you have everything configured correctly. We had the luxury of performing a data/switchex for two weeks during reception, staging, onward movement and integration while still in Kuwait and just prior to crossing the line of departure. We fired up our newly attached Triband and GMF terminals, with all the Prominas and configured our data packages for this theater. It was long exhaustive work but getting it right during RSOI paid big dividends later. This pre-combat preparation and training was essential to the quick initial installation we achieved in Iraq.

Conclusion

As always, the success of the mission for us depended on our soldiers. It took over 450 assigned and attached soldiers for the 63rd Signal Battalion to accomplish its mission. Many of our most critical systems were provided to us as attachments from the various units

Signal officers and networking specialists came from units across Tallil, to include Army, Marine and Air Force, both active and reserve units ensuring success for the operation.

of the 11th Signal Brigade. Their competence and spirit were absolutely critical to our success. All of our soldiers were well trained and had the right attitude and leadership to work with new equipment and pull this network together. The 11th Signal Brigade provided us with the expertise and training for all of this new equipment and their support for us was truly extraordinary. All the soldiers of the battalion performed magnificently under extreme conditions in some of the most forward and dangerous places in the theater as the first EAC Signal Battalion in Iraq. Signal soldiers can and will get the message through.

LTC Rutt is the commander of the 63rd Signal Battalion. He is a graduate of the Command and General Staff College and has a masters degree in telecommunications management. His Signal assignments include battalion Signal officer, 2nd Bn., 325th Airborne Infantry Regiment; commander, Company B, 50th Sig. Bn. (Airborne) during Desert Shield and Desert Storm; small group leader for the Signal Officers Advanced Course; operations officer, 3rd Sig. Bde.; deputy G-6 for the 4th ID during Task Force XXI; executive officer of the 124th Sig. Bn. during Division XXI; chief of the Systems Architecture Branch and chief of the Materiel Requirements Division, Signal Center Directorate of Combat Developments.

CPT Jette is the commander of Company B, 63rd Sig.Bn., where he led his company into Iraq in March 2003. His past assignments include Assistant S3 Plans at the 93rd Sig. Bde., the S6 for 1-506 Infantry Battalion and a platoon leader and assistant S3 at 72nd Signal Battalion. He is a 1996 graduate of the U.S. Military Academy with a bachelor of science in electrical engineering.

Acronym QuickScan

AKO – Army Knowledge Online
ASG – Area Support Group
BATCON – Battalion Control
Btu – British thermal unit
EAC – echelons above corps
COTS – commercial off-the-shelf
DCO – dial central office
DGM – digital group multiplexing
DKET – deployable Ku band Earth terminal
DOIM – Directorate of Information Management
DKET -- Deployable Ku-Band Earth Terminal
DSL – digital subscribe line
DSN – Defense Switched Network
km – kilometers
FTSAT – Flyaway Triband Satellite Terminal
LEN – large extension node
LD – Line of Departure
LTU – line termination unit
LSA – logistic support areas
MB – megabyte
NIPR – non-secure Internet protocol router
OPS – operations
REDCOM – readiness command
RMC – remote multiplexer combiners
RSOI – Reception, Staging, Onward-movement & Integration
SIPR – secure Internet protocol routers
SEN – small extension nodes
SICP – Standard Integrated Command Post
SSS – single shelter switches
STEP – Strategic Tactical Entry Point
SYCON – systems control
TACSAT – tactical satellite
TCF – Technical Control Facility
TOC – Tactical Operations Center
TSC – Theater Support Command

Eyes of the multiple launch rocket system direct rounds to support frontline units

by Timothy L. Rider

BAGHDAD – Firefinder Radar operators from Alpha Battery (Target Acquisition), 1st Battalion, 39th Field Artillery (Multiple Launch Rocket System) normally operate well to the rear of frontline units, but one crew woke up to a new normal, March 22, in southern Iraq.

Operations had been underway only two days that early morning during the peaceful duties of waking, personal hygiene and readying for a 3rd Infantry Division convoy to start rolling once again — which it quickly did. A rally of enemy mortar fire suddenly exploded.

"We did a survivability jump. We all took off! We were driving for everything its worth," said Senior Radar Operator, SGT Nathaniel Evans. "That was our wake up call."

That day they had pushed forward until they became part of the front. "They would stop us because we had no protection in front of us," said SGT Evans of 2nd Battalion 7th Infantry Regiment and 3rd Squadron, 7th Cavalry Regiment, among the frontline infantry and cavalry troops that led the northward push to Bagdhad.

"We were receiving small arms fire, so we had to let the Infantry catch up and engage because they were still caught up in battles behind us," said SGT Evans. "We called ourselves radar infantry after that. We were radar recon."

The accordion-like process of filtering into the front was repeated, according to Section Chief, SSG Mike Jenson who frequently saw Bradley Infantry Fighting Vehicles and Abrams tanks moving by to engage troops in front of them.

"They would just pass by with a quickness and do what they did," said SSG Jensen, who mentioned that very shortly thereafter, the convoy would start up again.

After the convoy reached southwest Karbala, March 24, the radar operators set up and returned the favor to the cavalry and infantry troops. Enemy tanks were in a formation that was creating a lot of resistance for the infantry units and the tanks had support from artillery, according to SGT Evans.

Minutes after his team completed the mission to set up their Q-37 Firefinder radar systems southwest of Karbala, SGT Evans got a call on the radio from the chief fires officer: "I want to speak to Predator Niner Five," the call sign for Evan's radar team. "I just want to confirm with you that that counter fire mission resulted in four howitzers destroyed and 35 men killed."

SGT Evans then turned from the radio and said, "we're in the battle boys." He was later told that turning on the radar was the turning point in the battle. "That right there is what basically freed them to take the airport, which is what we needed to do. So they said we came up just at the right time," he said.

The target acquisition battery also provided support to direct combat units starting around 3 p.m. near An-Nasariya on the first day of ground operations according to their commander, CPT Gino Quintiliani. "We got the radar up. Immediately, (there) was almost 200 acquisitions within a couple hours. It was just amazing how quickly we acquired them and were able to put rockets and cannon fire there."

The battery responds to missions to set up their two types of Firefinder radars, the Q-36 and Q-37. The radars are capable of detecting artillery fire; its direction and a grid coordinate of the location from which it was fired.

The Firefinder system and operators determine friendly from enemy artillery and it has the capability to pass coordinates digitally to the artillery battalion where the appropriate Multiple Launch Rocket System or cannon troops can send rounds right back at

Radar Operator, Spc. Matthew Richter of Alpha Battery (Target Acquisition), 1st Battalion, 39th Field Artillery (Multiple Launch Rocket System) sights a Q-37 Firefinder radar near Baghdad.

enemy mortars or cannon, according to CPT Quintiliani.

"Basically, as soon as they fire, we know where they're shooting from and we can destroy and shut down their artillery. It puts in their mind that as soon as they fire they're gonna' be destroyed," said CPT Quintiliani.

Optimally, the time from the moment the Iraqis fired until United States artillery crews fired back is three to five minutes, said CPT Qunitiliani. "We were meeting that pretty easily."

During combat operations, the battery acquired more than 3,000 rounds, and one Q-37 acquired more than 1,800, said CPT Quintiliani.

"Every round that we got they went after something fierce," said SSG Jensen.

Two, twelve-man crews in the battery operate a Q-37, radar, which tracks artillery and rockets for the whole division zone. Three six-man crews operate the Q-36, which tracks mortar fire, small artillery and has a smaller range, according to CPT Quintiliani.

Firefinder radar operators operated well behind the frontline troops in Desert Storm and being closer was unexpected, according to CPT Quntiliani. Between six and eight kilometers from the front line trace is considered normal.

"My guys, a lot of times they moved into positions (and) were clearing bunkers and capturing prisoners and doing things you don't think radar guys and MLRS guys are supposed to be doing," he said.

The adage, "everyone in the Army is a soldier first," proved SGT Evans and SSG Jenson found an Iraqi soldier hiding under a blanket in a bunker and turned him over to a warrant officer. According to SSG Jenson, his crew experienced mortar fire daily, went through an area with a known sniper, engaged in small arms fights, cleared bunkers with grenades and recovered from ambushes.

"I've seen this stuff on TV and I was thinking I would never see myself doing this," said SSG Jensen.

The rapid move north also pressured the soldiers who keep the radars up and running, something CPT Quintiliani considered most important. Advanced radar repair specialist and spare parts were further to the rear during the rapid advance north, according to CPT Quintiliani. "If they're not up, you can't do your job," he said.

CPT Qunitiliani said, however, being there at the front was at least one of the reasons the 3rd Infantry Division was able to keep moving north toward their objective, Baghdad.

"If we had not had the target acquisition assets in place, on the right place, on the battlefield to track the rounds to put through the system and deliver fires on them, it would have been a much longer campaign."

Mr. Rider is with the Fort Monmouth Public Affairs Office.

ACRONYM QUICKSCAN

MLRS -- Multiple Launch Rocket System
U.S. -- United States

State of the art network provides faster more reliable information to the warfighter

Army Europe/5th Signal TIG provides critical warfighter capability in Iraq

by G6 Staff Members

HEIDELBERG, Germany - Hidden safely away in a shelter in Kuwait, a young sergeant, his razor sharp reflexes honed on X Box and Game Boy back in his tiny Texas hometown, gazes intently into the display of multicolored tiny rectangles and Roman numerals. The symbols are immensely cryptic to the untrained eye. He wipes the sweat from his brow, heart rate accelerating as the red and blue icons move alarmingly closer and closer together. Each icon clearly indicates the location and status of friends and enemies, locked in a nerve racking game of cat and mouse.

In a war where many had predicted disastrous coalition casualties by the tens of thousands ... the U.S. Army has emerged with losses orders of magnitude less.

In reality this is no game, but a lethal ambush in the making. A key unit of Saddam Hussein's Elite Republican Guard is bearing down on several of his closest friends somewhere in southwestern Iraq, south of the Euphrates River. The sergeant's God's-eye view of the situation provides him with a precise and timely understanding of the situation, previously unavailable.

And not a moment too soon. With a flash of his fingers on the keyboard, and a flick of the mouse, the message goes out: "Request for fire!" Using precision guided weapons the threat is quickly and effectively neutralized, with no collateral damage to civilians or infrastructure.

This situation represents thousands of scenarios that played out time and time again all over the battlefield during Operation Iraqi Freedom. In a war where many had predicted disastrous coalition casualties by the tens of thousands,

Network Centric Command and Control provided by the TIG.

the U.S. Army has emerged with losses orders of magnitude less. This has silenced nay sayers and provided tangible momentum for Secretary Donald Rumsfeld's vision of a leaner, faster, more technologically advanced fighting force.

"It's all about increasing the warfighter's effectiveness by extending the Theater's enhanced Command and Control," explains COL Mike Thompson the U.S. Army Europe's deputy G6. "The Theater Information Grid (or TIG) is the way we extend that capability from here in Europe."

The TIG is the European part of a larger Joint capability called the Global Information Grid, or GIG, which provides clear situational awareness worldwide to the warfighter. By extending this capability into Iraq, U.S. Army Europe and 5th Signal Command, in partnership with other European service components, have created a powerful force multiplier, which allows forward deployed forces to achieve Information Dominance.

The big joke these days regarding the commercial Internet is that www stands for World Wide Wait. But where Ebay shoppers can easily suffer these minor inconveniences, fast reliable access to information means life or death to the warfighter.

"Factors like bandwidth intensive C2 applications, high strategic lift, tactical mobility requirements, split based / reach back operations, and increased threats to the networks demand a capability such as the TIG."

"We are here to make sure the warfighter gets what he needs," promises COL Thompson.

In the post-cold war environment, U.S. Army Europe, headquartered in Heidelberg, Germany, has emerged as a critical and essential leader. They've done this by leveraging regional infrastructure to effectively engage in peace keeping and providing enhanced command and control capabilities in the global war on terror.

Gary Miller is the regional chief information officer responsible for providing Europe with one of the largest, most dependable networks ever developed. "We simply did what we do best," said Mr. Miller.

"We extended the fiber - fast,

fault tolerant infrastructure which we stake our reputation on here in the EUCOM (European Command) area of operation."

"By doing so we can provide the warfighter with the right information protected, in the right place at the right time. That's what command and control is all about."

During the conflict, V Corps' 22nd Signal Brigade employed six satellite communications systems called Deployable Communications Packages-Tactical in Southwest Asia and 5th Signal Command rapidly deployed four similar packages to units such as thr 173rd Airborne Brigade and the fully digitized 4th Infantry Division out of Fort Hood, Texas. These satellite communications packages extended the TIG all the way to tactical headquarters and linked those deployed units to servers and critical databases in Europe and Continental United States. Additionally U.S. Army Europe leveraged their Strategic Tactical Entry Point site (or portal) in Landstuhl, Germany. This in-place asset provides for the fully reliable up and down link into the European theater.

Attempting to extend the forward fighting force's network directly back to the states, would result in unacceptable delays and costs.

"It just makes sense to use Europe as a stepping off point," said Mr. Miller. "We're almost on the same time zone, can work synchronized with the warfighter, and have a boatload of experience in forward deployed networks."

"It just makes common sense."

During one of the most rapid assaults every performed by a military fighting force, tracking the location and status of deploying equipment and keeping supplies moving towards the troops that needed them most was a tremendous challenge. By extending the network forward to port cities and logistical staging areas, warfighters were able to maintain near omniscient visibility as to the location of critical items. The In-Transit-Visibility capability used the TIG to provide FedEx-like accuracy to the warfighter, facilitating the timing of integrating soldiers with the deploying equipment and providing an ability to rapidly divert critical supplies, personnel and equipment. BG Dennis Moran the J6 for U.S. Central Command (at the time of conflict – currently Col. Jeffery W. Foley is J6 for CENTCOM), and ultimately responsible for all the information technology which supported GEN Tommy Franks (currently, GEN John Abizaid), in Iraq. "I knew that once we could reach Europe," he said "it would all be OK."

TIG architecture

LTC Paul Chlebo, V Corp's Deputy G6 forward deployed in Iraq, emphasizes the importance of commercial satellite access provided by the European TIG to help the warfighter get the job done. "All the things we live, breathe, and die by are 'must haves' from our commercial reach back to the theater," he said. He also sees a need for more of a good thing.

"During the war, we never lost sleep over the reliability and availability of the Assault Command Post links back into theater. If we could extend this joint capability to subordinate units we'd be even more effective," he said.

It's not only about leveraging infrastructure. Often times it's expertise. During the build-up to Iraq, USAREUR effectively engineered command and control solutions for units that were never designed to work with one another. The problem is analogous to several writers, each using different word processing programs, and trying to collaborate on a document. It's frustrating and ineffective. But by using a technique known as Enterprise Architecture, U.S. Army Europe was able to reverse engineer and create the equivalent of blue prints for each of the organizations. Using experience gained during exercises in places such as Poland and Hungary, interoperability solutions were then developed and documented for each of the disparate units cut for the deployment.

MAJ Mark Shaaber is the Information Operations Officer for V Corps Operations, which led the ground offensive in Iraq. He's fanatical about USAREUR's architecture work, and sees a need to continue the work in Europe. "If we fail to seize the results of our current intensity and focus on operational and system interoperability," postulates MAJ Shaaber, "after the smoke clears, we'll be no better off than we were prior to the contingency."

These clear successes have postured USAREUR and the 5th Signal Command for success given the changing face of the U.S. military in Europe. As a part of Army transformation, EUCOM GEN James L. Jones has already proposed making radical changes to the way the U.S. military deploys itself across the face of Europe. Success stories like the TIG will surely be considered in this light. While some non-essential organizations will likely be trimmed, it seems certain that organizations like U.S. Army Europe will maintain a substantial presence, given the critical reach back afforded by capabilities such as the TIG. They're banking on their leadership role in Iraq to secure their future as a model for Secretary Rumsfeld's vision of Army Transformation in Europe.

ACRONYM QUICKSCAN

CONUS – Continental United States
GIG – Global Information Grid
ITV – In-Transit-Visibility
STEP – Strategic Tactical Entry Point
TIG – Theater Information Grid
US – United States
USAREUR – U.S. Army Europe

Special Ops Signal Bn provides special support for Operation Iraqi Freedom

by CPT Patrick Flood

Fort Bragg is the home of the United States Army's only Special Operations Signal Battalion. This organization is charged with providing support for Army and Joint Special Operations Forces including: Army Special Forces, the 75th Ranger Regiment, the 160th Special Operations Aviation Regiment, Civil Affairs and Psychological Operations, Special Mission Units and Theater Special Operation Commands.

At the time of the tragic events of Sept. 11, 2001, 112th Signal Battalion was engaged in military exercises and operations in five different countries spread across three continents.

Since reactivation in 1986, 112th Signal Battalion missions and deployments have been worldwide and continuous, providing communications support to Army and Joint SOF organizations. In fiscal year 2001, the battalion supported six overseas joint exercises, including deployments to Thailand, Jordan, Mali, Nigeria, Germany, Korea, four Joint Readiness Training Center exercises and four internal Battalion Signal Strike exercises. With only two line companies and a headquarters company, at this pace, it was challenging to maintain well-trained and deployment-ready operators, capable of operating the high tech systems.

Company C, third line company, in Eastern Iraq was activated in July 2001.

Identifying the need to restructure in order to better support training, unit readiness and deployments, LTC Robert T. Bell, former commander of the 112th Signal Battalion, (2000-2002), activated Company C as a third line company in July 2001. This allowed the battalion to institute a three-cycle training model. Each 90 day cycle is denoted by a color (red, green and amber) representing a specific focus for that company.

Each of the companies rotate through the three cycles with one company ready to deploy in support of joint and Army SOF missions at any given time. The Red Cycle is considered the support cycle. The focus of the Red Cycle company is leaves, schools and post support. The Amber Cycle company supports all missions whether in the Continental United States or outside CONUS. The Green Cycle company executes an intense training cycle consisting of ranges, technical

112th members set up the Joint Communications Control Center, Iraq.

training and certification, as well as, individual, collective and crew tasks which contributes to the company's readiness. This culminates in a Signal Strike validation exercise and Command Inspection and Mission Assumption Brief.

The validation determines whether the company is fully trained to assume mission support anywhere in the world. Through the disciplined implementation of the cycle system, the 112th Signal Battalion was trained to fight and win while maintaining an exceptional state of readiness prior to Sept. 11, 2001, and the beginning of the Global War on Terror. United States Army Special Operations Command and the Department of the Army recognized this exceptional status by awarding the unit the Army Award for Maintenance Excellence (runner-up for 2002 and 2003), and the 2002 Department of the Army Deployment Excellence Award.

Realizing the impact that the Sept. 11 terrorist attacks would have on soldiers and their families in this unit, the 112th Signal Battalion leadership stood ready to support combat operations. Within 96 hours of the attacks, Company A redeployed from Camp McKall, N.C., where it was conducting its mission assumption exercise, Signal Strike, and began crisis action planning in support of proposed operations in Afghanistan.

Company A deployed to Uzbekistan on Oct. 4, 2001, and established communications for the 5th Special Forces Group within 24 hours of their arrival. On Oct. 7, 2001, in the President's address to the nation, the President announced to the American public that he United States military [had] begun strikes against Al Qaeda terrorists training camps and military installations of the Taliban regime in Afghanistan.

Since that historical announcement, the 112th Signal Battalion has deployed over two hundred soldiers to eight countries on three continents in support of the Global War on Terrorism. Almost two years later, the 112th Signal Battalion continues to support Operation Enduring Freedom with its soldiers deployed in Afghanistan and other locations around the globe.

While the 112th remained committed to its ongoing mission in Afghanistan, the battalion deployed to Southwest Asia in support of Exercise Early Victor in September 2002. During Early Victor, the battalion established a cohesive relationship with the SOF units it supported. The rapport between the battalion and the supported units was strengthened through the establishment of procedures and the identification of key leaders and their roles and responsibilities.

In November 2002, to further strengthen the confidence in this relationship, the 112th Signal Battalion incorporated two Special Forces Groups in to the largest Signal Strike validation exercise in the unit's history with two companies from the 112th Signal Battalion deployed throughout the U.S. This experience allowed the companies to establish installation procedures, equipment strappings and recovery procedures that were synchronized with the Signal Centers for both Joint Special Operations Task Forces and Forward Operating Base Headquarters built around the two Special Forces Groups. The lessons learned during Early Victor were reaffirmed during the Signal Strike and the December 2002 Central Command's exercise Internal Look.

These exercises were designed to serve as communications rehearsal and preparation for what later became Operation Iraqi Freedom. The rehearsals were stepping-stones leading to the unprecedented speed of installation and success of the Iraqi Freedom communications network. The daunting task of supporting SOF units in OIF lay ahead, but the combination of the 112th Signal Battalion's training plan, the unit's experience and lessons learned from the deployment to Afghanistan and the relationships established with supported units during rehearsals proved to be the formula for success.

Early in the planning stages for proposed combat operations in Iraq, the Special Operations Command Central developed a plan that incorporated the 112th Signal Battalion, the Joint Communications Support Element and Air Force Special Operations Command 352nd and 16th Communications Squadrons.

The communications network developed was the largest and most complex in special operations history. Based on the connections between multiple joint units, the integration of Army, Navy, Air Force, Coalition and commercial off-the-shelf equipment, as well as the

sheer size of the network; the 112th Signal Battalion leadership was determined to rehearse the network development thoroughly.

During the rehearsal, the 112th Signal Battalion focused on satellite, data and switching networks which were complex based on the planned integration of 112th's standard Army TTC-39E, Compact Digital Switch and the JCSE IGX commercial Public Branch Exchange, as well as the integration of the 112th Standard Army FCC-100 based multiplexer and the Promina-based multiplexers of JCSE and the 352nd and 16th Communications Squadrons. These significant differences led to some creative engineering and planning of systems.

While the 112th focused on the development of the satellite and switching network, the Special Forces Groups Signal Centers concentrated on local area network configuration and the installation of the FOB tactical LAN packages. During Operation Enduring Freedom, the USASOC recognized a need for standardized LAN packages to facilitate command, control, communications, computer and intelligence systems in support of operations in Afghanistan. As the rehearsals continued, the joint communications team of the 112th, SOCCENT, JCSE, AFSOC, 160th Special Operations Air Regiment and the Special Forces Groups recognized a significant number of issues and quickly engineered the solutions, enabling them to work out the technical and operational details of the eventual SOF theater command, control, communications, computers and intelligence C4I architecture installation and operation. After successful rehearsals, each unit returned home and prepared for the holiday season.

On Christmas Eve 2002, the 112th Signal Battalion received deployment orders to Southwest Asia in support of Operation Enduring Freedom and proposed combat operations in Iraq. Having recently rehearsed the most probable courses of action, the battalion leadership was confident that if the President decided to go forward with combat operations, they would be prepared and succeed in the installation of this large, complex network. Operation Iraqi Freedom called for SOCCENT to establish a Combined Forces Special Operations Component Command as well as two separate JSOTF's, the Joint Special Operations Air Component Command, two Joint Special Operations Air Detachments, a Naval Special Warfare Task Group, and six Special Forces FOBs.

Already engaged in Afghanistan with elements from Company A, the 112th Signal Battalion Headquarters, Companies B and C deployed to the CENTCOM AOR in January 2003. In order to adapt to the evolving operational needs led to elements from the battalion S-3, Area Theater Signal Office and battalion staff deployed in a unique manner. MAJ Kirby Watson, the battalion S-3 assumed the role as the Joint Communications Control Center director for the CFSOCC headquarters along with two officers three noncommissioned officers to provide the technical expertise in network configuration, satellite, data and switching.

Shortly thereafter, LTC Peter A. Gallagher, the 112th Signal Battalion commander deployed with a small battalion tactical operations center forward to collocate with the CFSOCC headquarters. The presence of the 112th Signal Battalion (Forward) allowed for the overall command and control, administrative and logistical sustainment of 112th assets in theater, while the 112th-led CFSOCC JCCC orchestrated the communications architecture. Co-locating the battalion TOC with the CFSOCC headquarters was instrumental in the decision making process during combat operations; ensuring timely resolution of any administrative or logistical issue that may impact the overall communications architecture.

The CFSOCC J6 quickly recognized the significance of having the soldiers from the deployed units in his staff and the J6 staff received additional augmentation from the 224th Joint Communications Systems Squadron of JCSE. The 224th JCSS established a TSC-85 and multiple USC-60 terminals at the CFSOCC headquarters as a tactical solution during the planning phase of the operation which developed from this combined engineering and operations was the establishing of the 224th JCSS TSC-85 as a tactical Standard Tactical Entry Point-like system, from which the Naval Special Warfare Task Group, two 112th Signal Battalion TSC-85 terminals and a dual spoke TSC-93C terminal were provided services, normally driven from a Defense Information Systems Network STEP site.

As the first elements from the battalion deployed into theater, the 112th Signal Battalion Headquarters deployed to establish the CFSOCC JCCC. Unlike normal battalion missions, Company C's deployment

Company B set up equipment in Northern Iraq.

Company C- SOCA Team set up equipment in Iraq.

in January 2003 was monitored and assisted by elements from the battalion's Mission Support Center, Fort Bragg, as well as in the operational theater from the JCCC. As Company C arrivedin theater, the network matured from the already established Early Victor network into a robust architecture providing service to the JSOTF, the Special Forces Group headquarters, three forward operating bases and the JSOAD elements, located with one of the FOBs.

The challenge of managing the bandwidth required, simultaneously by an FOB and a Joint Special Operations Air Detachment from the SOAR, by a single TSC-93C was met by the 112th Signal Battalion's upgraded TSC-93s which incorporated the new enhanced tactical satellite signal processor, making the TSC-93C V(2), capable of multiple links. This increased capability provided the CFSOCC with additional bandwidth and flexibility throughout the operation. The challenges encountered were quickly resolved during the prior planning and rehearsals. During the operation, additional challenges were quickly solved by the combination of MAJ Watson and his team of experts embedded in the CFSOCC JCCC and the dependability and determination of the soldiers in the field.

As the network services were being installed and configured by Company C for JSOTF-West, in February 2003, Company B and the battalion TOC deployed into theater to begin operations. Because of denied entry to certain countries, the initial location for JSOTF- North's staging base could not be used and courses of action for alternate locations were necessary. Based on the new course of action, Company B was forced to jump locations several occasions in a short time period. The need for smaller, lighter, transit-case systems which would provide increased flexibility was identified as the airlift requirements for multiple units increased and JSOTF North's FOBs were moved forward with the FOB communications support packages. In order to facilitate command and control, a decision was made to jump the company's hub terminal along with the JSOTF North C2 elements.

Based on this decision, the company knew it needed to jump as fast as possible because the JSOTF would only have its SCAMPI and the three Trojan-Light systems at the FOBs as networked communications platforms. Although the SCAMPI was providing the JSOTF headquarters with basic services, the JSOTF Staff relied heavily on the 352th Communications Squadron communications package. With a delay in airlift due to the need for a C-17 capable airfield to move the legacy system TSC-85, the company arrived in its new location four days after coming off the air when they again established communications links for the JSOTF headquarters. This challenge would have been solved with smaller, lighter, transit-case systems, reducing the amount of airlift required. Company B continued to support combat operations from those new locations until "major combat operations in Iraq [had] ceased" and Company B and JSOTF-North redeployed.

By March 2003, the 112th Signal Battalion had communication assets deployed to support the CFSOCC headquarters, two JSOTFs and six FOBs in Operation Iraqi Freedom while simultaneously engaged in Operation Enduring Freedom in Afghanistan and other locations.

Upon completion of major combat operations, the next phase of the operation called for a single JSOTF in Baghdad in order to support the continued Army SOF presence in Iraq. The decision was made to establish JSOTF-West as the sole JSOTF (Arabian Peninsula) along with its subordinate FOBs. This allowed Company B, the battalion TOC and the JCCC to transition out of theater and turn command and control of the 112th assets over to the Company C commander. The task of establishing sustainment communications fell on both the 112th Signal Battalion and the JCSE.

Based on attributes, services needed and habitual relationships of both units, the 112th would continue to provide communications for the FOBs while JCSE would establish a USC-60 package to support the

JSOTF headquarters. This provided for a no-down-time solution for the transition of the JSOTF-West from one location to the next while at the same time posturing the JSOTF for commercialization and allowing for Company C, 112th Signal Battalion to refit for future operations.

OIF was the largest, most complex and successful Special Operations Communications Network in the history of warfare. This success can be attributed to the training and readiness cycle system and the detailed rehearsals and construction of relationships prior to actual combat operations.

Despite all the magnificent accomplishments of the soldiers, this operation clearly underscored the battalion's need to modernize and adapt to the changing requirements of SOF communications with smaller, lighter, more capable, more deployable communications systems.

The battalion is currently preparing to field Tri-band, transit-cased SHF terminals, Promina multiplexers and IGX switches. These system upgrades will allow the 112th to improve its future support to Army and Joint Special Operational Forces. The battalion maintains its support to special operation soldiers around the globe and continues its rigorous training to ensure it's ready anytime, anywhere; living up to its motto Penetra Le Tenebre — Penetrate the Shadows.

CPT Patrick M. Flood is currently serving an Assistant Operations Officer for the 112th Signal Battalion (Airborne), Fort Bragg, N.C. He is a graduate of George Washington University, Washington, D.C., and was commissioned through the Georgetown Reserve Officer Training Corps program. During Operation Enduring Freedom he served as the Deputy Signal Center director for FOB 32, CJSOTF-Afghanistan. During Operation Iraqi Freedom he deployed with the Battalion TOC and served as the 112th Sig. Bn. (Forward) battle captain.

Definitions

Signal Strike: An internal validation exercise to prepare companies for mission assumption.

MAITAI: Mission Assumption Inspection and Technical Assignment Inspection.

SCAMPI: Not an acronym, SCAMPI is a system that combines a T-1 carrier with bandwidth-on-demand capability. Field commanders with SCAMPI simultaneously can access secure voice, data, broadcast facsimile and video teleconferencing through a single integrated transmission path.

Acronym QuickScan

AFSOC – Air Force Special Operations Command
ATSO: Area Theater Signal Office
C2 – command and control
C4I – command, control, communications, computers and intelligence
CENTCOM – central command
COTS – commercial-off-the-shelf
CFSOCC: Combined Forces Special Operations Component Command
ETSSP – Enhanced Tactical Satellite Signal Processor
DISN – Defense Information Systems Network
FOB – forward operating base
JCCC – Joint Communications Control Center
JCSE – Joint Communications Support Element
JRTC – Joint Readiness Training Center
JSOAD – Joint Special Operations Air Detachment
JSOTF – Joint Special Operations Task Force
JCSE – Joint Communications Support Element
pecial Operations Task Force
JCSS – joint communications system squadron
LAN – local area network
NSWTG – Navel Special Warfare Task Group
SOAR – Special Operations Aviation Regiment
SOCCENT: Special Operations Command Cent
SOF – special operations forces
SOSCOM: Special Operations Support Command
Ral
STEP – standard tactical entry point
TOC – tactical operations center
USASOC – Army Special Operations Command

Training update

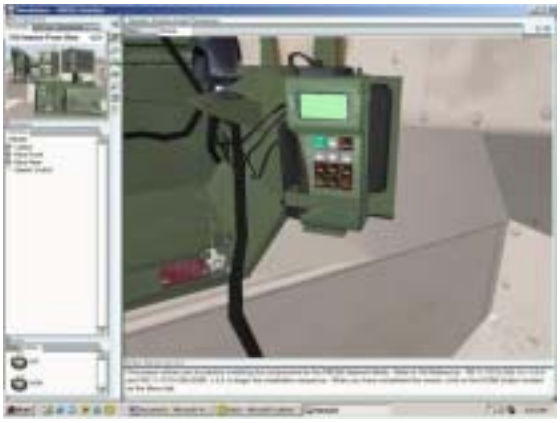
ASSIGNMENT-ORIENTED TRAINING

L S Vann

Now that all four military occupation specialties —31F, 31R, 31S and 31P — have been assignment-oriented training for at least a year, we have been concentrating our efforts on reviewing the training strategy, identifying any lessons learned and assessing the preliminary initial field evaluation results. Our efforts are helping to produce the best-trained Signal soldiers more rapidly than ever before, which has resulted in a higher morale for students due to shorter training courses and smaller class size.

Our training strategy efforts include the development of concept plans for each MOS and the conversion of lesson materials to Blackboard software. Concept plans detail the procedures and requirements to execute the current AOT training plan for each course and outline the requirements for implementing the full complement of lifelong learning tenets to avoid having to return the soldiers to the schoolhouse to receive follow on assignment training. Course conversion into Blackboard started earlier this year as well as the filming and embedding of lesson presentations and other course interactive multimedia instruction training material for MOS 31R. Other MOSs will follow. These efforts will support the distributive learning initiative for Fort Gordon's University of Information Technology's Resource Center.

A few of the lessons learned we have identified include first, the realization that training time is less flexible as far as being able to make up any unforeseen lost training time. There is a rigid schedule that must be followed to ensure all tasks are adequately trained. Second, track training assignments are basically three times higher for echelons corps and below than echelons above corps units. Third, assignment issues remain a concern. It is imperative that there be an automated system to identify track assignments as early as possible. In some cases students are being held over from class awaiting track assignments.



Course conversion into Blackboard has begun. A sample lesson is shown.

We have also been reviewing the preliminary results of the Training and Doctrine Command training effectiveness analysis study. The team surveyed commanders, 86 unit supervisors, 107 AOT graduates phase 1, three returning soldiers, and two 31R phase II instructors. Early trends among the supervisors indicated that they saw little difference between AOT and traditionally trained students. Seventy-eight percent indicated graduates were adequately prepared or better. Soldier responses revealed that AOT provided the basics and a good foundation; however, almost half had concerns about not being prepared for their next assignment if different from their current assignment.

Sixty-eight percent of the AOT graduates indicated that the AOT training they received was adequate or better in preparing them for their first duty assignments.

In conclusion, our goals for the next quarter will be to continue to monitor the progress of AOT. We have to eliminate the student wait / inactive time transitioning from the common core track to their operational track training. We need to develop systems to foresee potential problems, take appropriate action to resolve them quickly and then use our feedback mechanisms to capture lessons learned as soldiers begin to return from their first duty assignments. This feedback will allow us to adjust our training strategies and align them with what the field requires.

Ms Vann is the battalion S3 for 447th Signal Battalion, 15th Regimental Signal Brigade. The 447th Signal Battalion is responsible for implementation of the 31F, 31R, 31S and 31P MOS AOT training.

ACRONYM QUICKSCAN

AOT – assignment oriented training
EAC – echelons above corps
EBC – Echelons Corps and Below
IMI – interactive multimedia instruction
MOS – military occupation specialties
TEA – training effectiveness analysis

Multi-state Grecian Firebolt '03 communication exercise, spearheaded by the 311th Theater Signal Command from Fort Meade, Md. GF '03 provided secure-and-flexible communications through high-quality, voice-and-data communications, for the Army Reserve, National Guard and other military services and federal agencies.

Table of Contents

Features

27 **Layered information assurance defense is no tootsie roll**
CPT Chris Mongirdas

28 **GF '03 tests new communication capabilities for Homeland Defense, Global War on Terrorism**
SPC Crista M. Birmingham and CPT Patrick A. Swan

31 **103rd ACS links data to distant terminals**
SPC Eugena Roache and PVT2 Fernanda Bergerson

33 **Signal Units at Fort Dix highlight training, innovation**
SGT Joe Nye

34 **Communications prove no casualty for 319th Signal Battalion support**
Rob Schuette

34 **Firebolt communication center relocates after mock chemical attack**
SPC Crista M. Birmingham

36 **35th Signal deploys off Puerto Rico for first time in years**
SGT Ryan Matson and SPC Marimer Navarette

37 **Signal soldiers thrive on homestyle field cooking**
SGT Joe Nye, SPC Eugena Roache and PVT Fernanda Bergerson

39 **MARS volunteer radio operators train for emergency scenarios**
SFC Michele R. Hammonds

40 **442nd Signal avoids washout from Joint Thunder hail, rain and sleet**
LTC Steven R. Ranson

42 **Cisco Academy graduates charter class during GF '03**
PVT2 Fernanda Bergerson and 1LT Shawn Herron

45 **Yama Sakura's information superhighway**
SFCs Mathew Fearing and Michele Hammonds

46 **311th support to Balikatan '03 is firm and constant**
SFC Michele Hammonds

47 **311th TSC generals visit 1st Signal troops**
2LT Amanda Olney

48 **Command view: We've got the right horses**
MG George F. Bowman

49 **311th TSC binds UFL together**
CPL Jang, Seung-mo

311th Theater Signal Command:
MG George F. Bowman, 311th TSC Commanding General
BG Conrad Ponder, 311th TSC Deputy Commanding General
COL Joseph DeJohn, 311th TSC Chief of Staff
COL Thomas Lawracy, Grecian Firebolt '03 Exercise Commander
CPT Patrick A. Swan, 311th TSC Public Affairs Officer
SFC Michele R. Hammonds, PAO NCOIC

Photo credits: SGT Robert Jones, Detachment 1, 444th MPAD; 55th Signal Combat Camera, SSG Brian Lamar

Layered information assurance defense is no tootsie roll

by CPT Chris Mongirdas

The "tootsie-roll" concept emphasized securing the gateway connections to outside networks but did not deploy many internal security measures. This was known as "hard on the outside but soft on the inside."

The biggest change in today's information architecture is the enhanced emphasis on information assurance. The Grecian Firebolt 2003 design has migrated away from yesterday's tootsie-roll information-assurance defense posture and towards a multi-layered protection design. The tootsie-roll concept emphasized securing the gateway connections to outside networks but did not deploy many internal security measures. This was known as "hard on the outside but soft on the inside."

Additionally, most network compromises originate on the inside (at least in commercial industry). We needed to develop habits that analyzed the protection of data assets without compromising the performance of the customer's service. We knew that tighter security could lead to performance degradation. It was up to us to find the correct security and performance balance.

Our integrated layered security tightens as traffic traverses deeper into the network. Past practices allowed internal users to operate under an "allow all; deny by exception" policy. We've migrated to a "deny all; allow by exception" policy. We've applied this further downstream to the battalion level. This is analogous to a walled castle design. We have created walls within walls. We further scrutinize traffic as it traverses through the walls into the most secured inner core. Not every person needs access to the throne room.

We approached our IA policy knowing that all involved units are required to communicate with each other but do not require open freedom to probe other site's assets. We created realms of trust to identify who had what privileges to what assets.

Realms of trust help us determine who needs access to given resources. Realms of trust help us determine the relationship between joint, interagency and multi-national assets.

Our information technology realms of trust are based on a need-to-know basis that lets us determine who accesses our resources. We asked ourselves who truly needs access to what resources.

Designing in this fashion is more labor intensive but is outweighed by the security benefits.

These realms of trust are the underpinning for this concept of layered information assurance. We are demonstrating this with Federal Emergency Management Agency.

From a planning standpoint, we will evaluate what resources need to be shared with non-Department of Defense agencies. While FEMA will not require access to military personnel records, they may need access to the network architecture diagrams.

Another security measure being used is the intrusion detection system. In the future we will migrate this into an intrusion prevention system. We are deploying IDS sentries (known as sensors) to all the major unit enclaves. These sensors forward their information to the 311th Theater Signal Command IDS Console.

The 311th will analyze the exercise-wide IDS picture and use the aggregate sensor data to look for data anomalies and potential threats. Simultaneously, we will forward the exercise-wide data up to the Network Enterprise Technology Command, our higher Signal headquarters. What may have seemed insignificant at the theater level maybe seen as significant at NETCOM's Army-wide picture. The challenge is to parse the enormous amounts of data and recognize the legitimate threats.

We've mitigated some technical-competence shortages by hosting a GF data exercise (known as the data-ex) in April 2003. The data-ex began with a network overview of the four major sites and an overall understanding of the Grecian Firebolt design. The emphasis was on making sure that all unit participants understood that their network was part of a bigger picture and that all changes could have a ripple effect throughout the network. We then mimicked the network in a lab-like environment and provided hands-on training. Our hands-on training included Cisco Pix Firewalls, routers, Codem multiplexers, and FCC-100 multiplexers.

Philosophically, as Army communications migrate to an IP-centric network, Signal soldiers must become technically proficient in securing IP-network traffic. To ensure the validity of our information and to keep intruders away from that information, this is not a nice-to-do effort. We must do. Our soldiers at the proverbial "pointy end of the spear" are counting on us.

CPT Mongirdas works in the 311th Theater Signal Command's Operations Directorate.

Acronym QuickScan

DoD – Department of Defense
FEMA – Federal Emergency Management Agency
GF – Grecian Firebolt
IA – information assurance
IDS – intrusion detection system
IP – internet protocol
IPS – intrusion prevention system
IT – information technology
NETCOM – Network Command
TSC – Theater Signal Command

GF '03 tests new communication capabilities for Homeland Defense, Global War on Terrorism

by SPC Crista M. Birmingham and CPT Patrick A. Swan

FORT MEADE, Md. – More than 700 soldiers training worldwide in Grecian Firebolt 2003, tested new communication capabilities, systems and initiatives to protect the United States homeland and win the global war on terrorism in June.

The 311th Theater Signal Command received about $1.4 million as the executive agent for the exercise.

"Striking Back With Connectivity," this year's theme, defined the GF '03 mission for installing, operating, maintaining and protecting a communications network. With its robust, secure, viable and global capabilities, such a network allows war fighters anywhere in the world to put steel on target to win the nation's wars, said MAJ Richard Dubreuil, a GF planning and operations officer. It also assists federal agencies in denying terrorists opportunities in the American homeland.

Such training is important because, as MAJ Dubreuil said, "Communication technology, vital to the modern electronic battlefield, is constantly evolving. The military must adapt to these changes."

The Army Reserve's 311th TSC, based at Fort Meade, ran the overall exercise, which connected several stateside posts, plus one in Hawaii and several in the Republic of Korea.

"We provided secure and flexible communications for this exercise through the use of reliable, high-quality, voice-and-data communications," MAJ Dubreuil said. "We employed several new systems, most of which are from the commercial world or what we term as commercial-off-the-shelf equipment, or COTS. We also rediscovered some old capabilities, such as high frequency, or HF, for our single-channel communications."

"We were doing more than just getting a better phone connection," said MG George F. Bowman, commander of the 311th TSC. "Grecian Firebolt '03 is a key training element in helping the Army determine its future theater signal communication requirements. This allowed us to get the tools we and our supporting signal units needed to stay on par with war fighters' demands around the world."

A soldier sets up communications equipment during the Grecian Firebolt exercise.

Successfully accomplishing its objective without relying on active duty personnel for the first time, a new precedent was set at the annual communication exercise.

"This is really the first year where we've done all the work ourselves without any active duty planning or support or equipment," said MAJ Dubreuil.

Active component units had previously deployed to Afghanistan and Iraq for real world conflicts and were unavailable to participate in GF this year.

BG James Dougherty, commander of the 261st Signal Brigade, which worked primarily out of Fort Dix, N.J., said this year's exercise had a different pace because of those other real-world deployments.

"It shows the importance of the work we do and it was great to see the young leaders develop," BG Dougherty said. "We take people out of their homes, out of their civilian mindset and then we work them [for] long, hard hours."

MAJ Dubreuil said that Grecian Firebolt in the past has always been a network operations exercise sponsored by Army Signal Command (now re-designated as Network Enterprise Technology Command/9th Army Signal Command).

"For the last two years, they've been engaged in Iraq and Afghanistan providing force and assistance," he said. "Otherwise, we would have had a full complement of teams to help us with the network. This year, all they could provide us with was an evaluation team to come out."

The annual GF signal exercise, with the 311th TSC acting as execu-

tive agent for the past two years, featured units at several different Army installations and Army Reserve facilities, such as Forts Gordon, Dix, McCoy, Shafter, A.P. Hill, Indiantown Gap and training areas in South Dakota and the Republic of Korea. Participating signal units and federal agencies included the 516th Signal Brigade; 261st Theater Signal Brigade; 422nd Signal Battalion; 35th Signal Battalion; 318th Signal Battalion; 103rd Air Control Squadron; the Federal Emergency Management Agency; the Military Affiliate Radio System; and Map Series Fort Meade.

The 103rd Air Control Squadron signaleers from Orange, Conn., set up a large tropospheric dish on site (Fort Meade, Md.,) to send and receive signals for the annual Grecian Firebolt exercise in June.

One of the keys to the success of Grecian Firebolt, MAJ Dubreuil said, is that it provides a venue for Air and Army National Guard and Army Reserve signal soldiers to come together and build a network from scratch that focuses on skills that many do not use on a daily basis like the active component signal troops.

Using some of that new communication equipment, MG Bowman placed the first phone call in the Army Reserve using voice-over internet protocol. In June of this year, he spoke to BG Jan Hicks, chief of the Army Signal School at Fort Gordon, Ga. With about a $150,000 equipment investment, a typical signal unit can save up to $1 million a year using VOIP.

Using voice-over IP was just one example of how this year's exercise was different from previous ones.

"Traditionally, one thing the Guard and Reserve really lack is the ability to transmit and receive data and get the critical information down to the combat commanders," MAJ Dubreuil said. "Until now, we have been operating off of what we call legacy systems, which can't send the high-capacity email traffic that you or I have at our houses, such as DSL (digital subscriber line) and cable modems."

This year, 311th TSC members were able to procure the equipment, configuring it for the network and providing the ability for all of their down trace signal battalions to reach up to very strategic resources including step sites and strategic entry points.

"It's like a simple DSN (Defense Switching Network)," said MAJ Dubreuil.

Besides HF, the exercise employed such communications modes as unclassified (NIPR) and classified (SIPR) voice and data, and video teleconferencing.

"We used the Defense Collaborative Tool Suite, or DCTS, to communicate with federal agencies, such as the Federal Emergency Management Agency and the Department of Homeland Security," MAJ Dubreuil said. "This provided an important platform for testing interoperability with each other."

"This is the type of exercise we need to test ourselves," said SPC Jason Mead, of the 261st Signal Brigade, operating at Fort Dix, N.J. "If it doesn't work, we know we need to fix it."

Signal units used frequency modulation and high frequency for the Homeland Defense scenarios to obtain single channel communications. Signaleers successfully tested C4ISR satellite to tactical satellite interoperability; voice over IP; tactical high speed data network to tactical theater SIPR gateway connectivity and IP based VTC. Additionally, GF provides secure and flexible communications for joint, inter-agency and potentially multi-national commanders through the use of reliable high-quality, voice and data communications for more than 6000 customers.

MAJ Doug Dexter, from the National Capital Regions Information Operational Control, headed a team of consultants that performed information assurance for the exercise. "It's our job to come in and assess the security of all the systems which run data traffic and determine if they're up to Army standard or not and provide assistance."

Both MAJs Dexter and Dubreuil had stories of problems that were tackled and overcome by various team members. SPC Elba M. Bonilla, deployed to Fort Meade from the 35th Signal Battalion based in Puerto Rico. SPC Bonilla worked an interoperability issue that established the first time the 311th TSC had a single shelter switch, a TTC56, in the network in the Army Reserve. During the exercise signal soldiers had problems trying to get voice connectivity with Korea over tactical means.

"(SPC) Bonilla directed the active duty folks in Korea on how to bring down their switch and bring it back up so that it was configured properly to talk back to us," MAJ Dubreuil said. "Now (MG) General Bowman can pick up his tactical telephone and call the 1st Signal Brigade commander. That is all because a single specialist from the Army Reserve was able to figure it out back here."

One supporting Signal unit hailed from the Air National Guard – the 103rd Air Control Squadron.

"It was my first field exercise and I enjoyed working with the Army. I learned from them and hopefully they learned from me," said AFC Stephen Lizardo, 103rd ACS, which assisted operations at Fort Dix and Fort Meade.

The 319th Signal Battalion trained its soldiers at Fort McCoy, Wis., as part of GF '03.

PFC Robert Parra, a multichannel transmission systems operator-maintainer, said Fort McCoy's unique landscape provided favorable locations to set up and use their equipment.

SPC Carlos Nazario added that the 24-hour scenario allowed unit members to provide services, receive customer feedback and make adjustments, as necessary, based on that feedback to better serve customers.

1LT David Levy, an automation officer for the 3rd Medical Command of Decatur, Ga., said the 319th's communications support allowed for much faster communications than the unit could have had otherwise. The 3rd MEDCOM spearheaded Operation Golden Medic 2003.

"It helped us get the information in a more real-time (basis)," Levy said. "We needed the information as quickly as possible to move patients and coordinate those movements. They gave us outstanding support."

The 35th Signal Battalion, which staged its first stateside deployment from its home base in Puerto Rico in 14 years, supported Golden Medic from Fort Gordon, Ga.

"Getting all the units together is a good idea," said SGT Cesar Del Valle, 35th Signal Battalion. "I would like to see [even] more realism in the training, especially more NBC training."

Nine members of the U.S. Army Pacific G-6 staff and Detachment 1, 311th TSC, participated as well, from Fort Shafter, Hawaii.

"Grecian Firebolt '03 provided USARPAC's new deployable C4 package (command, control, communications and computers) the opportunity to train with the 1st Signal Brigade in the Republic of Korea," said MAJ Mary E. Dixon, acting chief of the G-6 Tactical Support Division and operations officer of Detatchment 1, 311th TSC.

"We successfully interfaced our USARPAC satellite system with the 1st Signal Brigade's new TSC-85C," MAJ Dixon said. "We also worked on challenging interfaces between our commercial post-base exchange and their tactical switch matrix unit."

Contractors from G-6 for the C4 package manned the satellite system 24 hours a day.

Here, MG Bowman said the 311th's Cisco Academy supported both network operations and information assurance measures.

"This allowed us to apply all the modern IA processes and tools at our disposal," he said. "We're doing all this while the Army is at war. We are taking the lessons learned from the field and then refocusing on what skill sets our soldiers need to have to support the commanders in the field."

With periods of intense hail, lightning, and a tornado warning, the Nevada Army National Guard's 422nd Signal Battalion found the annual Joint Thunder exercise lived up to its name.

The joint exercise included the elements of the South Dakota, Wyoming, Colorado, and Nevada National Guards, the Army Reserve, U.S. Air Force and U.S. Navy. The exercise, spread out over 8,000 square miles in western South Dakota and northeastern Wyoming, featured 1,400 service members from 12 states. The battalion provided access to both government and commercial telephone networks, Internet services and secure Internet services for Joint Thunder and also as its contribution to GF '03.

"This was excellent training because there were unique opportunities to train in weather and terrain we were not used to," said MAJ Vernon Scarbrough, commander of the 422nd Signal Battalion, headquartered at the Nevada Army National Guard Washoe County Armory in Reno, Nev.

With the training and financial support of the 311th TSC, MAJ Pete Menicucci, the battalion's S3, or operations-and-training officer, said the signal battalion was able to perform a highly technical mission. For example, in a previous year's exercise, the 422nd used one router for two consecutive years at the same exercise. In contrast, this year, the Nevada unit brought seven routers and six computers.

"This year was much more technical," MAJ Menicucci said. "The speed of delivering and receiving messages is quicker than two years ago when the 422nd performed AT (annual training) here."

As for GF '04, MG Bowman said he expects it to be just as exceptional as this year's exercise.

"Why not?," he said. "We (Signal soldiers) bring our vast military and civilian information-technology experience to benefit the Army as a whole. I always say you can run in the races — if you have the right horses. At the 311th TSC and our down-trace Signal units, we have got the right horses — because we've got the best people."

SPC Birmingham is a recent graduate of the Defense Information School, Fort Meade Md.

CPT Swan is the public affairs officer for the 311th Theater Signal Command.

Editor's note: *SGT Courtney G. Vickery, a journalist assigned to the 516th Signal Brigade in Hawaii, and LTC Steven R. Ranson, is a staff officer with the Nevada Army National Guard, and soldiers from the 444th Mobile Public Affairs Detachment also contributed to this article.*

Acronym QuickScan

AT – annual training
C4 – command, control, communications and computers
C4ISR – command, control, communications, computers, intelligence, surveillance and reconnaissance
COTS – commercial-off-the-shelf equipment
DCTS – Defense Collaborative Tool Suite
DSN – Defense Switching Network
HF – high frequency
IA – information assurance
NIPR – non-secure internet protocol router
SIPR – secure internet protocol router
THSDN — tactical high speed data network
TSC – Theater Signal Corps
VOIP – voice over internet protocol

103rd ACS links data to distant terminals

by SPC Eugena Roaché and PVT2 Fernanda Bergerson

FORT DIX, N.J. — You pick up your phone, you dial the digits and someone you wanted to speak with is on the other end of the line. It takes only a few seconds, but many things are happening before, during and after you dial that make the transmission possible.

This year, the 103rd Air Control Squadron, Connecticut Air National Guard, was a hub in a network of communications synced as part of Grecian Firebolt 2003. The network, which includes several other stations, transmited and received data during the largest peacetime communications exercise in the world.

The 103rd ACS' specialty is data link connectivity. Several sites of tropospheric scatter communication systems were installed to establish links with distant terminals.

The 103rd supplied communication links, and worked together with Army Reserve units 311th Theater Signal Command, of Fort Meade, Md., and the 305th Signal Company from Tobyhana, Pa.

"We're here to supply communication links with the tropospheric scatter," said Air Force MSG Paul Wiedermann, as he pointed to a nine-and-a half-foot antenna at Fort Meade, Md. "We're working in conjunction with the 305th, using their equipment with our own. We have both Army and Air Force all working together, and we're getting the job done."

The 103rd, from Orange, Conn., has participated in GF for more than 10 years, and is one of six units that are at Fort Dix supporting the joint exercise. Each year, GF tests each unit's capabilities and many see it as an opportunity to develop and excel. The 24-hour operations, split into 12-hour shifts, provide a great deal of exposure for the airmen.

"The most important reason for our participation in exercises like Grecian Firebolt is that our troops receive the best possible training in anticipation of real world contingencies," said Air Force MSG Barry T. Jones, of the 103rd.

The sentiments regarding the purpose of this year's exercise remain consistent with previous Grecian Firebolts.

A signaleer from the 103rd Air Control Squadron, Orange Conn., sets up equipment out in the field at Fort Meade during the Grecian Firebolt exercise in June.

"This is the best training that they'll get this year. I'm learning a lot myself," said Air Force 2LT Daniel Stafko, 103rd officer in charge. Lately, our unit has been more involved in satellite operations. "They're learning about things that you never think about when there's nothing wrong."

Airmen of the 103rd used the TRC-170 for the tactical station which is mobile. It is also called the tropo, because it bounces waves off of the troposphere.

The 103rd airmen spent nearly eight hours assembling the tropo's 15-foot-high antennas that employ dishes nearly 10 feet in diameter. The equipment is dual polarized, which allows it to send and receive data. It comprises the center of the hub by making transmissions possible.

During the exercise, 18 airmen of the 103rd linked up with 18 additional unit airmen at Fort Meade, Md. "We supply communication links between Fort Meade, Korea and Fort Dix and several other sites," said MSG Wiederman, of the 103rd ACS.

"What we receive, we forward to the Army," said Air Force Senior MSG John D. Cuomo. "Army" signifies the 174th Signal Battalion, which is being augmented by the 35th Signal Battalion. Both units are among those participating in GF '03.

Each unit's mission is different, yet they are co-dependent, which exemplifies the idea behind the combined-force exercise.

Within the 103rd, the teamwork is commendable. "They're doing great and the morale is good," said 2LT Stafko.

According to MSG Cuomo, the self-sufficient unit houses 22 different Air Force specialty codes, or trades, ranging from cook to intelligence specialist, though many are comprised of those in the manned aerospace maintenance field.

More than 700 soldiers participated in Grecian Firebolt '03 to test new communication capabilities, systems and initiatives during the annual communications exercise held in June.

Most hold dual or multiple qualifications; however, one of the airmen in this year's exercise is fairly new to the 103rd. AFC John Burr, an Aerospace Ground Equipment Technician, has been with the unit for less than one year. He was "training up" during the GF '03, in preparation for possible deployment. On the second shift he checked and maintained integral equipment, such as generators and coolers, which kept the equipment from overheating.

Air Force MSG John Cucurello, noncommissioned officer in charge, trained AFC Burr. Cucurello referred to AFC Burr's function as life support. He said that "everything it takes to make this (tropo) work, we take care of it." He praised the two airmen working with him. "I'm just here to train. They're doing all the work."

This exercise inevitably depends on a generator – the initial source of power – and all of the manpower, equipment, and functions in-between. Each step is a careful and sometimes tedious one. This is how Grecian Firebolt tests the integrity of each unit's work and assures its growth, according to military officials.

Those efforts did not go unnoticed. MG George F. Bowman, commander of the 311th TSC, presented coins of excellence to three 103rd ACS airmen. The coin presentation caught the three Air Guard members by surprise.

"We thought we were in trouble when we were told we had to go speak to the general," said AFC Michael V. Perry. In contrast, the airmen were being recognized for the hard work they had done. MSG Berry Jones, the noncommissioned officer in charge of the 103rd operation at Fort Meade, recommended the three airmen for the award.

The awardees were SSG Milton Alvin, SA Angela Klapperich and AFC Michael Perry.

"It was exciting; it gives you a sense of accomplishment for doing something and being recognized for it," said Alvin, who has been in the Air National Guard for eight years. SA Klapperich joined the Air Guard in 2001 and Airman Perry graduated from technical school in April 2003.

SPC Roache writes for the 444th Mobile Public Affairs Detachment, Deleware National Guard.

PVT2 Bergerson is a recent graduate of the Defense Information School, Fort Meade, Md.

Acronym QuickScan

GF – Grecian Firebolt

Signal units at Fort Dix highlight training, innovation

by SGT Joe Nye

FORT DIX, N.J. – A smaller, but just as vital, Grecian Firebolt 2003 emphasized training and innovation in the signal field in June.

"Between (operations in) Afghanistan and Iraq, there (are) no active duty soldiers in this exercise." said CSM David Carden, operations sergeant major of the 261st Signal Brigade and a 31-year Army veteran. Hence, he said, this exercise is smaller than usual.

The annual exercise is still a multi-component exercise with elements of the Guard, Reserve and Air Guard," added CPT Wiley Blevins, training officer for the 261st, a National Guard signal unit.

As in many past Grecian Firebolts, new technology played a major role.

"The digital age is on the battlefield," said CPT Blevins, a 17-year Army veteran. "We (used) voice, data, VTC (video teleconference), and the 280th Signal Battalion (used) the single shelter switch at Fort Meade, Md." That was the first time it was used by the National Guard."

The delay time between when active duty units receive the latest technology and when National Guard (and Reserve) units receive the same equipment is rapidly shrinking.

CSM Carden said this was the first time the 261st had used THSDN, or Tactical High Speed Digital Network, which ran a digital signal run from Fort Meade, Md., through Fort Dix, and on to Korea. They also used Cisco routers in the Triple S switches, another first time for the Guard.

CW Tim Lewis of the 261st', said, "I've been giving single channeled ground-to-air radio system (signal radio) classes and the soldiers have been like sponges, asking questions and learning a lot more."

Signal units received additional training in force protection and drivers training, because these units are mobile by nature.

The Task Force's goals include providing signal support to communication subscribers, POLEX (petroleum, oil and lubricant exercise) participants and to simulate combat support," CPT Blevins said.

Along with POLEX, based out of Camp Shelby, Miss., Grecian Firebolt '03 also lent communications support to Golden Medic '03, based out of Fort Gordon, Ga., and Fort McCoy, Wis.

Another of the 261st's goals was to provide secured and non-secured Internet protocol routing to the exercise subscribers.

"Our telephone and internet system (were) switched into Fort Meade. We wanted to connect the end user and let them talk to everyone on the network," said CPT Blevins.

Those subscribers here from the 261st Task Force included the 198th and 280th Signal Battalions and the 259th Signal Company from the Delaware National Guard, along with the 35th Signal Battalion from Puerto Rico and the 103th ACS from the Connecticut Air Guard. The 311th Theater Signal Command at Fort Meade oversaw the exercise as a whole.

All told, the exercise, which kicked off its 2003 edition under rainy conditions, carried communications to eight different states (Delaware, New Jersey, Maryland, Pennsylvania, Georgia, Wisconsin, South Dakota and Hawaii) as well as Korea.

"We're the phone company of the military," said 1SG Rand Johnson, a 25-year military veteran whose first Grecian Firebolt was in 1991. "We help give battlefield commanders command and control."

Besides providing real-time communication support throughout the exercise, the 261st Task Force sponsored two separate trips for rest and relaxation to New York, where soldiers visited the World Trade Center Ground Zero site, the Statue of Liberty, NBC television studios, among other city landmarks.

"The visit to Ground Zero was most interesting but very sad," said SGT Ricardo Baez, 35th Signal Battalion.

"I loved it, especially Ground Zero," said SPC Donna Williams, 198th Signal Battalion. "The NBC tour was great. We got to see where '*Dateline*' is shot and we also saw the '*Saturday Night Live*' sets."

"I enjoyed it very much. I went to the NBC studios and Planet Hollywood," said PVT Amanda Keene, 261st Signal Brigade. "We also went to FAO Schwartz and saw the piano that Tom Hanks danced on in the movie '*Big*.'"

SGT Nye writes for the 444th Mobile Public Affairs Detachment, Delaware Army National Guard.

Acronym QuickScan

NIPR – non-secured Internet protocol router
POLEX – petroleum, oil and lubricant exercise
SINCGARS – single channel ground-to-air radio system
SIPR – secured Internet protocol router
SSS – single shelter switch
THSDN – tactical high speed digital network
VTC – video teleconference

Communications prove no casualty for 319th Signal Battalion support

by Rob Schuette

FORT MCCOY, Wis. – When moving combat casualties for medical treatment, every second counts. The ability to communicate clearly and quickly from combat medics to a field hospital is essential to keeping wounded soldiers alive.

In the Golden Medic '03 exercise held in June, the 319th Signal Battalion helped medical specialists save such lives, in battlefield training simulations.

CPT Pamela Barnett, public affairs officer for the 319th Signal Battalion unit based in Sacramento, Calif., said the unit's mission was to operate a communications network supporting units involved in various contingencies, such as a medical treatment and evacuation scenario, and in fighting terrorists. The 319th regularly provides voice, data, video teleconferencing and many other types of communication possibilities between units and their headquarters.

The 319th's scenario play was part of the overall, multi-state Grecian Firebolt '03 communication exercise, spearheaded by the 311th Theater Signal Command from Fort Meade, Md. GF '03 provided secure-and-flexible communications through high-quality, voice-and-data communications, for the Army Reserve, National Guard and other military services and federal agencies. Barnett said the 319th's performance could provide the Army key information in helping it determine its long-term requirements for theater signal communications.

Several 319th communications soldiers said they liked the training opportunities at Fort McCoy.

PFC Robert Parra, a multi-channel transmission systems operator maintainer, said the landscape provided favorable locations to set up and use their equipment.

SPC Carlos Nazario said the 24-hour scenario allowed unit members to provide communication services, receive customer feedback and make adjustments, as necessary, based on that feedback to better serve customers.

Among the 319th's specific tasks was testing equipment new to the unit, such as a Triple S (single shelter switch). CPT Barnett said the equipment worked well.

"We're like a phone company," CPT Barnett said. "We provide communications to support units, such as the base cluster set up here as part of Golden Medic."

1LT David Levy, an automation officer for the 3d Medical Command from Decatur, Ga., said the 319th provided communications support that allowed for much faster communications than the unit could have had otherwise.

"It helped us get the information in a more real-time (basis)," 1LT Levy said. "We needed the information as quickly as possible to move patients and coordinate those movements. They gave us outstanding support."

The units participating in Golden Medic 2003 received an accurate picture of the communication challenges they would face when they are deployed to support a real-world contingency, 1LT Levy said.

Mr. Schuette is a public affairs specialist at Fort McCoy, Wis.

ACRONYM QUICKSCAN

GF – Grecian Firebolt
Triple S – single shelter switch

Firebolt communication center relocates after mock chemical attack

by SPC Crista M. Birmingham

FORT MEADE, Md. – A whiff of confusion struck signal operations here one night in June during the annual training exercise, Grecian Firebolt 2003.

In a simulated attack, a SCUD missile with known chemical agents struck the tactical communications operations center at the 311th Theater Signal Command.

Fortunately, the 311th's team of soldiers clad in nuclear, biological and chemical suits was ready to move. The nuclear, biological and chemical team went to mission orientated protective posture Level 4. They checked the area for contamination and quickly evacuated everyone from the TCOC.

"We moved everyone to a predetermined decontamination site and performed a hasty DECON to remove any chemical contamination from soldiers," said SSG Robert Weaver, the 311th TSC's NBC noncommissioned officer. "We sent another NBC team out forward to check our jump site, where we would relocate our operations. Once we got to the jump site, they determined that there were no chemical agents."

"I thought the training was great and well-planned,"

said SPC Paul Black, who was working at the help desk when the training activity occurred. "It showed expert leadership, and at no point did I think there was disarray."

This scenario was one of those listed on the Master Scenario Event List, according to CW Edwin Sugai, exercise evaluator from Network Enterprise Technology Command / 9th Army Signal Command, Fort Huachuca, Ariz. "We do this to test the synergy among the staff sections," he said.

In another MSEL scenario, five soldiers listed as missing-in-action drove a white pickup truck by the TCOC area and sprayed an unidentified agent into the air. The substance could possibly have been a chemical agent. Weaver and a team of five soldiers in full MOPP gear were sent to investigate the situation. They used an M256 kit and M9 chemical agent detector paper to test for the presence of harmful agents. Soldiers inside the building donned only their protective masks as a safety precaution.

A soldier examines chemical paper, testing for the presence of nuclear, biological or chemical agents during Grecian Firebolt exercise.

Weather factored into training, too. When temperatures rose into the high 80s, soldiers were allowed to modify their uniforms. However, in a real-time war situation, it is unlikely soldiers would modify their uniforms because of the heat, Weaver said.

Weaver regularly advises the command on NBC warfare and defense matters as they apply to theater signal operations. It was his mission to plan and recommend requirements for NBC defense operations and assist in preparation of the chemical annex of plans and orders. He also plans and supervises overall NBC training and provides technical supervision over NBC defense throughout the command.

In addition to working with NBC teams, SSG Weaver makes sure all soldiers in the unit know how to don their protective gear. SSG Weaver checks 311th TSC troops to see if they can demonstrate drinking water from their canteens all while in MOPP chemical suits, and can conduct a proper decontamination operation.

So that training will be more realistic, even the NBC teams were not given any prior knowledge of what the scenario would be during GF '03, said SSG Weaver.

In this case, the nighttime chemical attack against the TCOC forced them to displace and go through decontamination procedures, CW Sugai said, who observed how well they did.

Eight other evaluators from active and Army Reserve units from various parts of the country also were on hand throughout GF '03.

"The unit did well," said CW Sugai. "They have trained hard. SSG Weaver runs a good program and I know he has put a lot into it. We look at the total unit and we will do an after-action review to unit commanders. They will use it to try to improve next year's evaluation."

SPC Birmingham is a recent graduate of the Defense Information School at Fort Meade, Md.

Acronym QuickScan

DECON – decontamination
MSEL – master scenario event list
MOPP – mission oriented protective posture
NBC – nuclear, biological and chemical
TCOC – tactical communications operations center

35th Signal deploys off Puerto Rico for first time in years

by SGT Ryan Matson and SPC Marimer Navarette

FORT GORDON, Ga. – In an age of global communications, the more languages a person knows, the better and faster the message may be relayed and understood.

This is especially true for a unit like the 35th Signal Battalion, based at Fort Alan, Puerto Rico, whose soldiers' first language is primarily Spanish. However, these soldiers perform all their military communications in English.

"We are professional enough to know when to distinguish when and where we can speak Spanish and when to conduct business in the U.S. Army official language, which is English," said 1LT Juan Gerardo Marín, Company A commander. "We have no problem with that. When we are among ourselves, if it is necessary, we speak Spanish; if not, we just speak English,"

Language appeared to be no barrier to several individual 35th Signal soldiers who, since December 2002, excelled as honor graduates in the 31L course, and as two distinguished honor graduates in the 74B course.

But the unit as a whole had not deployed from their island to the mainland United States to test their skills in nearly a decade and a half. That changed in June 2003 when the unit "stormed" the beaches at the port of Charleston, S.C., and then 190 of its soldiers convoyed to Fort Gordon to support the "Golden Medic '03" exercise. About 55 soldiers provided communication support at Fort Dix, N.J., and Fort Meade, Md.

The 35th Signal Battalion, part of the larger, multi-state Grecian Firebolt '03 exercise, provided secure and flexible communications for joint, interagency and potentially multi-national commanders through the use of reliable, high-quality voice-and-data communications for more than 6,000 customers.

A TTC-48 Small Extension Node is removed from a ship in Charleston, then driven to Fort Gordon, Ga., for Grecian Firebolt, in support of the Golden Medic exercise. Seventeen pieces of equipment, from the SEN to 39D switches, TRC 173-174s and TRC-138s were used by members of the 35th Signal Battalion as part of the exercise.

"It was a challenge," said CSM Denis Cintron, 35th Signal Battalion. "We hadn't been deployed as a unit from Puerto Rico for 14 years. (But), it was outstanding training, and we really wanted to do it."

"We were selected because we were readily available and motivated to participate in the exercise," said LTC Juan Rosa, 35th Signal Battalion commander. "It was a tremendous learning process for us. We have many soldiers in the unit who are just getting back from school for information systems operators / analysts, and this exercise gave them the chance to use their training in action."

The unit established, for the first time, both voice and data communications, including non secure internet protocol router and secure internet protocol router and video teleconferencing capabilities. The unit also created its own data packs, which allowed NIPRNET capabilities.

"In the past we just concentrated on doing voice communications," Rosa said.

"There were a lot of adjustments that had to be made," said CPT Shari Barfield, Company C commander, 35th Signal Battalion. "When you train within the battalion, you don't have to adjust that much. This time we had to. It was great to interact with different units and see what our communications can do in the real world.

The 7th Transport Group from Fort Eustis, Va., aided in the unit's deployment. LTC Rosa said 17 pieces of equipment essential to accomplishing the mission were

transported, including two 39D digital communication switches.

For the small 35th Signal contingent at Fort Dix, N.J., despite the weather was very different from what they were used to on the island, the Puerto Rican soldiers seem to acclimate very quickly.

"When we got off of the airplane, on Saturday, the temperature was near 50 degrees. Compared to 80 in Puerto Rico, it was a little bit colder than we were used to; but with the proper attire, you can handle any type of weather," said 1LT Marín.

The 49 soldiers were responsible for five communication systems, and for laying cables and wiring at Fort Dix for GF '03.

According to MAJ Rafael Serrano, the 35th Signal Battalion conducts many operations in the Puerto Rico area. It has also deployed for training in Central and South America as part of humanitarian mission and peace keeping operations of the Southern Command, in places like in Honduras, Guatemala, Nicaragua, El Salvador, Panama, Venezuela, Colombia and México Serrano said.

At Fort Dix for GF '03 the 49 soldiers were responsible for five communication systems, and for laying cables and wiring.

Even with such extensive overseas experience, though, this year's annual training was different because the 35th Signal trained with new equipment.

"We still have (in Puerto Rico) the older version of the system that we are operating here," 1LT Marín said. "Yes, this equipment is a little bit different than the type we have, but overall, if our soldiers are MOS (military occupational specialty) qualified, they know what to do. It will take us more time to get started, but we will do it,"

1LT Marín explained that the integration for training at Fort Dix between the Army Reserve's 35th Puerto Rico and the Delaware National Guard's 261st Signal Brigade for this exercise was flawless.

"We received plenty of support from the 261st and I am pleased we have received most of the equipment that we needed. Of course, every time you are going to perform a mission like this, you will have some items that need to be handled, but the treatment we have received has been outstanding," 1LT Marín said.

SGT Matson is the military editor for The Signal *newspaper at Fort Gordon, Ga.*

SPC Navarette writes for the 444th Mobile Public Affairs Detachment, Delaware National Guard.

ACRONYM QUICKSCAN

NIPR – non-secured Internet protocol router
MOS – military occuptional specialty
SIPR – secured Internet protocol router

Signal soldiers thrive on homestyle field cooking

by SGT Joe Nye, SPC Eugena Roache and PVT Fernanda Bergerson

FORT MEADE, Md. — Signal soldiers involved in Grecian Firebolt 2003 may thrive on the jolt derived from communicating through thousands of miles, but they actually live on the food prepared for them by the cooks.

On a normal GF day, hundreds of soldiers pass through the dining facility. Meal preparation takes more than four hours, and clean up takes about two-and-a-half-hours, said SGT Leonard S. Woolfolk Jr., a cook for the 311th Theater Signal Command. SGT Woolfolk, along with three other cooks provided hot meals for hungry soldiers here.

"A cook is like a doctor," said SGT Woolfolk. "You take food and doctor it up to people's liking and make it appeal to the five senses. Troops come in and expect a good meal. I wouldn't serve anything I wouldn't eat myself."

AFC Jennifer Gonzales prepares a dish for GF '03.

While chow is normally served in the unit's dining facility, when in the field, Woolfolk and crew use a mobile kitchen trailer.

In addition to supplying meals to the troops, cooks supplied all guest units with water in the field, filling large basins with chilled bottled water for all personnel that participated in GF at the 311th TSC.

Meanwhile, at Fort Dix, N.J., cooks from the 261st Signal Brigade introduced the Army's newest field rations to the troops.

"We used unitized group rations meals and they were great," said MSG Henry Fields, 261st Signal Brigade S-4 noncommissioned officer-in-charge. "With those meals, we could have steak and eggs for breakfast, and the meal comes with everything you need, even a plastic bag for clean up. It helped keep the morale of the soldiers up."

CPT Samantha Kabi, acting S-4, said the UGRs are the newest field meal and approximately 50 percent of the meals are precooked.

"Of all the Army meals, these are the best ever," she said.

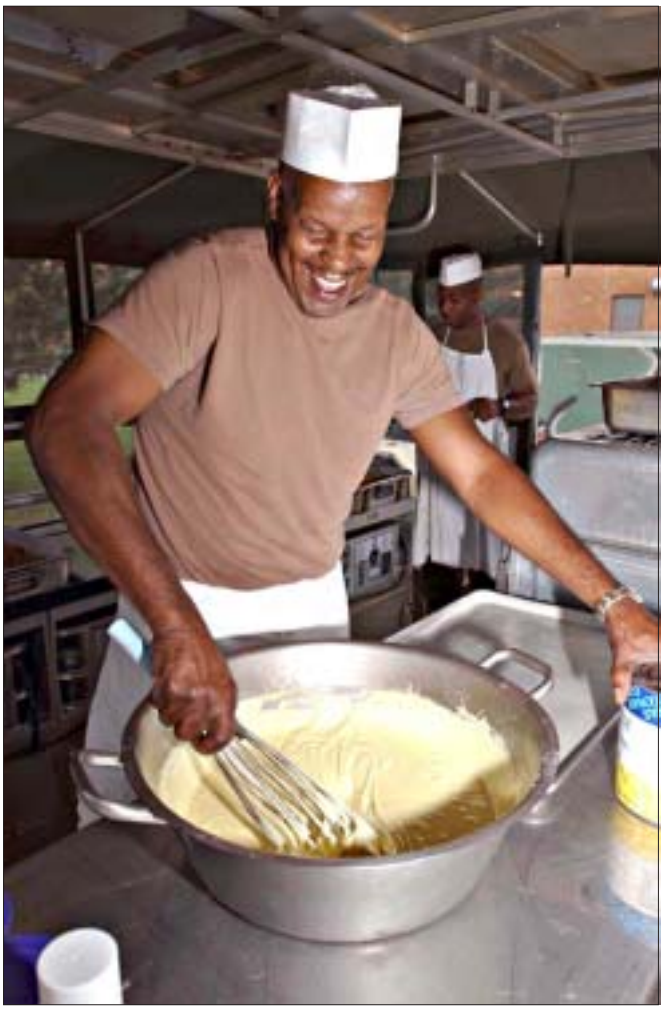
To feed the task force of more than 160 soldiers, meals were drawn every three days from the Troop Issue Subsistence Activity and ice was picked up every day at Fort Dix for soldiers that participated in the exercise.

The cooking was divided up between the 261st and the airmen of the 103d Air Control Squadron, of the Connecticut Air National Guard.

"We brought the cooks together and then after the first few days we divided them into two groups," said Fields. "It worked out that the Army and Air Guard guys each wanted to work with their own units, so we traded off every day who was responsible for the meals."

The trade-off made for some friendly competition, but no one lost sight of the final goal: to feed the troops.

"The 'U.S.' on our uniforms doesn't just stand for United States, it [also] stands for 'us', a team," said SSG Harry Legates Jr., the acting food service NCOIC. "Working with the Air Force was outstanding."



SGT Leonard S. Woolfolk Jr., a cook for the 311th Theater Signal Command, whips up batter in preparation for a meal at Fort Dix during Grecian Firebolt '03. He said preparation takes up to four hours and clean up takes two hours.

A hot breakfast and dinner were served every day with a meals-ready-to-eat for lunch.

Additionally, fresh fruit like bananas and oranges were available all day.

"The overall preparation and taste of the food was great," said CPT Troy Blumhorst, S-3 of the 261st Signal Brigade. "The steak on the grill for Father's Day was great and I especially liked the cheese omelets in the morning."

Nevertheless, field cooking can pose unique problems.

"The way that the weather has been has made it a little difficult," said Air Force SSG Manny Montanez, senior cook for the 103rd. "By the time the soldiers get their food and come out to get their condiments, the food is already a little cold. But, we all face that."

Air Force SSG Shannon Weathersby said she still gets a thrill out of cooking for others.

"I love to cook," said Weathersby, who hopes to open her own restaurant one day. "Serving the meal to the Army guys, they were shocked we had smiles on our faces. I liked how the soldiers appreciated eating our food."

Of course, after a full day of meals, the dishes don't clean themselves; that's where the kitchen patrol come in.

"I had KP on my very first day here and it helped me get to meet everyone," said SPC Shannon Haisman. "It was a long day, but it was fun."

Acronym QuickScan

ACS – Air Control Squadron
GF – Grecian Firebolt
KP – kitchen patrol
MRE – meals-ready-to-eat
NCOIC – non commissioned officer-in-charge
UGR – unitized group rations

SGT Nye and SPC Roache write for the 444th Mobile Public Affairs Detachment, Delaware Army National Guard.

PVT 2 Bergerson is a recent graduate of the Defense Information School at Fort Meade, Md.

MARS: volunteer radio operators train for emergency scenarios

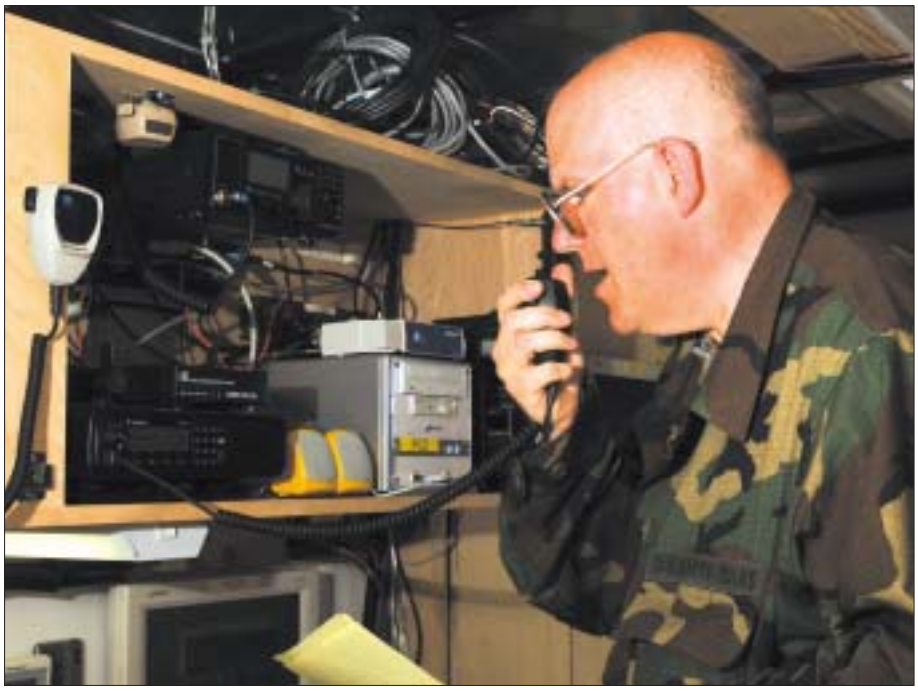
by SFC Michele R. Hammonds

What if the United States suffered another terrorist attack similar to Sept. 11? Or, in other news events, if forest workers involved in controlled burning of a dry wooded area loose control of the situation as hundreds of thousands of acres of land, homes and businesses are destroyed in the western part of the country? Terrorist attacks that destroy thousands of lives and forest fires, which completely annihilate an area and leave many persons homeless and displaced aren't uncommon nowadays. But it is events such as these that the Military Affiliate Radio System thrives on.

Real life events such as these were similar scenarios handled by Network Enterprise Technology Command / 9th Army Signal Command MARS assets deployed to Fort Meade in direct support of the 311th Theater Signal Command. The MARS volunteers participated in Grecian Firebolt, one of the largest peacetime communications exercises headed up by the 311th TSC held at Fort Meade in June 2003.

The MARS consists of volunteer amateur radio operators that have members spread across the United States. Robert Sutton and Robert Hollister, both long time MARS members, deployed to Fort Meade where they established the MARS forward deployed operations center for Grecian Firebolt in mid June. They spearheaded the MARS operations which included fixing commercial communications links, receiving and sending messages and other information on scenarios and crisis onto government and relief agencies.

"We erected three tactical high frequency antenna systems to include NETCOM Grecian Firebolt 2003 Fly-Away Radio System," Mr. Sutton said. "We established a very high frequency radio link to Global Army MARS System via the Eastern Area Gateway at Fort Dietrich, Md."



John Scoggin, Eastern Area Emergency coordinator and 11 other Military Affiliate Radio System volunteers and two Junior Reserve Officer Training Cadets deployed to Fort Meade in June to take part in Grecian Firebolt. They assisted operations at the Emergency Communications Unit, a mobile van. Once on the ground at the 311th TSC, Scoggin put the MARS Emergency Communications Center to work. Volunteers for MARS are part of the Network Enterprise Technology Command/ 9th Army Signal Command.

Eastern Area MARS Coordinator, Mr. Hollister, whose operational area includes 1,100 volunteer members, had a chance to work alongside Mr. Sutton during GF.

"During GF our role was to both stimulate the exercise play and coordinate the efforts of the MARS members as they report on simulated terrorist activities," he said. "One of our goals was to demonstrate capability of passing messages of the simulated terrorist activity."

John Scoggin, Eastern Area Emergency Coordinator and 11 other MARS volunteers and two Junior Reserve Officer Training Cadets also took part in GF. They assisted operations at the Emergency Communications Unit, a mobile van. Once on the ground at the 311th Theater Signal Command, Mr. Scoggin put the MARS Emergency Communications Center to work in support of GF. Mr. Scoggin used his own money and sought assistance from other Army MARS members in Delaware to finish building the van prior to the exercise.

"After Sept. 11, I thought MARS needed something in case of emergency management and we didn't have a consistent system," Mr. Scoggin said. " I thought it would be interesting to build a van."

During the four days of the ECU on-the-air operations at the 311th TSC, they handled more than 500 simulated emergency messages, which were processed from 23 states, Puerto Rico and Germany.

"This is a significant improvement over GF 2001, in which MARS recorded 140 messages," Mr. Sutton

said. “Previous exercises and training has significantly improved our operations since GF01.”

The MARS volunteers initiated terrorist scenario activities in 36 states, Puerto Rico and Germany. They submitted via MARS radio links Essential Elements of Information and other reports based on Homeland Security scenarios. Additionally they conducted a phone patch to a State Department Office in the Washington, D.C., area through high frequency radio link to a State Department Station in Florida.

“This exercise proved that MARS can ‘Walk-the Walk’ and we have already received numerous positive comments from our customers,” said Mr. Sutton.

“We are already preparing for GF04 and determining what MARS can do to strengthen our goal of being directly involved in Homeland Defense and Homeland Security in support of the 311th and other government agencies,” Mr. Sutton said. “The volunteer members are the key ingredients to a successful future.”

SFC Hammonds is the Public Affairs noncommissioned officer-in-charge at the 311th Theater Signal Command.

The Military Affiliate Radio System consists of volunteer amateur radio operators that have members spread across the United States. They spearheaded the MARS operations which included fixing commercial communications links, receiving and sending messages and other information on scenarios and crisis onto government and relief agencies.

Acronym QuickScan

ACS – Air Control Squadron
ECU – Emergency Communications Unit
EEI – Essential Elements of Information (report)
GF – Grecian Firebolt
MARS – Military Affiliate Radio Systems
NETCOM – Network Enterprise Technology Communication
TSC – Theater Signal Command
VHF – very high frequency

422nd Signal avoids washout from Joint Thunder hail, rain, sleet

by LTC Steven R. Ranson

THE BLACK HILLS, S.D. – With periods of intense hail, lightning, and a tornado warning, the annual training exercise, Joint Thunder ’03, lived up to its name in late June.

Because of heavy rains in the Black Hills, the 422nd Signal Battalion, Nevada Army National Guard, had to relocate two signal sites when the units they were supporting moved to higher and drier ground. In addition, one camp had to be moved off a newly discovered archeological site. Another was moved because an endangered species of bird was found nesting in the area. And yet another shifted to a second site because of cattle grazing on U.S. Forest Service lands.

Toss into the mix an early-morning Nuclear Biological Chemical attack and a hilly terrain that stymied good line-of-sight transmission.

The result?

A resounding annual-training success for all units involved, said a Nevada Guard spokesman.

The joint exercise included the elements of the South Dakota, Wyo-

Soldiers adjust large tropo (tropospheric) dishes to send and receive signals in the Black Hills landscape during Joint Thunder '03.

ming, Colorado and Nevada National Guards, the Army Reserve, U.S. Air Force and U.S. Navy. The exercise, spread out over 8,000 square miles in western South Dakota and northeastern Wyoming, featured 1,400 service members from 12 states.

"This was excellent training because there were unique opportunities to train in weather and terrain we were not used to," said MAJ Vernon Scarbrough, commander of the 422nd Signal Battalion, headquartered at the Nevada Army National Guard Washoe County Armory in Reno, Nev.

The unit includes members from the Reno-Sparks area, Fernley, Fallon, Carson City (to include Dayton) and Las Vegas.

"The soldiers we had out here did double duty and they did it admirably," said SFC Ron DeMet, Headquarters and Headquarters Detachment, 422nd Signal Battalion. "Soldiers in all the companies performed well above the standards. We did a lot more with a lot less, but that is where the Army is headed and we need to make it work."

As a detachment sergeant, SFC DeMet worked closely with the troops on the ground and he made sure all soldiers had food, lodging and a viable mission.

The only major challenge SFC DeMet said he faced was a shortage of personnel.

"A lot of units that were originally going to participate in Joint Thunder were already deployed," said SFC DeMet. Some units previously scheduled to participate in this year's two-week exercise were deployed to the Persian Gulf.

BG Ray Carpenter, assistant adjutant general for South Dakota, said lessons learned from prior Joint Thunder exercises have been invaluable in Iraq.

"The biggest struggle was communications," said BG Carpenter. "Signal units provided tactical communications (among the units) over there…and they honed their skills at Joint Thunder."

The Nevada Guard's 422nd Signal Battalion was tasked as a command-and-control headquarters for five signal companies: two from Colorado, and one each from California, Nevada and Maryland.

"This was a challenge in itself," said MAJ Pete Menicucci, the battalion's S3, or operations-and-training officer. "These units really don't work with each other. They are not in our routine command and control."

Except for the 440th Cable and Wire Co., located in Las Vegas, Nev., the 422nd has had little prior contact with the four other companies. Signaleers from the 311th Theater Signal Command, based at Fort Meade, Md., oversaw Nevada Guardsmen demonstrate their command-and-control functions.

With the training and financial support of the 311th TSC, MAJ Menicucci said the signal battalion was able to perform a highly technical mission. For example, in a previous year's exercises, the 422nd used one router for two consecutive years at the same exercise. In contrast, this year; the Nevada unit brought seven routers and six computers.

"This year is much more technical," MAJ Menicucci said. "The speed of delivering and receiving messages is quicker than two years ago when the 422nd performed AT (annual training) here." The battalion provided

SGT Joe Thomas (left) and SPC Gary Schall, members of the 440th Cable and Wire Co., roll up cable during annual training.

access to both government and commercial telephone networks, Internet services and secure Internet services.

Near the end of the exercise, MAJ Menicucci said everything came together.

"I'm pleased that the communications links stayed in. And, while the weather was clearly a big challenge, soldiers did their jobs well," he said.

Both MAJs Scarbrough and Menicucci, said the weather and terrain have given the battalion a "feel" for its next two-week mission in the rugged landscape of the Republic of Korea, scheduled March 2004.

LTC Ranson is a staff officer with the Nevada Army National Guard.

Editor's note: *SFC Michele R. Hammonds contributed to this article.*

ACRONYM QUICKSCAN

AT – annual training

Cisco Academy graduates charter class during GF '03

by PVT Fernanda Bergerson and 1LT Shawn Herron

FORT MEADE, Md. – In June 2003 during this year's Grecian Firebolt exercise here, the 311th Theater Signal Command graduated the charter class of its Cisco Certified Associate Program, commonly referred to as the Cisco Academy. The academy is a joint venture of the Army and Cisco Systems.

Graduates received their diplomas from MG George F. Bowman, commander of the 311th TSC.

"I feel like a proud parent," he said. "I always say you can run in the races if you have the right horses. We at the 311th TSC have got the right horses. We've got the best people right here."

It has only been a year ago that MG Bowman told the first students (now graduates) that, "This training will help you become better soldiers, more technically and tactically capable, and make you better in your private careers, better equipped to handle the networks that are out there."

MG Bowman challenged students then to "think through the

interfaces, to think through the bottlenecks in our networks as we put them together, so that we can provide secure networks for our customers, so that we can protect our networks from intrusion. Just as we protect our soldiers from harm, and we protect our facilities from outside intruders, we must protect our networks."

After the presentation of the diplomas, the ceremony continued in one of the classrooms used by students.

"Students train here everyday, weekends and drills," MG Bowman said. "We opened it up so folks can come in here and train on their own. They have access to the systems, the racks, the servers, the whole works."

Also attending the graduation ceremony were BG Gary Profit, deputy chief of the Army Reserve; BG Velma L. Richardson, deputy commanding general of Network Enterprise Technology Command / 9th Army Signal Command; COL John W. Ives, Fort Meade's installation commander and Fort Meade's CSM Earl L. Ware.

Currently, there are three Cisco Academies under the supervision of Fort Gordon's Regional Center. The one located at the 311th Theater Signal Command has the distinction of being the only of its kind at a Reserve unit. The Regional Center certifies that the high standards imposed by the course are maintained throughout the year.

"The Regional Center visits the academy twice a year to supervise the training of the instructors, ensure proper usage of the equipment and implement any changes in the curriculum," said LTC Michael E. Bowie, director of the School of Information Technology at Fort Gordon, Ga.

CW Robert K. Denmark, of the Warrant Officer Division at the U.S.

Army School of Information Technology in Fort Gordon, Ga., said the Cisco program was designed for non-profit organizations, schools and universities — and adapted to the Army's needs.

To place its soldiers on the forefront of the technology chase, the 311th TSC opened its own academy in 2002, offering top-of-the-line computer networking training. It was MAJ Bernard Smith, Cisco Academy director, 311th TSC, who had begun the process of building an academy at the 311th TSC with the support of the Fort Gordon Regional Cisco Office.

MAJ Bernard Smith, 311th TSC, Cisco Academy director, provides a demonstration of the network capabilities of the classroom. MAJ Smith, in conjunction with the Texas National Guard in Austin, successfully demonstrated voice-over Internet protocol communications.

"Today, whether you provide satellite, voice or data communications," said MAJ Smith. "it all links to a router. Having someone trained to configure those routers and associated network designs is critical to successful Signal operations in today's network centric Army."

In order to become certified by Cisco and meet Army training requirements, the 311th TSC's academy had to comply with strict standards from Cisco, the Fort Gordon Regional Cisco Office and the US Army Signal School. Some of those requirements included a facility and equipment to support the training and meet operational requirements, Cisco trained and certified academy instructors, technical proficiency relevant to the organizational mission, a Smartnet agreement and a memorandum of agreement between the 311th TSC, the Fort Gordon Regional Cisco Office and Cisco. The MOA outlined operational, administrative and auditing requirements.

The 311th TSC's academy currently provides instruction in semesters one through four of the Cisco networking curriculum that leads to the Cisco Certified Networking Associate level certification. While the course is primarily designed to train soldiers to use the equipment, they are encouraged to acquire Cisco's industry certification.

"The training culminates with technicians and Signaleers technically proficient in understanding and designing both tactical and strategic network architectures in an integrated environment," said MAJ Smith. "The Cisco Academy Program enables Signaleers to further understand information technology plug-and-play operations as part of the Signal Corps' new transformation."

The Cisco curriculum is part of the occupational training for enlisted soldiers and noncommissioned officers in military occupational specialty 74B, warrant officers with 251A and 250N specialties and officers branched 25A or holding functional areas 53, 24 and 30 designations. The active duty version of the course at the regional Cisco Academy at Fort Gordon, Ga., is approximately eight weeks long. For a typical reservist who performs only two weeks of active duty training a year, this makes maintaining technical proficiency in required networking skills a particular challenge.

The time Reserve soldiers spend in the classroom and curriculum is equal to that of the six-month, active-duty version, which is divided into two sections. First, students learn about computer basics, local and wide area networks the basic concepts on routing and protocols and network troubleshooting, management and security.

The second part further delves into the subjects touched on the first section. Additionally, network switching and design are intro-

duced. There are a minimum of 12 hours per week of instruction plus access to labs and online content. Prior to graduation students apply their acquired knowledge on a practical exercise. It involved designing a network, defining its costs, and training needs software and hardware necessities. The successful completion of the program allows graduates to take the Cisco Certified Network Associate Certificate, an essential tool for today's networking professional, according to officials.

In the past, if a signal soldier could pick up a green phone, dial a number and connect, it was a go.

But that's not good enough anymore, said MAJ Kenneth Runyon, network operations development officer, 311th Theater Signal Command.

"The level of knowledge required to set up and deploy systems with the new network standards continually rises," he said. "Everybody now requires email, access to Web resources and web-based reporting systems to do their jobs. That is all data networking and it's all new."

MAJ Runyan said the Signal Corps needs to maintain its transmission-oriented competencies and expand the data-oriented services it provides.

But, with its own academy, the 311th TSC is able to offer the classes in a part-time evening-and-weekend schedule. MAJ Smith said the academy is a testament not only of the ingenuity of the Army Reserve in overcoming the challenge of maintaining go-to war readiness with only 62 training days per year, but also of the commitment level of the individual reservist who is willing to spend 12-16 hours a week of their personal time to stay technically proficient.

Following MG Bowman's remarks at the graduation, MAJ Smith, whom MG Bowman called its 'mastermind', gave a demonstration of the network capabilities of the classroom. MAJ Smith, in conjunction with the Texas National Guard located in Austin, Texas, successfully demonstrated voice-over internet protocol communications.

"That link is part of a high-speed, secured tunnel of voice-over IP (Internet protocol) telecommunications worldwide. It will save the Army hundreds of thousands of dollars. Furthermore, it will improve the military computer and security capabilities.

Next, MAJ Smith, in alliance with a representative from the Federal Emergency Management Agency Office in Denton, Texas, demonstrated the Defense Collaborative Tool Suite conjunction. Interoperability of these various systems would prove invaluable to the command-and-control support on a digital battlefield, he said.

Not only soldiers within information technology specialties receive training from the Cisco Academy. SFC Kathleen O'Meara, an administrative specialist, said her MOS will soon be merged with others. SFC O'Meara said she anticipates that the course will enhance her skills in whatever she does in the Army. SSG Tammy Spencer, an automated logistics specialist plans, to leave the 311th TSC when she retires from the Army this fall.

"I always wanted to know more about computers," she said. "This will also help me after I retire." SSG Spencer said she wants to work in the Information Technology field.

MAJ Smith's vision for the Cisco Academy includes not only soldiers of the 311th TSC, but leaders throughout reserve units nationwide. With the implementation of the Cisco Academy, the 311th TSC aims to become the Army Reserve's reference point for computer networking training, he said.

PVT Bergerson ia a recent graduate of the Defense Information School, Fort Meade Md.

1LT Herron is the former 311th Theater Signal Command public affairs officer.

Acronym QuickScan

CCNA – Cisco Certified Networking Associate
IP – Internet protocol
MOA – memorandum of agreement
TSC – Theater Signal Command

The 311th supports other exercises similar to Grecian Firebolt at several locations globally. Some of those exercises are described here.

Yama Sakura supports information superhighway

Exercise Fuji-Yama Sakura

by SFCs Matthew Fearing and Michele R. Hammonds

FORT MEADE, Md. — Six soldiers of the 311th Theater Signal Command joined members of the 108th Signal in deploying to Camp Higashi Chitose, Japan, in support of Exercise Fuji-Yama Sakura, in early January 2003.

Yama Sakura, an Army command post exercise co-hosted with the Japanese Ground Staff Office, annually involves thousands of active duty and Reserve United States and Japanese forces. The exercise took place on the Hokaido Island in the city of Chitose, located in northern Japan.

MSG Joan Collins, a network administrator and help desk specialist, led the team of signaleers from the 311th Theater Signal Command. Daniel Tsuhako, a network engineer for U. S. Army-Japan's plans and automation section, and his team put together the computerized communication system in days. He assembled his team from elements of the 108th Signal from South Carolina, 804th Signal from Hawaii and the 311th TSC.

"This was a great training exercise that enabled us to put our skills to work in laying network cable, configuring computers and providing help desk services," said MSG Collins, who supervised 16 signal soldiers. "We worked closely with the Japanese soldiers throughout the exercise in setting up and maintaining network and telephone support."

Mr. Tsuhako and his team of 14 soldiers were among the first to arrive to set up computer systems. Six cable installers of the 108th Signal and eight automaters split from the 804th Signal and the 311th TSC were among the advance party who weathered below-freezing temperatures as they provided network support in getting computer systems up and running.

"We set up and troubled shooted network problems, such as switches cables, connectors, PC (personal computer) software, PC hardware, telephone connections, media converters, and routers," said SSG John Hughes, a network systems supervisor, who brought his cold weather boots in preparation of frigid temperatures. After having participated in a number of the Yama Sakura exercises, SSG Hughes, who is assigned to the 311th TSC, knew the weather conditions to expect.

"Our Army-issue boots will not work in that environment," he said. "It snowed every night and froze, which made walking continually hazardous."

Initially Mr. Tsuhako was concerned that the line leased to provide the Internet connection to Camp Zama wasn't up, but he checked everything he could. Mr. Tsuhako and his team, strung together the computer lines that were the framework for this exercise. The signaleers set up a leased computer line capable of 768 kilobytes per second to connect with the U.S. Army's gateway at Camp Zama 600 miles away. To those having used the computers, this connection appeared transparent, SSG Hughes said. Then the signaleers set up the lines for Internet and Intranet access.

Military officials said Mr. Tsuhako's team had the whole system up by mid January, and were ready for exercise participants and players. They had 450 terminals up and operating with 248 of the possible 254 internet provider addresses taken and approximately 350 intranet slots of a possible 508 slots used. The network remained up until Feb. 2. Mr. Tsuhako said that once the exercise ended, it would take about 24 hours to take everything down and ready for shipment to Camp Zama.

As Mr. Tsuhako quickly pointed out, there were actually two network systems operated: the Internet and a closed system (intranet), or local access network. This command and control LAN was the heart of the exercise and was only available to exercise participants in Camp Higashi Chitose.

The signalers also had been plenty to work on between getting the network up and when it was to be taken down. The information management control cell rebuilt the hard drives of five computers that were damaged in shipment. There had been minor problems with the intranet that were easily resolved as well as protective action taken against the SQL computer virus that hit Asian computer networks in late January. Routers were systematically cut off during the isolation process and computer users were instructed to update their virus protection programs and signature files to prevent computers from receiving the bug. Fortunately, none of the computers in the Yama Sakura network were infected.

Thinking ahead for next year's Yama Sakura, SSG Hughes said the training signalers received from the exercise was invaluable and recommended that the 311th TSC continue to send its soldiers again.

"The exercise is a good learning experience and its part of our theater of operations," he said. "Yama Sakura helps us learn our allies' culture.

As for Mr. Tsuhako, this will be his last Yama Sakura exercise.

"My biggest reward is when the soldiers learn more," Mr. Tsuhako said. "This Yama Sakura has been 'good training up' for them."

PFC Alan Schorn, a switch operator from the 78th Signal Battalion, Camp Zama , sat nearby splicing a connector to a CAT-5 cable. PFC Schorn echoed Mr. Tsuhako, "I'm learning quite a lot (from Mr. Tsuhako)."

SPC Henry Flowers, also from the 78th Signal, said Mr. Tsuhako taught him how to reconfigure computer hard drives and "how to dig deeper into computers." SPC Flowers ran cable lines and worked with a team configuring computers.

"It was a new experience seeing the (computer) structure go up," SPC Flowers said. "Yama Sakura, overall, has been a really good experience."

The teams worked in shifts; days, swings, and midnights, SPC Flowers added, "We stay around until the job was done. When I checked back an hour later, the gator line problem had been fixed; and another job had been successfully completed."

SGT William Leyden, US Army Japan G6 section, talked about working on teams and with Mr. Tsuhako. "It's nice. (The system) is complex and I still have a lot to learn, but it helps being broken off into teams (to do the work)."

Whether it's the communication with the Internet, intranet, servers or people on the other end of the terminal, multi-component Army teams, such as this one at YS, provide the primary access links for the computerized communication highway essential for successful training.

SFC Fearing is the senior broadcast non-commissioned officer-in-charge with the 105th Mobile Public Affairs Detachment, Kansas Army National Guard Topeka, Kan.

SFC Hammonds is the public affairs NCOIC at the 311th Theater Signal Command.

Acronym QuickScan

C2 – command and control
C4 – command, control, communications and computers
CMO – civil military operations
DSN – Defense Switched Network
IP – internet protocol
kbs – kilobytes per second
LAN – local area network
NIPR – non-secure internet protocol router
NIPERNET – non-secure internet protocol router network
PACOM – Pacific Command
PC – personal computer
SIPR – secure internet protocol router
YS – Yama Sakura

311th support to Balikatan '03 is firm and constant

Balikatan '03

by SFC Michele R. Hammonds

FORT MEADE, Md. – For the first time, in February 2003, the 311th Theater Signal Command deployed one of its troop-program-unit soldiers based here to the Republic of the Philippines.

The soldier supported Balikatan '03, an annual joint, combined multilateral exercise which featured about 1,200 American military personnel working closely with approximately 2,500 counterparts from the Armed Forces of the Philippines.

The unit chose SSG Christopher Constant, an engineer soldier by training, over 50 other soldiers eligible, because of his leadership, style and ability, said MSG Bruce Carter, 311th TSC operations-and-engineer sergeant.

The 27-year old put those skills to the test when he taught himself how to operate a tactical satellite radio before he deployed to the Philippines.

"I provided communication for the medical and engineer sites on a daily basis with cell and satellite phones. In case of an emergency, I used a PSC-5 Signal channel tactical satellite radio," SSG Constant said. "The radio system that I learned to operate is used primarily by Special Forces and Ranger teams."

"SSG Constant had a month to study the manual for the signal tactical radio and he was proficient on the equipment when he deployed to the Philippines," MSG Carter said. "We knew he was the type of highly motivated soldier who could operate the signal radio."

While deployed to the Philippines, SSG Constant provided communication support to engineer and medical units for about a month. Due to heightened alerts from the world-threat situation, he was restricted to his living quarters after completing his 12-hour shift each day. Outside of work, he had little contact with the natives; however, he said he found those he did meet to be quite neighborly.

"The people were very friendly and generally spoke English well," said SSG Constant, a native of Greenwood, S.C., now living in Gaithersburg, Md.

The signal radio SSG Constant employed at Balikatan is a secured, tactical radio that has a satellite link. Constant helped set up and operate the Civil Military Operations communication hub for the 311th sites communication to each other, and other participants in Balikatan, Hawaii and other parts of the world via defense switched network, secure internet protocol and non-secure internet protocol network commo. He stayed in contact with the 311th TSC based at Fort Meade by satellite phone and nonsecure Internet protocol network.

The 311th Forward Cell, Detachment 1, has supported Balikatan from its Hawaiian-island base since 2000. This year, the 311th Detachment 1 stepped up its efforts and provided command, control, communications and computer capabilities to the Civil Military Operations cell headquarters and four CMO sites.

"The 311th Detachment 1 role is quite significant in that we are the principal planners for our roles in the exercise, but we also actually go out and conduct the exercise as well," said MSG Harold Gierke, 311th Detachment 1.

The U.S. Army Pacific Command made some history of its own this year when, for the first time, its signaleers deployed their new C4 intelligence, surveillance and reconnaissance package to a foreign nation.

"The C4ISR package provided excellent services to its providers," Gierke said. "MAJ (Mary) Dixon was instrumental in ensuring the deployment of the C4 package and had

complete oversight while it was deployed."

Dixon, 311th TSC soldier and officer-in-charge of the Detachment1, Signal staff, has been a planner and leader for Balikatan for two years; MSG Gierke has participated in four of the exercises.

The 311th (main) sent a representative to the exercise because Balikatan is a Pacific exercise. As a theater signal command, the 311th has oversight of these operations.

"In the past, it has been difficult to get soldiers involved from the 311th TSC due to logistical constraints and the 311th operational tempo," MSG Gierke said. "It is our hope at Detachment 1 that SGT Constant has set the precedent for more 311th TSC involvement, not just in Balikatan, but some of the other PACOM exercises as well."

In the summer of 2003, Dixon visited the Philippines for the Concept Development Conference for the next Balikatan, tentatively scheduled for February 2004.

"We will try to send more soldiers next year in support of Balikatan," MSG Carter said.

SFC Hammonds is the Public Affairs non-commissioned officer-in-charge at the 311th Theater Signal Command.

Editor's Note: *SGT Courtney Vickery contributed to this story.*

Acronym QuickScan

C4ISR – command, control, communications, computers, intelligence, surveillance and reconnaissance
CMO – civil-military operations
DSN – Defense Switched Network
NIPR – non-secure internet protocol
NIPRNET – non-secure internet protocol network
PACOM – Pacific Command
SIPR – secure internet protocol

311th TSC generals visit 1st Signal troops

by 2 LT Amanda Olney

MG George F. Bowman and BG Conrad W. Ponder, the commander and deputy commander of 311th Theater Signal Command, and 38 of their soldiers deployed to Korea in mid March to participate in the annual two-week exercise, reception, staging, onward movement and integration.

The 311th TSC soldiers participated in the large-scale communications exercise, which spanned throughout many Korean cities and military installations. This joint exercise involving several United States services include Army, Air Force and Navy and foreign military.

The commanding and deputy commanding generals took time to visit the soldiers of the 304th Signal Battalion and other 1st Signal Brigade units March 14 during during RSOI. MG Bowman and BG Ponder thanked the soldiers of the 1st Signal for their selfless service and continued dedication.

Flying in by helicopter maximized their time spent with soldiers on the ground. They stopped at the 304th's Third Republic of Korea Army Headquarters, Combined Air forces headquarters, Camp Long, Camp Humphrey's, and Camp Colbern field sites. At each site soldiers briefed the general officers on how their specific jobs contributed to the communications network during the exercise.

SPC Nicole Weaver, intelligence analyst, of the 311th TSC had an opportunity to brief these key leaders. A relative newcomer to the Army Reserve, SPC Weaver has only three years of service to her credit. However, she has participated in several RSOI exercises and has tried to build on her experience.

"I learn more and more each time I participate in an exercise such as this," said SPC Weaver, who was responsible for researching information during the simulated battle. "Each time is an experience in its own, whether bad or good, but you learn to deal with it."

If hostilities broke out between North Korea and South Korea, 1st Signal Brigade would fall directly under the command of the 311th.

Visiting soldiers of the 304th enabled them to establish an integrated tactical and strategic communications network while providing good customer service for the supported commands

The visit inspired and motivated the troops and moved MG Bowman and BG Ponder. The generals gave command coins to members of the troops. Gratified by their generosity, soldiers thanked the generals' for taking time out of their schedules to visit them.

The 304th's Command Sergeant Major CSM Phillip Douglas said, "It was an excellent chance for soldiers to display their talents while earning the respect of MG Bowman and BG Ponder."

2LT Olney is with Company B, 304th Signal Battalion.

Acronym QuickScan

CAF – Combined Air forces
RSO and I – reception, staging, onward movement and integration
TROKA – Third Republic of Korea Army
TSC – Theatre Signal Command

Command View

We've got the right horses

by MG George F. Bowman

We Signal soldiers know it and the Army knows it. Grecian Firebolt 2003 is a *key* training element in helping the Army determine its future theater signal communication requirements. Because the Army appreciates this, we received the most funding of any Reserve exercise (about $1.4 million) this year. The robust grant allowed us to get tools we and supporting signal units needed to stay on par with warfighters' demands around the world. Our training and equipment have evolved over the years. We're no longer *just* making the Army a better phone connection.

Grecian Firebolt began in 1989, before the fall of the Berlin Wall, with active and reserve component Army unit participation. In 1995, the exercise went joint, as elements from the Air Force, Navy and Marines joined this formerly all-Army theater communications exercise. Two years ago, 4,000 soldiers used GF to test signal connections between Puerto Rico, South Korea, Japan, Hawaii and 14 other states. In 2002, after Sept. 11, homeland security took on a greater role as we integrated into the mix Joint Forces Command and the Federal Emergency Management Agency.

This year, as a result of numerous deployments related to the global war on terrorism, Grecian Firebolt '03 scaled back operations to eight states and the Republic of Korea. The Department of Homeland Security was added as a participant.

Our 2003 exercise validated the interoperability between Homeland Defense and Joint Department of Defense communication systems and was unique. We integrated information assurance, network management and information dissemination into one homogenous homeland-defense theater architecture. We accomplished much:

- We engineered, installed, operated and maintained enhanced deployable data packages for homeland defense.
- We used secure data-and-secure video teleconferencing to enhance our common operational picture and command and control.
- We improved our information dissemination and network service performance.
- We developed communications architecture for use in establishing habitual relationships with Homeland Defense assets.
- We exercised and evaluated our signal units' communication skill sets.

MG George F. Bowman, commanding general of the 311th Theater Signal Command.

All of these are essential to network-centric communications in a transforming Army. Today, we cannot afford to just to aim our signal straight; we must hit. At GF '03, we hit. We leveraged all our varied military and civilian leadership and information technology experiences. Preparing for this training, the planning phase involved a combination of biweekly teleconferences, technical conferences, field-training exercises and a data exercise was develped. Classroom training integrated hands-on instruction through the Network Nodal Management Course. This course gave planners the confidence needed to plan for a large-scale communications exercise.

GF is all about identifying and overcoming shortfalls, testing the recommended solutions and moving forward. We tailored our packages to fit theater requirements and maintain flexibility to deploy into other theaters. Recognizing we couldn't purchase every product, or afford to force the mission to fit the technology, we purchased technology that specifically fits the mission.

GF is a forum to test new communication initiatives and ideas. This year we trained with command, control, communications, computers, intelligence, surveillance and reconnaissance satellite-to-tactical satellite interoperability, voice-over IP, tactical high-speed data network and tactical theater SIPR gateway connectivity. We employed the Defense Collaborative Tool Suite with the FEMA and tested IP-based video teleconferencing and aggregate reporting for the intrusion detection system.

Over a voice-over Internet protocol, I placed the first phone call in the Army Reserve to BG Jan Hicks, chief of the Army Signal Center at Fort Gordon, Ga. With about a $150,000 equipment investment in this technology, we can save up to $1 million.

I expect GF '04 will be as exceptional as this year's exercise. We bring our vast military and civilian information-technology experience to benefit the Army as a whole. I always say you can run in the races — if you have the right horses. At the 311th TSC and our down-trace signal units, we have got the right horses — we've got the best people.

Acronym QuickScan

C4ISR – command, control, communications, computers, intelligence, surveillance and reconnaissance
IP – Internet protocol
NETCOM – Network Command
NETOPS – network operations
SEN – small extension nodes
SIPRNET – secure Internet protocol network
SSS – single shelter switches
TSC – Theater Signal Command
VOIP – voice over Internet protocol
VTC – video teleconferencing

311th TSC binds UFL together

Ulchi Focus Lens

by CPL Jang, Seung-mo

No matter how many soldiers a nation has, they are of no use when they can't communicate with one another and fight the enemy as a team. Especially today when units are dispersed all over the world, smooth communication between units is essential for the success of their mission.

In a place like the Korean peninsula where more than 70 percent of the terrain is mountainous, the importance of communications systems is even greater. For this year's Ulchi Focus Lens, the 311th Theater Signal Command came to control the theater communication networks of the 8th Army units.

During the exercise, the 311th Theater Communications Control Center at CP Oscar was in full swing overseeing all 8th Army communications resources and ensuring necessary effective control of the total Army communications system. It also enabled 8th Army commanders to establish, maintain and coordinate the employment of communications assets within the command.

"We are the glue that binds and keeps all the units on the same track," said LTC Thomas Marino Jr., current operations officer in charge. "What we focus on is all the units from JSA (Joint security area) to Busan to ensure they get the same situational awareness so that they work off the same plan."

In a wartime situation, this unit is responsible for all the signal units in Korea.

"We are responsible for bringing other signal elements into the Korean peninsula during the time of war," said MAJ Carnell Lofton, G-2 intelligence and security. "We also make sure that they have all the signal assets and support they need and that they know exactly what they are to do once they get here under the commander's control."

311th TSC's support to UFL 2003 is crucial, but it is also important to 311th TSC soldiers as well.

Members of the 311th Theater Signal Command in Korea supported the Ulchi Focus Lens exercise 2003.

According to MAJ Lofton, the soldiers learn a lot about themselves during the exercise.

"Because soldiers work for long hours during this exercise, they get much information and have an opportunity to take a look at them selves to understand how they would perform under pressure in wartime."

Like other cells at Command Post w2Oscar, the 311th TSC TCCC cell members support one another working as a team.

"There is a wealth of knowledge and experience here at the 311th TSC TCCC cell," said MSG William Ginter, 311th TSC's tactical systems network controller. "If there is something I don't know, there is always someone I can go to at this office. With these comrades, we make a great team, and if you've got a good team, you can make your mission work."

"I don't think you can get the conditions you have here when training back home," said BG Conrad W. Ponder, deputy commander of the 311th Theater Signal Command at Fort Meade, Md. "This is a different environment. It's an operation."

The 311th TSC's soldiers participate in two exercises in Korea each year. The first is reception, staging, onward movement and integration in the spring, and the second is UFL in August.

"Our Reserve soldiers have more experience a lot of times with the UFL and the RSOI operations on the peninsula than the active component soldiers," said BG Ponder. "The active soldiers are here one year, possibly two, then they're rotating out. We've had some soldiers who have been here 38 times for UFL and RSOI."

This is BG Ponder's fourth UFL.

"Soldiers like coming over here because it is a relevant mission," BG Ponder continued. "It's meaningful training, and it's very realistic. If we try to do that in a virtual environment, I think we'll lose some of the realism."

CPL JANG is with the 8th US Army Public Affairs Office in Yongsan Army Garrison, Republic of Korea.

Acronym QuickScan

JSA – joint security area
RSOI – reception, staging, onward movement and integration
TCCC – Theater Communications Control Center
UFL – Ulchi Focus Lens

Network operations and security centers

by G3 Staff, 5th Signal Command

The primary concept that underlies the way the Army will fight in the future is Network-Centric Warfare. Under this concept, sensors, weapons systems, staffs and commanders will be integrated, such that commanders and staffs will know the battlespace with a higher degree of accuracy and certainty than an enemy will.

This will, in turn, allow United States forces to decisively defeat any enemy by moving forces rapidly and massing the effects of weapons systems against them before an enemy can do the same to us. While Network-Centric Warfare is the underlying concept of the futureforce, the Army is even now employing it.

During Operation Enduring Freedom and Operation Iraqi Freedom U.S. forces employed unprecedented maneuverability and agility in defeating Taliban / Al-Qaida and Iraqi forces as a result of achieving information dominance.

A major component in achieving Network-Centric Warfare is a highly responsive and robust information infrastructure, to support the high density of data and information that will be generated. This infrastructure will be a virtually seamless melding of tactical and strategic communications and computer systems. The infrastructure will directly support combat forces in a theater of war while also linking tactical forces with strategic command and control and sustainment centers.

To help achieve the information dominance that was vital to defeating enemy forces, soldiers and civilians of the 5th Signal Command brought the strategic communications links into the OEF and OIF theaters and smoothly integrated them with tactical systems into an information grid spanning the globe. This was a highly complex effort that required precision control over the multitude of information systems that made up the grid. The 5th Signal Command achieved this control by employing its Army Network Operations and Security Center and a series of regional network operations and security centers, or NOSCs, throughout the theater. To ensure the communications requirements of supported forces are rapidly met, the NOSCs work in concert with network service centers during predeployment, deployment, execution and sustainment efforts of all operations.

ANOSC

The NOSC is the focal point for all command and control of communications and computer systems operated and maintained by the 5th Signal Command. The ANOSC remotely monitors all major nodes and transmission systems in the 5th Signal Command information grid to include deployed tactical systems on a 24x7 basis. In many cases, such as for voice switches and data routers and switches, the ANOSC can also remotely configure major nodes to effect changes or restore interrupted services.

Working in concert with the Regional Computer Emergency Response Team-Europe the ANOSC also controls the information assurance efforts in the information grid.

While the ANOSC is the primary command, and control node it works with the NOSC and network service centers operated in each sub-region of the theater to ensure timely completion of network actions. The NOSCs have nearly the same capability for monitoring the information grid in their areas but lack most of the capabilities to remotely configure systems. Instead, the NOSCs dispatch and control teams of soldier and civilian technicians to install communications servicing new requirements and to restore malfunctioning systems. The NOSCs are controlled by the signal battalion responsible for each sub-region but they also receive technical direction from the ANOSC.

Similarly, the NSCs provide service centers the receive user requirements and turn them into service orders for installing communications. The NSCs also operate the help desk where users call in service problems. The ANOSC tracks service orders generated by the NSCs and configures the network as needed for any requirement. The ANOSC also tracks service troubles called in by users to ensure timely resolution of any trouble and to provide technical assistance as required.

NOSC

The NOSC program was established to provide highly responsive control over the strategic communications systems in Europe and the Balkans. All the NOSC facilities in central European region and the NOSC operation in the Balkans are operating 24 hours-a-day, seven days a week. As operations in Europe expanded as part of supporting Sarajevo Peacekeeping Force, Kosovo Peacekeeping Force, OEF and OIF, the NOSCs evolved making great strides to achieve the Army's vision for Network Operations Phase 3 of the program is nearing completion and we are achieving our objective to transform network operations and support.

The latest NOSC upgrade came on line when the 509th Signal Battalion NOSC transitioned to their new facility in Vicenza, Italy, this past

January. The 52nd Signal Battalion NOSC in Stuttgart, Germany, is completing its renovation project and will become a state-of-the-art facility.

Our effort to expand the monitoring capability on the Army-SIPRNET that we have on the A-NIPRNET has also been completed. A distributed Network Management system was installed in April to support the increased A-SIPRNET customer base. In addition, installation on the monitoring systems for the new TSM 8000 microwave radio network was completed in the central region NOSC in June. Monitoring systems will be installed for the new Army telephone switches, increasing visibility of the voice network.

We completed fielding of the NETIQ Manager of Manager's system giving all the NOSCs the capability to manage all critical applications in their area of operations.

The manager-of-manager's capability provides theater-wide visibility to the ANOSC.

The system allows monitoring capability across all operating systems and platforms, including Microsoft's Windows operating systems and Unix-based systems like Sun Solaris.

Video teleconferencing equipment has been installed to provide collaboration tools to enhance the NOSC operational capabilities from an Enterprise perspective. Fault isolation, performance analysis, information assurance and Information Dissemination Management functions can now move from a voice only conversation to a virtual enterprise workspace. Technicians will have the capability to actually see any system, talk to technicians in any NOSC, and collaborate in real time.

The integration of these systems and technologies provide full visibility across all our data transmission and voice networks in the theater of operations. We are ready to provide deployed forces with the communication services they will need to fight and win.

NSC

Since completion of phase one of the Network Service Center implementation in 2002, we have accomplished a great deal of meaningful work. Our NSCs support the warfighter from twenty-one strategically placed locations in U.S. Army Europe with seven additional locations in the Balkans.

We are continuing to make meaningful renovations to our existing facilities to enhance the one-stop-shop concept of a help desk. Although we are still at the beginning stages of realizing this vision, we have already seen the benefits our customers enjoy by this centralization of services.

Many other initiatives are happening behind the scenes. We continue to promote better business practices, and continually search for ways to improve internal processes.

Our training program continues to be customized to provide our highly talented staff more and better opportunities to hone their skills. Network operations continue to be refined as we move to more efficient ways to initiate and update our unclassified NETOPS Support System tickets and we are also continuing to push out the abIity to monitor the status of the unclassified network. The next major initiative will be to provide these same services on the classified network. Extensive work has already been conducted in this area and an enterprise solution was implemented by September.

In early March 2003, we completed the final draft of the NSC Implementation Plan. This plan is the result of several months of painstaking work and includes a detailed guide of how we will fully develop our NSCs.

Through a comprehensive list of task, conditions and standards associated with the operation of critical services, a detailed list of specific challenges to be overcome at every NSC, and an aggressive but realistic timeline for completion, we have positioned ourselves to successfully meet the objectives outlined by the Army G6 chief informationofficer for NETOPS.

The powerful combination of the ANOSC, NOSCs and NSCs gives the 5th Signal Command an unparalleled capability to command and control strategic and tactical communications networks. As we get closer to meshing the Army into a single combat network as required for Army transformation, we see our vision and hard work meeting not only the realities of today, but also the challenges of tomorrow.

Acronym QuickScan

A-NIPRNET – Army-Non-Secure Internet Protocol Router Network
A-SIPRNET– Army-Secure Internet Protocol Router Network
ANOSC – Army Network Operations and Security Center
KFOR – Kosovo Peacekeeping Force
NSC – Network Service Centers
NETOPS – Network Operations and Security Center
NIPRNET -- non-secure Internet protocol ntework
NSS –NETOPS Support System
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
SIPRNET – secure Internet protocol network
SFOR – Sarajevo Peacekeeping Force
RCERT-E – Regional Computer Emergency Response Team-Europe
VTC – video teleconferencing

Lessons are learned from

Stryker Brigade Combat Team JRTC CERTEX

by MAJ Gregg Powell

This article outlines the communications lessons learned during the first Stryker Brigade Combat Team's certification exercise in April 2003 at the Joint Readiness Training Center. This is a summary of a report published by the Signal Center at Fort Gordon, Ga. A review of the SBCT's communication and information systems is also provided in the complete report which may be obtained either from MAJ Gregg Powell at gregg.powell@us.army.mil or from the Signal Center. Diagrams outlining the reach-back networks installed from the SBCT into the legacy division, corps, Army forces, Joint Force Land Component Commander and staff or Joint Task Force are also included in the complete report and may be obtained in electronic format.

Background

Army Transformation: In October 1999, the Chief of Staff and the Secretary of the Army announced a new Army transformation vision, which established an explicit requirement for the Army to become more strategically responsive. To meet these challenges, the Army began implementing a three-phase transformation plan, which began with the creation of the Interim Brigade Combat Teams, and will culminate in the fielding of the future force sometime between 2015 and 2020. The IBCT was renamed the Stryker Brigade Combat Team by the Army Chief of Staff.

Currently, there are two Stryker Brigades at Fort Lewis, and there are plans to stand four others up in Schofield Barracks, Hawaii, Fort Wainwright, Ala., Fort Polk, La., and the last in Pennsylvania (National Guard).

SBCT Organizational and Operational Concept: The SBCT O&O document provides a framework that defines organizational constructs and fundamental operational capabilities and precepts necessary for the first and subsequent SBCTs to perform their wartime mission. Field Manual 6-31.21 Stryker Brigade Combat Team reinforces and supplements the concepts outlined in the SBCT Organizational and Operational. FM 6-31.21 was published in March of 2003

SBCT overview:

The SBCT's primary attributes include:

a. Significantly increased tactical, operational and strategic mobility;

b. The ability to augment a standard Army division or corps and fight as a divisional or separate brigade;

c. The ability to achieve decisive action through dismounted infantry assault and organic direct and indirect fire support;

d. And foremost, its ability to quickly overwhelm an opposing force through greatly enhanced information superiority and situational understanding made possible by a fully integrated and synchronized system of systems that include all of the Army Battle Command System platforms (Air and Missile Defense Workstation, Army Field Artillery Tactical Data System, Airborne Separation Assurance System, Combat Service Support Control System, Maneuver Control System, Tactical Airspace Integration System, Integrated Meteorological and Environmental Terrain System, Force 21 Battle Command Battalion / Brigade and Below) and the Battlefield Operating System specific information system platforms and sensors that feed each of the individual Army Battle Command Systems.

The SBCT is specifically designed to serve as an early entry combat force, and is based around the eight variants of the Stryker wheeled combat vehicle. The Stryker variants are medium-weight (roughly 20 tons minus supplemental armor) combat and combat support platforms. The SBCT is preconfigured in ready-to-fight combined-arms packages that are capable of deploying within 96 hours, airlifted by any heavy-lift airframe to include C-130 Hercules aircraft, and capable of beginning combat operations within an hour of arriving at the aerial port of debarkation, immediately following initial forced-entry elements. The SBCT is designed to sustain operations for up to 180 days without relief, and is designed to operate under a division, or under a corps headquarters designated as the ARFOR, JFLCC or JTF. The SBCT will also compliment an Air Expeditionary or Marine Expeditionary Force. The SBCT has limited sustainment, force protection, intelligence, joint effects, and long-haul communications capabilities and requires support from its higher headquarters.

SBCT mission: The SBCT is designed primarily for small-scale contingencies in complex and urban terrain and low to mid-range conflicts that involve both conventional and asymmetrical threats. The SBCT deploys under the control of a division, corps or ARFOR commander and executes early entry combat operations immediately upon arrival in theater. The SBCT is designed to participate in Major Theater War as a maneuver component subordinate to and supported by a division or corps.[1]

SBCT organization: Major subelements of the SBCT include: three motorized, combined arms infantry battalions, each composed of three combined arms rifle companies and a headquarters company; Reconnaissance, Surveillance and Target Acquisition squadron; anti-tank company; artillery battalion; engineer company; brigade support battalion; military intelligence

company; signal company; and the brigade headquarters and headquarters company.[2]

Key operational capabilities: The SBCT possesses several key operational capabilities as defined in the O&O which include: mobility, dismounted assault and the close fight, enhanced situational understanding and information superiority. The O&O defines the first two key operational capabilities as the most distinctive core qualities. Arguably, the third capability, enhanced SU and Information Superiority is equally important because it is exactly this capability that provides the commanders with a Common Operational Picture enabling a fight to be coordinated and synchronized, and enabling fires and effects to be massed to achieve overmatch and provide decisive advantage over an opposing force. The Army has traded away armor and firepower for IS and mobility, and it is the enhanced SUand IS capability that must in a large part make up the difference in capabilities. The command, control, communications, computers, intelligence, surveillance and reconnaissance systems enable enhanced SU and IS.

C4ISR: C4ISR systems provide all commanders in the SBCT with the capability to: see and understand all dimensions of their battlespace; precisely locate and track critical targets; conduct simultaneous operations with lethal and nonlethal means; operate with joint and multinational forces; and recognize and protect their own forces and other friendly forces. These capabilities are critical for the SBCT to synchronize widely dispersed and highly mobile forces operating through an extended battlespace. ABCS sits at the core of the Army's C4ISR systems. A future combat system is being developed to replace ABCS.

Command and control: The FBCB2 component of ABCS provides a situational understanding/command and control capability down to the combat platform level, while MCS provides the SU/C2 capability in a tactical operations center environment. The C2 functionality within the ABCS platforms is configured differently to meet a variety of operational roles at different levels of command. Maps, imagery and digital terrain elevation data are integrated into the COP display for use in situational planning, mission planning and rehearsal, decision-making and navigation. C2 and planning processes are further supported by a distributed joint common database used to build the COP, and collaborative planning enabled by a Battlefield Video-Teleconferencing Center and shared white board capabilities between the Bridgade Tactical Operation Centers. A collaborative planning capability currently does not exist between the brigade and the maneuver battalions because of technology limitations, which are detailed in the Signal Center report. A collaborative planning capability between the brigade and the maneuver battalions was identified as a requirement during the SBCT JRTC CERTEX.

Intelligence, surveillance and reconnaissance: It is important to understand the tremendous impact that intelligence, surveillance and reconnaissance have on the signal mission. ISR systems compose a large portion of the information systems that require connectivity through different types of communications networks. The SBCT S-2, S-2 operations team and military intelligence company plan and direct ISR operations, collect and process information, produce intelligence products and disseminate relevant intelligence information to the brigade. The MI Company contains an ISR analysis platoon, ISR integration platoon, and a tactical human intelligence platoon. The ISR analysis platoon conducts threat disposition development, situation development, target development and battle damage assessment in support of the SBCT S-2 section. The ISR integration platoon processes, and integrates information derived from sensors across all battlefield operating systems and intelligence disciplines. The SBCT MI Company and S-2 section have a reach-back capability to external intelligence sources via SIPRNET and Joint Worldwide Intelligence Community using Trojan Spirit II satellite terminals.

The Reconnaissance, Surveillance and Target Acquisition squadron is the second key ISR element in the SBCT serving as the brigade's primary intelligence collection and information source. The RSTA serves as the eyes and ears of the SBCT, and includes a reconnaissance troop composed of a headquarters element, reconnaissance platoon, mortar platoon and a surveillance troop composed of a unmanned aerial vehicle platoon (4 UAVs), multi-capable sensor platoon and nuclear, biological and chemical platoon. The RSTA squadron collects Imagery Intelligence , Signal intelligence, communications intelligence and tactical electronic intelligence.

The MI Company runs the Deployable Intelligence Support Element. Within the DISE, the MI Company gathers, analyses and disseminates intelligence to the SBCT. The primary information system platforms used in the DISE are the common ground station, all-source-enclave, single-source-enclave and ASAS-Remote Work Station. Other intelligence related information system platforms and transmission systems include the Ground Control Station (terminates COMINT, TACELINT, IMINT, Measurement/Measuring And Signature Intelligence and Moving Target Indicator feeds from various sources such as Guardrail, Global Hawk and Predator UAV and Joint Surveillance Target Attack Radar System) and the PROPHET SIGINT and Electonic Warfare system.

Key lessons learned during the CERTEX

The SBCT CERTEX validated the SBCT's O&O and successfully demonstrated readiness for combat operations. The CERTEX also

validated the SBCT's C4ISR capability. From a communications perspective there were many observations made, lessons learned and limitations identified - several stand out.

1. The Near Term Digital Radio does not provide enough bandwidth to meet the data transfer requirements of the SBCT. The available data rate that the NTDR provides does not allow digital imagery or other large files to be moved between the brigade and the battalions. The NTDR also cannot support all of the ABCS traffic while simultaneously supporting the voice-over-white-board application(s) that would provide a collaborative planning capability between the battalion and brigade TOCs.

DISCUSSION: This is due to a limitation in the core technology of the Near Term Digital Radio. The NTDR will be replaced by the Joint Tactical Radio System beginning in 2007. The JTRS Wideband Networking Waveform should address many of the NTDR shortcomings.

RECOMMENDATION: A recommended course of action has already been identified by the Battle Command battle Lab at Fort Gordon, and approved by I Corps. This solution involves a Ku-band Viasat commercial satellite terminal, and a Linkway 2100 TDMA-based modem. There are other commercially-based satellite systems that are available like the SWE-DISH (Digital Deployable Training Campus), however, satellite systems that are configured in a hub-spoke architecture will not work for collaborative applications. Hub-spoke architectures are very inefficient with regard to latency because multiple hops between ground stations and the satellite are often required for hub-terminals to transmit to other hub-terminals. Latency may exceed a few seconds when multiple satellite hops are necessary – this far exceeds delay thresholds for interactive applications and services, and sometimes requires special equipment, which takes into account the Transmission Control Protocol timing and window sizing. L-band solutions like International Marine / Maritime Satellite were also proposed, but do not provide the necessary data throughput that is required for such things as Battle Command on the move. The TDMA-based satellite solution is logically a fully-meshed network, which places any node in the network only one hop away from any other node, minimizing latency. This solution also uses satellite resources in a way that is orders-of-magnitude more efficient than the old Frequency Division Multiplexed way of doing business.

Since the Time Division Multiplexed Access-based modem only uses the satellite to transmit when it has traffic to send, it is a far more efficient use of the satellite's resources, and it is also possible to have many terminals come up on the same satellite carrier. TDMA-based SATCOM stands to revolutionize the way satellite resources are used and allocated.

2. The NTDR does not have adequate range to provide coverage across the entire 50 x 50 km battlespace specified in FM 6-31.21 and the SBCT O&O.

DISCUSSION: Two courses of action exist to address this deficiency. The *first* possible course of action is to obtain more NTDR relay radio packages. This is not a feasible course of action. Obtaining additional relay radio packages will increase the NTDR coverage area, however, it will also create additional force protection issues, and will require additional soldiers that will count against the mandated SBCT personnel ceiling. Adding additional NTDR relays will also compound the available bandwidth problem. The NTDR was designed to operate in a fully (or almost fully) meshed network where each radio is able to talk with every other radio. This would require approximately 156 radios evenly dispersed across the 50x50 km box. When the radios are widely dispersed (which is normally an operational necessity) and radio clusters are only able to communicate with other radio clusters through a relay radio, then choke points are created in the network that greatly diminish available throughput. Given that the SBCT is expected to operate in discontiguous battlespace, a uniform distribution of NTDRs is unlikely.

RECOMMENDATION: The second and recommended course of action is to field a UAV that would carry a Communications Relay Package. Ideally this UAV would be dedicated to the CRP, so communications missions will not conflict with surveillance missions. This course of action solves the transmission- distance limitation problem. It must be noted, however, that a UAV CRP does not address the issue surrounding the NTDR's lack of bandwidth, nor does it provide a solution that will facilitate voice-over-white-board collaborative planning. The current inability to do collaborative planning and the inadequate range of the NTDR radio are two clearly distinct problems.

3. The SBCT does not have an Airborne Communications Relay Package.

DISCUSSION: While this fact is tied directly to the second issue in the preceding paragraph, and is one factor that limits the NTDR coverage area, the SBCT's lack of a CRP is a critical deficiency and should be raised as a separate issue. Two possible courses of action exist. The *first* possible course of action is to eliminate a CRP as a system that will be fielded to the SBCT, and have the brigade continue to make due with ground-based relays as they have. This is an unacceptable course of action. Earlier analysis and recommendations made by the Signal Center indicates that a CRP is critical if the SBCT is to operate in a 50 x 50 km battlespace. In fact, it is highly likely that this space will be extended in future conflicts, especially when the SBCT arrives as an early

entry combat force. This conclusion is also supported in the ongoing Objective Force Unit of Action experimentation currently ongoing at the Fort Gordon Battle Lab.

RECOMMENDATION: The second and recommended course of action is to obtain funding for and field a UAV CRP solution to the SBCT. A CRP is identified as a requirement in the IBCT O&O and in FM 6-02.2. A CRP was also identified by the Signal Center in the IBCT O&O analysis (Annex H, IBCT O&O) as a critical requirement. A CRP dropped off the radar screen, however, when the SBCT's designated UAV was changed from a Hunter UAV with a 250-pound payload to a Shadow UAV with a 60-pound payload (47lbs of which are taken up by the surveillance camera package). It was an initial concept that the Hunter UAV would carry a secondary CRP payload. The initial O&O stated: "The non-linear non-contiguous deployment of the IBCT will, at times, require Enhanced Position Locating Radio System and Single Channel Ground and Airborne Radio System distances that simply cannot be met with ground-level retransmission systems, especially if the demand for force protection limits the emplacement of RETRANS systems. There will not be enough satellite terminals in the BSC to cover the gaps." While the NTDR radio was not mentioned in annex H of the IBCT O&O, it should have been since it has the shortest transmission range of all the tactical radios in the SBCT. In fact, one of the After-Action Review comments made by the JRTC OPS Group stated that the NTDR is the weak-link in the chain when it comes to the Tactical-Range Exercise Retransmission / Relay platform, since the T-REX must be deployed based on the shorter NTDR planning ranges, and not the longer EPLRS or SINCGARS planning ranges. An airborne CRP is a key component of the SBCT communications support strategy. The SINCGARS, EPLRS and NTDR nets require an aerial CRP package to ensure full coverage of the SBCT's battlespace. Operations in a non-contiguous battlespace demands coverage beyond the SBCT's land-based retrans and relay capability. Along this line, it is also critical to point out that not only is a CRP absolutely necessary, but the CRP MUST be on a dedicated UAV. If the CRP is placed as a secondary payload on an ISR UAV, then the CRP mission will likely take backseat to the primary ISR mission of the UAV platform. A dedicated CRP UAV is an absolutely necessary requirement. This fact also came to light during the Unit of Action Objective Force Experiment, which took place at the Fort Gordon Battle Lab in April 2003. Other issues like who owns the CRP UAV, and who flies it must also be addressed to insure that the asset remains a dedicated Signal asset and does not get hijacked for other missions. Currently, there are no plans to fund or field dedicated CRP UAVs to either the Stryker Brigades or to the Unit of Action Future Force. This is a problem that must be addressed in the near future. The Army has banked on situational understanding and information superiority being a combat multiplier for the SBCT, however, if the transmission systems do not have the capability to pass information, than the SBCT's ability to maintain information superiority becomes seriously degraded.

4. The Digital Bridge needs a GCCS-A server.

DISCUSSION: The 109th Headquarters Support Detachment is referred to as the Digital Bridge. The DB is a digital liaison between the SBCT and its higher headquarters that remains co-located with the higher HQs. The DB is needed because the SBCT's ABCS hardware and software is not compatible with all its potential higher HQ's older ABCS and ATCCS equipment. The DB is an interim solution to provide a digital linkage between a legacy HQs (corps / division) and the SBCTs. This is a requirement if the DB is expected to deploy as part of a Joint Task Force. The DB currently does not have a Global Command and Control System - Army server.

RECOMENDATION: Outfit the Digital Bridge with a GCCS-A server. If the DB deploys where the SBCT is the ARFOR, and no higher ARFOR exists, then there will be no GCCS-A server for the ABCS platforms in the SBCT and DB to tie into. This is a critical deficiency, assuming that the SBCT may deploy and function as the ARFOR.

5. The DB needs TAIS and AMDWS Systems.

DISCUSSION: This would provide an organic SBCT compatible Army Airborne Command & Control & Air Defense Area planning capability within the DB, and would ensure gaining headquarters would not have to modify their existing A2C2 architecture and / or procedures required to interface with SBCT. This issue is specific to the digital bridge, and does not have any bearing on the SBCT CERTEX.

RECOMENDATION: Outfit the DB with TAIS and AMDWS.

6. The DB requires two organic SMART-T satellite terminals.

DISCUSSION: This will prevent any higher headquarters that the DB is attached to from having to provide AN / TSC-85 or AN / TSC-93 GMF satellite assets. Division signal battalions and corps signal brigades likely will not have enough GMF satellite assets doctrinally to support an element like the Digital Bridge. This issue is specific to the DB, and does not have any bearing on the SBCT CERTEX.

RECOMENDATION: Field two additional Secure Mobile Anti-Jam Reliable Tactical-Terminal satellite terminals with two 31F20 operators. This will provide the tie in necessary for the DB to perform its mission and provide connectivity between the SBCT and a legacy corps or division.

Conclusion

The Stryker Brigade demonstrated a unique set of capabilities during the April 2003 CERTEX. The shortcomings and limitations outlined in this paper will not prevent the first SBCT from conducting its mission while deployed in Iraq, or in any other hostile environment. The issues listed in this article are presented to identify current limitations and issues with the SBCT's C4ISR capabilities, so that they can be corrected wherever possible.

C4ISR and the transmission and information systems that enable it are the construct upon which SU and IS are built.

The Concept of Firsts:
See First,
Understand First,
Act First, and finally,
Finish Decisively,
serves as a combat multiplier.

The Army is banking on this combat multiplier since it has traded armor and firepower for enhanced IS and mobility. Because IS is wholly dependant upon C4ISR systems, it is absolutely critical that we in the Signal Regiment work to address the communication shortcomings currently facing the first and second SBCTs.

While there are a host of other issues that have become immediately relevant as a result of OIF that must also be addressed by the Signal Regiment, it is important to not lose sight of the issues currently facing the first SBCT. In fact, the communications issues that the warfighters are discussing coming out of OIF are essentially the same issues facing the SBCT that are outlined in this article. Requirements such as Battle Command on the Move, and issues such as the outdated nature of MSE and the inability of industry or the Signal Corps to provide adequate data throughput to the warfighter while on the tactical offensive are all critical concerns that must be addressed by the Signal Regiment.

Footnotes:

[1.] *IBCT O&O* Document, Signal Corps Directorate of Training, Fort Gordon, Ga., pages 3-4

[2.] *IBCT O&O* Document, Signal Corps Directorate of Training, Fort Gordon, Ga., pages 3-17

MAJ Powell is a Functional Area 24, Telecommunication Systems Engineering Officer. He is currently a project officer at the Fort Gordon Battle Command Battle Lab. Major Powell participted in the Stryker Brigade certification exercise at Fort Polk in April, 2003, at the request of the JRTC Operations group, as a Signal Center representative.

Acronym QuickScan

A2C2 – Army Airborne Command & Control
AAR – Active Array Radar
ABCS – Army Battle Command System
AFATDS – Advanced Field Artillery Tactical Data System
AMDWS – Army Missile Defense Work Station
APOD – aerial port of debarkation
ARFOR – Army Forces
ASAS – All Source Analysis System
ASAS-RWS – ASAS-Remote Work Station
ATCCS – Army Tactical Command and Control System
BCOM – Battle Command on the Move
BDE – Brigade
BOS – battlefield operating system
BVTC – Battlefield Video-Teleconferencing Center
C2 – command and control
C4ISR – command, control, communications, computers, intelligence, surveillance, reconnaissance
COMINT – Communications Intelligence
CGS – common ground station
COP – Common Operational Picture
CRP – Communications Relay Package
CSSCS – Combat Service Support Control System
DISE – Deployable Intelligence Support Element
DB – Digital Bridge
DTED – Digital Terrain Elevation Data
DISA – Deployable Intelligence Support Element
EPLRS – Enhanced Position Location and Reporting System
EW – Electronic Warfare
FBCB2 – Force XXI Battle Command Battalion/Brigade and Below
FDMA – Frequency Division Multiple Access
FM – Field Manual
GCCS-A – Global Command and Control System - Army
HQs – headquarters
HUMINT – Human Intelligence
IBCT – Interim Brigade Combat Teams
INMARSAT – International Marine/Maritime Satellite (Organization)
IMINT – Imagery Intelligence
IMETS – Integrated Meteorological and Environmental Terrain System
IS – Information Superiority
ISR – intelligence, surveillance and reconnaissance
JCDB – joint common database
JFLCC – Joint Force Land Component Commander and Staff
JRTC – Joint Readiness Training Center
JTF – Joint Task Force
JTRS – Joint Tactical Radio System
JSTARS – Joint Surveillance Target Attack Radar System
JWICS – Joint Worldwide Intelligence Communications System
km – kilometers
MCS – Maneuver Control System
MI – military intelligence
MTI – Moving Target Indicator
MTW –Major Theater War
MSE – Mobile Subscriber Equipment
NBC –nuclear, biological and chemical
NTDR – Near Team Digital Radio
RECCE – reconnaissance
RETRANS – Retransmission
RSTA – Reconnaissance, Surveillance and Target Acquisition
O&O – Organizational and Operational
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
SATCOM – satellite communications
SBCT – Stryker Brigade Combat Team
SIGINT – Signal Intelligence
SINCGARS – Single Channel Ground and Airborne Radio System
SIPRNET – Secure Internet Protocol Network
SMART-T – Secure Mobile Anti-Jam Reliable Tactical Terminal
SU – situational understanding
TACELINT – Tactical Electronic Intelligence
TAIS – Tactical Air Integration System
TCP – Transmission Control Protocol
TDMA – Time Division Multiplexed
TOC – tactical operations center
T-REX – Tactical Range Exercise
UAV – Unmanned Aerial Vehicle
4 UAV – UAV platoon

31Us make it happen in IT/IA

by SFC Curtis L. Rucker

The Signal Corps is changing and 31U, Signal Support Systems Specialist, is making it happen! With the new changes in the information technology and information assurance arena there is no longer the need for hands-on experience in sending and receiving radio messages and using the Communications- Electronics Operation Instructions. The 31U field has transformed into a digitalized battlefield communication specialty due to improved technology in radio and computer communication capabilities, using the Internet Protocol. The advancements in the communications field have made it easier for 31Us to support clients.

Training

Even as a soldier grows and matures within the 31U field, training is always needed. With vast and continuous changes in battlefield communications, classroom and online knowledge is essential. Some of the 31U's unique training consists of classroom learning combined with online training such as: Advance system improvement programs - Single Channel Ground and Airborne Radio System, Force XXI Battle Command, Brigade-and-Below, Enhanced Position Location Reporting System, Army Tactical Command and Control System, Maneuver Control System and Common Hardware System just to name a few.

The Signal Corps strives for a new level in training excellence. 31Us now download technical and training manuals without leaving their unit. The 31U can also research systems online from various sources such as: 31U News Center Online, 31U Online and University of Institutional Technology websites. These resources provide the latest breaking information from the Signal Center and installations across world.

The future awaits

In the interim and objective forces the 31U soldiers assigned to the Stryker Brigade will move at a rapid pace. The new Signal vehicle Network Operation Center Vehicle currently has transition CHS components which are making a smooth transition into the future. The NOCV represents the centralized workstation where 31Us will be in manuever units.

31Us SPC Barbara Dustin (right) and PFC Xavier Johnson troubleshoot a 577 Track tank.

The voice of the Regiment

The Regimental Signal Command Sergeant Major CSM Michael Terry is traveling around the world to visit and listen to Signal soldiers in the field. CSM Terry stated that 31U is doing great and making things happen in the corps and division. The 31Us in maneuver units can expect new challenges. 31U and Signal units need to maintain communication to meet training challenges in the field and bridge the gap.

CSM Terry also said that he is proud of two Signal soldiers in the 31U field: SFC Darwin Johnson and SPC Mark Vallem who won Soldier of the Year boards. SFC Johnson, assigned to the 82nd Airborne Division 1/319 Field Artillery, works along with a Signal officer as communication chief. SFC Johnson won the 82nd Airborne Division Noncommisioned Officer of the Year. SPC Mark Vallem, assigned to the 24th Infantry Division, 331st Signal Company, works on the Retrans team. SPC Vallem won 24th Infantry Division Soldier of the Year. SPC Vallem is now striving to make Forces Command Soldier of the Year.

The Regimental Commander BG Janet A. Hicks said, "The 31U is making it happen in the IT/IA arena."

As the communication equipment improves with embedded CHS, 31Us help smooth the learning curve for their clients. Today's clients have a variety of communication systems at their disposal to voice to communicate on the battlefield. The 31Us are not only responsible for hardware but must be well versed in information assurance. The IA portion is much like the CHS; it is constantly in a state of flux with new safeguards to maintain confidentiality and integrity created on a weekly or daily basis to maintain communication on the battlefield.

BG Hicks recently received email messages on the great and wonderful accomplishments of 31Us for Operation Iraqi Freedom efforts. Their knowledge and training on a variety of communication equipment and systems has made a big difference on the battlefield compared to Desert Storm.

Final thoughts

Without the diversity of 31U in communication field maneuver units, it is impossible to pass pertinent data, voice, and video information across the battlefield. The communications section (S-6) consists of the highly motivated, knowledgeable and determined soldiers in the Signal Corps. Regardless of the situation 31Us are put into you can rest assured that communications will be maintained. Like the famous adage says, "You can talk about us, but you can't talk without us."

SFC Curtis Rucker Jr. is the Senior Career Management NCO for MOS 31U/Z with Office Chief of Signal.

Acronym QuickScan

ASIP – Advance system improvement program
CHS – Common Hardware System
EPLRS – Enhanced Position Location Reporting System
IA – Information Assurance
IP – Internet Protocol
IT – Information Technology
NOCV – Network Operation Center Vehicle

TSM update

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

TSM-Tactical Radio

Enhanced Position Location Reporting System

The Enhanced Position Location Reporting System Network Manager, a newly improved version of the EPLRS Network Control Station, was recently fielded to the 1st Battalion, 204th Air Defense Artillery, Mississippi National Guard and the 111th Air Defense Artillery Brigade, New Mexico National Guard.

The two National Guard units received some of the Army's newest communications equipment and training well ahead of their active counterparts. The training was conducted at Fort Bliss, Texas, and concluded in a major communications exercise conducted on the installation. EPLRS is one of the data communications links used between the ADA sensors and unit weapon systems. The EPLRS Network Manager provides greater network management capability and operator flexibility over the current EPLRS network control station.

The first active Army unit scheduled to receive the ENM system is the 172nd Infantry Brigade (Separate) of Fort Wainwright, Alaska. The 172nd Infantry Brigade, selected to become one of the Army's premier Stryker Brigade Combat Teams, is scheduled to receive ENM training as a part of its transformation into the 3rd SBCT during its Cohesion, Operational Readiness and Training session conducted at the U.S. Army Signal Center and Fort Gordon. The COHORT session ran from July through September 2003.

The EPLRS Annual Multi-Service Meeting was held Aug. 20-21 at the U.S. Army Signal Center and Fort Gordon in Augusta, Ga. The event featured EPLRS users from across all four military services to discuss system attributes and employment techniques unique to each service and joint interoperability issues.

Multifunctional Information Distribution System Low Volume Terminal–2

The Multifunctional Information Distribution System Low Volume Terminal- 2 program recently received approval from the milestone decision authority to have a separate acquisition review for Army and Air Force requirements aside from the main Navy-led MIDS Program Milestone III / Full Rate Production decision review.

The decision to separate the reviews was made based on a MIDS IPO recommendation amid growing concerns that the Army and Air Force programs were being unjustly penalized by negative results received during the Navy's most recent Operational Evaluation. The Navy identified several problems during its MIDS LVT-1 Operational Test and Evaluation with the MIDS Tactical Air Navigation system and additionally with aircraft platform integration issues associated with fighter-jet fuel tanks and its system communications suite. These issues were specific to the Navy's MIDS variant and were not observed in the Army procured version, the MIDS LVT-2 operational tests. The Army / Air Force review was held in late July / early August 2003 time frame and determines whether these two programs should be authorized to purchase additional MIDS terminals. Service funds identified to purchase terminals for the Army and Air Force programs must be spent by the end of fiscal year 2003. A favorable decision would allow the Army to move forward from its Low Rate Initial Production stage of development and into Full Rate Production. The Army plans to purchase nearly 200 terminals for fielding and integration into several of its air and missile defense system platforms to include recent discussions to pure fleet all of its PATRIOT platforms. The overall Navy-led MIDS Program Milestone contract was awarded in August 2003.

Near Term Digital Radio

The Near Term Digital Radio system is a Department of the Army directed experimental mobile packet data radio network procured to fill a critical niche in the Army's Tactical Internet architecture. More than 300 NTDRs have been fielded to three Stryker Brigade Combat Teams and First Digitized Corps units. Following waiver approval, the program manager, Tactical Radio Communications Systems issued a Letter Contract to procure an additional 248 new systems. These new systems will be used to fulfill Tactical Operations Center to TOC data transport requirements within the brigades and complete fielding to the 1st Cavalry Division and remaining III Corps units in accordance with the Army Modernization schedule.

In addition to procuring new radios, PM TRCS is also working to upgrade the current Information Security modules used in the NTDR. The current modules were often found to overheat and eventually fail during unit tactical operations and deployment exercises in high temperature environments. The new INFOSEC modules provide greater stability than the current version and provide increased performance. The new module design recently passed all qualification testing which included temperature, shock, vibration and TEMPEST system evaluations. The INFOSEC module

finished network testing and complete its cryptographic validation by August 2003. The physical configuration audit is ongoing and the NSA endorsement is expected by the end of the year.

Joint Tactical Radio System

Good news for the Army came as the JTRS Cluster 5 Acquisition Decision Memorandum was officially approved. It directs the Army Acquisition Executive to use the Army to deliver the acquisition development and production of JTRS handheld, manpack units, and small form factors for the 2Mhz – 2.5Ghz frequency range. The effort is designated as an ACAT 1C program with the AAE as the Milestone Decision Authority. It will fall under the JTRS Joint Program Office umbrella and established management practices, and the program's progress will be reported through the Defense Acquisition Executive Summary process and through Defense Acquisition Board Program Reviews as required.

The JTRS Cluster 5 effort includes design, development, testing, documentation, and delivery of handheld, manpack, and small form factor (embeddable) radio sets, installation hardware, and ancillary items. The JTRS Joint Program Office is responsible for developing the software waveforms and shepherding the software through a process to certify compliance to the JTRS Software Communications Architecture.

The hardware acquisition programs, termed Clusters, will use the library of JTRS certified waveforms for operation on the applicable radio sets. Industry proposals for Cluster 5 are expected by the end of the 1Q04 with an estimated Milestone B decision second quarter of 2004 and possible contract award by third quarter 2004.

Acronym QuickScan

AAE – Army Acquisition Executive
ADA – Air Defense Artillery
ADM – Acquisition Decision Memorandum
COHORT – Cohesion, Operational Readiness, and Training
DAES – Defense Acquisition Executive Summary
EPLRS – Enhanced Position Location Reporting System
ENM – Network Manager
INFOSEC – Information Security
JPO – Joint Program Office
MIDS – Multifunctional Information Distribution System
NCS – Network Control Station
PM TRCS – Program Manager, Tactical Radio Communications Systems
SBCT – Stryker Brigade Combat Teams
SCA – Software Communications Architecture
TOC – Tactical Operations Center

TSM-WIN -T

Forging the Path of Army Transformation

by MAJ Robert M. Collins

Recently, several key requirement and program strategy documents for the Warfighter Information Network-Tactical system were staffed through a rigorous review, analysis, and coordination process.

As a result, the WIN-T program received approval by senior Army and Department of Defense Officials for continuation into the SDD phase-forging the path to transform communications in the Objective Force.

Progress update

Since the Army Communicator Summer 2002 Edition article, the TRADOC Analysis Center formally reviewed analytical underpinnings for the WIN-T ORD KPPs interoperability, Information Assurance, Network Management, Information Dissemination Management, Network Reliability, and Mobile Throughput - to ensure each metric is measurable, achievable, and operationally relevant. WIN-T IPT members, representing a myriad of defense agencies, comprehensively reviewed system documentation to ensure strict synchronization within the Objective Force timeline, fielding strategy and functional capability needs. Collectively, the KPP analysis, IPT efforts, Department of the Army and Joint Staff coordination, and critical program readiness indicators (funding, technology maturity, schedule) supported a successful Army Requirements Oversight Council (Nov 02) and Joint Requirements Oversight Council (March 03).

On July 30, 2003, the MSB Defense Acquisition Executive, Michael Wynne, approved entry of the program into the SDD Phase, following a successful Defense cquisition Board. The program is currently designated as an ACAT lD major defense acquisition program, based on the total procurement value of over $10 billion. As an ACAT ID program, the Department of Defense will maintain a high level of visibility and interest in system evolution.

Functional capability

WIN-T will provide the integrating communications network for the Objective Force. It will deliver reliable, secure, and seamless video, data, imagery, and voice services that enable decisive combat actions - optimized for Joint and Offensive operations. The network will enable timely delivery of the Common Relevant Operational Picture, aid situational understanding, and support rapid decision-making required to support warfighting operations - adaptive to dynamic changes in mission, task and purpose.

As the Army's tactical portion of the GIG, WIN-T enables commanders and leaders to build synergistic organizations that cross echelons, functional areas, commercial / military sectors, and national / international barriers. The network will support the employment of virtual command centers and staffs elements.

Physical collocation will not be necessary to plan and execute an operation. Commanders will command and control the force on the move using collaborative planning capabilities and accessibility throughout all phases of an operation (mobilization, deployment, engagement, and redeployment).

Fundamentally, WIN-T provides equipment (telecommunications

hardware and network management software) that will serve as the core Tactical Infosphere building-block. Components will include high throughput transmission systems (terrestrial and satellite), routers, secure wireless LAN capabilities, telephony services V (e.g. conferencing, speed dial), and email access / service. A multi-tiered architecture will leverage the use of terrestrial combat systems, airborne vehicles, and space-based platforms; a balanced mix that adheres to the tenets of survivability, flexibility, and redundancy. Network components will support the exchange of information across all security classifications, from unclassified through Top Secret. NETOPS capabilities will seamlessly integrate network, information assurance, information dissemination, knowledge, spectrum, and security management functions - federated into a single system, not stove-piped pieces.

Program strategy

Following a full and open competition among U.S. prime contractors the Government awarded separate parallel competitive Cost Plus Fixed Fee contracts to General Dynamics Government Systems Corporation and Lockheed Martin Mission Systems.

Each contract consists of two phases, with phase 1 supporting the successful MS B decision and entry into the SDD. Phase 2, currently underway, is the SDD phase and work efforts are those necessary to further mature the system and develop documentation to successfully achieve a MS C LRIP Decision. This phase will invo1ve an engineering services provision that will include: engineering studies to assess the impacts of emerging and evolving requirements on the WIN-T architecture and system, fabrication of equipment prototypes (hardware / software) to assess interface, interoperability, and other technical requirements. Modeling and simulation will be utilized to validate that the architecture can satisfy the KPP requirements.

A restricted competition between the two development contractors at the conclusion of SDD will result in down-selection to a single award for a Production contract for the initial Low Rate Initial Production quantity, plus options for additional LRIP and Full Rate Production quantities. Production efforts will be focused on first unit equipped in FY 2008 - consistent with current Objective Force fielding plans.

Road ahead

WIN-T concept refinement and program development will continue to evolve in concert with Objective Force doctrine and other systems; able to maintain synchronization through systematic collaboration and community-wide coordination. We can achieve these advanced capabilities by challenging both our partners in industry and the DoD technology base to exploit new technologies and achieve scientific breakthroughs. Information is emerging as a key element of combat power in the Objective Force; WIN-T will lead the way by enabling the full range of transformational capabilities.

MAJ Collins is currently a student at the Command and General Staff College. His previous assignment was assistant, TRADOC System Manager for the Warfighter Information Network-Tactical, located at Fort Gordon, Ga.

ACRONYM QUICKSCAN

ACAT — Army Category
DoD — Department of Defense
IPT — Integrated Product Team
KPP — Key Performance Parameter
LAN — local area network
MSB — Main Support Base/Battalion
MS C LRIP — Master Schedule C Logistics Readiness Improvement Program
NETOPS — network operations
ORD — Operational Requirements Document
SDD — System Development and Demonstration
WIN-T — Warfighter Information Network-Tactical

Circuit check

News and trends of interest to the Signal Regiment

NEWS

PM DCATS KICC's off massive project to relieve Army Signal units in Iraq

by Stephen Larsen

United States Signal unit soldiers in Iraq and Kuwait will soon be able to come home thanks to the Kuwait Iraq Command, Control, Communications and Computers Commercialization project.

KICC – managed by the Project Manager, Defense Communications and Army Transmission Systems - addresses Army, Joint and Coalition C4 requirements to connect about 180 distinct C4 nodes at some 100 separate base camp locations in Kuwait and Iraq. Initial funding for the project will be in the hundreds of millions of dollars Army officials expect the bill to exceed several billion through the POM (Program Objective Memorandum) lifecycle.

According to LTC Joseph Schafer, PM DCATS' assistant project manager, KICC, the massive effort includes three main elements:

Commercialization of U.S. Military C4. More than 100,000 U.S. personnel in Iraq require C4 support – "about twice the number of U.S. forces now in Europe," said LTC Schafer. KICC will enable Signal units to redeploy and reconstitute for other missions. "These Signal forces include nearly all of certain types of signal units," added LTC Schafer. "There are no rotation options."

Commercialization of Coalition C4 support. Coalition C4 furnishes National Command Authority-directed support to dozens of partners who are providing about 40,000 soldiers in Division and Brigade Headquarters and Battalion packages - more than the total U.S. forces in Korea. "Since we want to free up U.S. tactical Signal units, we plan commercial C4 for our coalition partners," said LTC Schafer.

Commercialization of military C4 support to the U.S. Office of the Coalition Provisional Authority. OCPA relieved the Office for Reconstruction and Humanitarian Affairs on 1 June. "This element of KICC commercializes military C4 services to OCPA such as Digital Service Network telephone trunks, Red Switch and Defense Message System to support Iraqi civil governance," said LTC Schafer.

In addition to PM DCATS, which is providing overall management of KICC, a variety of other PM's are supporting the effort. These include the Project Manager, Warfighter Information Network-Tactical; the Project Manager, Defense Communications and Army Switched Systems; and PM DCATS' Product Manager, Defense Wide Transmission Systems, Command Center Upgrades / Special Projects Office and Assistant Project Manager, Base Radio Systems.

The KICC Task Force includes the U.S. Army Network Enterprise Technology Command (NETCOM – headquarters, 11th Signal Brigade and 160th Signal Brigade) and the U.S. Army Communications-Electronics Command's Information Systems Engineering Command. "KICC's success depends upon a tremendous team effort," said Schafer, stressing that other key players include the Coalition Joint Task Force 7, the Coalition Forces Land Component Command (CFLCC - 335th Theater Signal Command), the U.S. Central Command, V Corps (22nd Signal Brigade), the Defense Information Systems Agency, MITRE Corporation and others.

Mr. Larsen is with Program Executive Office, Enterprise Information Systems.

Fort Benning to start digital training

by PFC Brian Trapp

FORT BENNING, Ga.— Delegates at the Training and Doctrine Command Digital Training Conference, held recently at Fort Gordon, Ga., named Fort Benning as a Maneuver Control System-Light Center of Excellence.

The Centers of Excellence is TRADOC's first step to resource digital training in TRADOC," said Reuben Maynard, a digital concepts analyst with the Directorate of Operations and Training. "The Centers of Excellence puts the right resources in the right places to get the best return on their investment.

"The immediate training load for MCS-L does not currently warrant conducting training at every TRADOC school."

The U.S. Army Infantry School's intent is to pilot a MCS-L operator course in March with a small student load, about 400 students, in fiscal year 2004. Full training capability, about 2,000 students, is planned for fiscal year 2005.

Two components of the Army Battle Command System — the Force XXI Battle Command Brigade and Below and the Maneuver Control System-Light — will be taught at Fort Benning.

The FBCB2 is like the North Star system used in cars today with added capabilities. It can be configured to go into most tactical vehicles.

The MCS-L operates on a laptop in tactical operations centers, brigade through division, and will be used for operations planning and battle tracking.

FBCB2 training will be incorporated into the Infantry Officer Basic Course and the Basic NCO Course. MCS-L training will be incorporated into the Infantry Officer Advanced Course and the Advanced NCO

Course. There are also plans to provide Army Battle Command System awareness training to all infantrymen.

This training will complement Stryker and Bradley training, Mr. Maynard said. The 29th Infantry Regiment has been the lead in digital training and currently conducts FBCB2 training for Bradley master gunners and mechanized leaders going to FBCB2 - equipped units.

TRADOC provided $2.08 million to renovate the classrooms into digital training facilities and hire contract instructors for the near term, Mr. Maynard said.

The contract instructors will fill in until TRADOC provides the right mix of military and contractor personnel to conduct the training.

"The renovation of classrooms … is the key piece to meeting the March date," Mr. Maynard said. "If classrooms are completed on time, then the project managers for FBCB2 and MCS-L will install equipment and train the contract instructors and key personnel.

"Both systems are still evolving," Mr. Maynard added. "Based on needs and requirements from operations in Afghanistan, FBCB2 developed a system using satellite communications instead of a terrestrial-based radio. This enabled units to maintain situational awareness over the extremely long distances of up to 300 kilometers (186 miles), as experienced in Iraq.

"FBCB2 and MCS-L are enablers," he said. "They provide a means to share a level of situational awareness we never have been able to accomplish. The systems greatly speed the distribution of both friendly and opposing force information and the orders and reports a unit needs to transmit to accomplish their missions."

PFC Trapp is a staff journalist with the Fort Benning Bayonet.

'KNOWLEDGE WARRIORS' ASSESS NETWORK-CENTRIC NEEDS AT ARMY SYMPOSIUM

by Patrick A. Swan

VALLEY FORGE, PA – The term "network-centric, knowledge-based force" may not seem a natural fit with a soldier's warfighting tool kit of heat rounds, automatic weapons, grenade launchers and Apache helicopter gun ships.

But, it will be soon, as soldiers learn more about the value of knowledge to achieving victory on the battlefield, said LTG Steven W. Boutelle, the Army's Chief Information Officer / G-6, and symposium host. By creating an enterprise infrastructure that provides global and pervasive information for joint warfighters, the Army is making knowledge a logical addition to the warfighter's tool kit.

LTG Boutelle's remarks were part of the wrap-up session for the 3rd Annual Army Knowledge Symposium, held Aug. 13-15. In keeping with its theme, "Decision Dominance: Mitigating Risk in an Unpredictable World," this year's symposium featured military and private-sector leaders who are focused on creating agile organizations capable of operating inside an adversary's decision cycle.

LTG Boutelle called upon the 300 attendees to do their part in the transition to a knowledge-based Army.

"We can house and store information easily today," he said. "But we must move it across the force and use it as knowledge if we are to win the Global War on Terrorism. We are in serious fight. The results will be disastrous for the American way of life if we lose."

Other speakers explored the changing threat environment, the way ahead for Battle Command, and various perspectives and examples of the decision-making processes.

"A common thread throughout these presentations was that war remains a human endeavor and the success of the Army, no matter how technologically advanced we become, rests on the commitment and talent of our soldiers," said COL Jane Maliszewski, Strategic Outreach chief, chief information officer / G-6.

For instance, LTG William Boykin, deputy under secretary of Defense for Intelligence, Intelligence and Warfighting Support, said a key issue today is developing adaptive leaders early.

"We've got to have a deliberate program for this because of the complexities we are encountering," Boykin said. "We've always had adaptive, creative leaders. But was that a byproduct of our training? We must teach our soldiers how to think rather than what to think."

Retired GEN Wayne Downing, former White House National Director and Deputy National Security Advisor for Combating Terrorism and former Commander of Special Operations Command, echoed this sentiment.

"War is human endeavor subject to fog and friction; technology won't change this," GEN Downing said. "What information technology and digital tools specifically will do is enable us to coordinate force as we've never been able to do before through joint integration and adaptive planning. We must use both joint force synergy and integration of conventional forces with special operations forces."

As a leader in the Army's charge for decision dominance in the future, LTG Johnny Riggs, the director of the Objective Force Task Force, explained the thinking behind joint force integration.

"We are not merely looking for joint interoperability," LTG Riggs said. "Joint interoperability is when everyone builds their own things, bring them to the party and then makes them interoperable with what everyone else brings. We've always designed our Army with all our organic capabilities within it, but we don't have the interdependency we need for the future force. Interdependency is what we want to strive for; that is, depending on what other services bring to table and linking those capabilities through networks that tie it all together.

"The new way of war is dominant situational awareness," LTG Riggs said. "We owe soldiers a collaborative environment that makes systems responsive from whatever service they

originate...This is about having the knowledge of what soldiers need and being able to do something about it. If we don't mature this technology to our advantage, you can bet our adversaries will. And unless we engineer the technology into our systems and then link those systems together with education, doctrine, learning, we ain't got nothin'."

COL John Uberti, chief, Battle Command, Army G-3, added that the Army must "strike a balance between its appetite for information and its consumption of that information to make a decision.

"Technology gives us the ability to have knowledge dominance — but it still comes down to commander and leader to make it useful. We need to be able to command any time, any where," COL Uberti said. "Our battlefield systems must give us the same capability we use routinely at home station so we don't do discovery learning when get to AOR (area of operations).

"We must leverage every piece of technology we have, starting in space in high elliptical orbit and then moving down to the individual soldier on the ground in AOR who knows what it is the commander is looking for to make a decision," COL Uberti continued. "This effort must be joint (sister services), combined (allies) and with other federal agencies. Networked battle command is the key to our future combat system capabilities. We won't have time to wait for a connection – the fight will be on us when we arrive. So, at the end of the day, can our deployable formations plug into a joint network architecture without having to jump through hoops?"

"Knowledge dominance causes quality decisions by adaptive, creative people and IT provides soldiers with the leverage they need to win our nation's wars," said retired GEN Gordon R. Sullivan, president of the Association of the United States Army and former Army chief of staff. He addressed attendees at the Army Knowledge Awards Banquet (see related article following). "When historians look back on this period one day, they'll find this knowledge revolution to have been bigger than the invention of gunpowder and the combustion engine."

"Technology gives us the ability to have knowledge dominance — but it still comes down to commander and leader to make it useful. We need to be able to command any time, any where."
— COL John Uberti

Soldiers will experience this knowledge revolution through the Warrior Knowledge Network, which provides rapid learning from operational experience.

"WKN allows us to bring back what we learn from troops in the field, quickly assess it and then sent it back to the field as lessons learned that will increase their chances to survive and do their mission," said Dr. Rick Morris, Strategic Partnering Office, chief of information G-6.

"WKN supports decision making and performance. It supports leader development, knowledge creation and the systematic applications of new knowledge and insights to change behavior," Dr. Morris continued. "WKN is in its infancy – and it involves an orchestration of powerful grass roots efforts – but we agreed at this decision that the time is now to move out with WKN as battle command knowledge network.

"This will mean that the soldier in a foxhole can access WKN," Dr. Morris said. "Soldiers will access this initially through laptops and virtual team capabilities, through peer-to-peer and disconnected modes, and then re-synchronize with the AKO web-based portal. WKN is also tied together very closely to joint warfighter capabilities."

Gary Winkler, director for Enterprise Integration, CIO / G-6, discussed how the service is using Army Knowledge Management to transform itself into a network-centric, knowledge-based force.

"AKM affects everything the Army is doing today," Mr. Winkler said. "AKM is about using the power of network-based technologies to make our warfighting and business operations more effective and efficient. We want you here who have seen this first hand to go back to your posts, camps and stations and spread the word."

Industry experts also weighed in. Bipin Junnarkar, Hewlett-Packard's Vice President for Business Process Transformation and IT Data and Knowledge Management, explained how his company has harnessed the-power-of-one (instant access to information) with the power-of-many (group collaboration) to create effective decisions. Expert Geologist Terry Budden discussed how he and his team kick-started the creation of Unocal's knowledge environment resulting in performance practices that top energy industry standards.

Vince Barabba, recently retired General Manager for Corporate Strategy and Knowledge Development at General Motors, said that, "If you want to change the culture of an organization, change the way it makes decisions. The rest will follow."

Larry Prusak, an advisor to IBM, noted that people use technology to store information, but that it does not become knowledge until a person applies his judgment, insight and understanding to it.

"Technology's most useful role in a knowledge-based organization is its ability to connect people," he said. "People self organize; they share their knowledge. This is because knowledge is profoundly social. You can't have 'private knowledge.' What we think we know is profoundly social. It is developed in groups and it is developed through argument and discussions. Knowledge work is transferred by stories, adaptation and observation.

"And yet, knowledge is sticky, local and textual," Mr. Prusak

continued. "It is not easily transferred. The most valuable knowledge is local. Once it gets up to headquarters, it becomes sanitized. The challenge is, how can you absorb local knowledge when you have to act globally? It is true that knowledge can be adapted, translated, imitated. But it is not transferred easily."

The Army's Chief Information Office sponsored the symposium to provide a forum to share knowledge, ideas and experiences, said LTC Derek Harris, Strategic Outreach coordinator.

"The Army is so big that any opportunity to share knowledge with our peers must be taken. Here we're 'cross pollinating' when we bring together people from industry, academia, other government agencies," LTC Harris said. "Everybody is wrestling with same problem of now that I have all this information, what do I do with it? What information will help me make a decision? Nobody can answer that question individually. You don't know what you don't know and you may not ever find out until someone says, "we're implementing." By exploring the relationships between programs and initiatives, we discover how they fit into the warfighters' efforts. And, if those programs and initiatives don't support warfighters, then why are we doing them?"

COL Larry Thomas, chief of CIO / G-6's Strategic Partnering office, said the symposium provided an unparalleled opportunity for functional communities to see what others are doing so they can share and integrate their efforts across the Army.

"As we do change management, people need to know they are not alone in this," COL Thomas said. "This is especially true for those people in the lower levels, where they feel they are pushing rocks up the hill by their noses. This is an empowering environment because attendees hear the Army saying 'we should do this.' They say, 'Hey, great. We've been trying to this at our level for 10 years now.' Suddenly, they've now got a charter they can take back to their boss. So this helps support their grass-roots-level work.

"The discussions here also help to stop 'my'-type developments," Thomas said. "For instance, if you find out the personnel guys have an enterprise solution, you may ask yourself, 'why am I producing something similar from scratch in my own unit? I'm already working weekends. Why not adapt what they've designed?' Everyone can now play in the development of an enterprise solution to their common technological problems. We must remember that technical guys design systems, the functional people are the ones who put the demands on it. Doesn't it make sense to share developmental input from the functional people who are using it?"

This year's symposium was rescheduled from April. It offered tracked discussions on the Army Knowledge Enterprise Architecture, Collaboration, Enterprise Solutions, Taxonomy and Content Management, Army Knowledge Online, KM on the Battlefield and E-learning. Pre-symposium presentations on Aug. 11-12 included a two-day Knowledge Management training course and a course on the Warrior Knowledge Network; several Army Knowledge Online workshops; and tutorials on the basics of Enterprise Resource Planning, Knowledge Management, Understanding the Army Knowledge Management Strategy, Taxonomy-Developing knowledge by managing information, Communities of Practice, and AKO-Behind the Portal.

Mr. Swan is the chief information officer G-6 public affairs officer. He can be reached by email at patrick.swan@us.army.mil.

Army Knowledge Awards

WINNERS LIST

The Army Knowledge Awards were presented during the 3rd Annual Army Knowledge Symposium at Valley Forge, Pa., Aug. 13-15, 2003, by officials from the Office of the Chief Information Office / G-6.

"The Army Knowledge Awards Program allows us to acknowledge and recognize Army initiatives, programs, and concepts that exploit Knowledge Management tools and principles," said COL Jane Maliszewski, chief of Strategic Outreach. "We want to promote Army-wide knowledge sharing and collaboration focused on enterprise solutions that improve situational awareness and organizational decision-making."

The goal of the awards program is to recognize KM-based initiatives that are focused on the enterprise — major commands, functional areas and the Army as a whole — and that incorporates process re-engineering. Also those that use technology to enable the process transformation and de-emphasize individual stovepipe solutions to problems, COL Maliszewski said.

Army Knowledge Awards were given for the best Army's Knowledge Transformation Initiative, Enterprise Solution, Cross-Functional Solution, e-Army Initiative, Community of Practice and e-Learning Initiative. The selection criteria included: return on value, collaboration, impact, scalability, transformation, customer-focus, streamlining and E2E integration, which incorporates cross-functional processes.

The Best Knowledge Transformation Initiative recognizes an initiative that incorporates knowledge sharing processes (collaboration, tacit knowledge capture, data mining, etc) to improve quality, availability and speed of knowledge to the decision-maker. Team Communications, Command, Control, Computer, Intelligence, Electronic Warfare And Sensors Knowledge Center Consortium was formed to support transformation to a network-centric knowledge-based force, through a shared knowledge center, an AKO initiative. The KC is a web-based, secure knowledge management system integrated with AKO to facilitate the collection, organization, and distribution of explicit / tacit knowledge throughout the systems acquisition community. The Team

C4IEWS KC supports war-fighting missions by initiating critical business processes for managing existing C3I and, researching, developing and integrating new C3I into joint architectures. KC collaboration tools enable users to share accessible information, conduct planned or ad hoc virtual meetings and support project management among geographically dispersed teams.

The Best Enterprise Solution recognizes an initiative that is used throughout the MACOM, function and / or Army that eliminates and / or streamlines legacy processes to achieve new or improved enterprise-wide access to the knowledge base. The Office of the Surgeon General's Soldier Medical Readiness system is designed to provide individual soldiers a view of his or her required Department of Defense reimbursed lab tests, examinations and vaccinations. Each user is provided a red / amber / green notification based upon the specific component and indicator requirement. The alerts enable the user to proactively address recurring requirements and correct data deficiencies in DoD data systems. The Soldier Medical Readiness system returns value to the Army through reduced cycle time and enhanced capabilities. Providing the soldier with a proactive tool to address his or her medical status significantly reduces individual readiness cycle time.

The Best Cross-Functional Solution recognizes an initiative that crosses functions (incorporates multiple functions within one process) to achieve an integrated process solution for the user. Over 700,000 middleware and Common Access Card readers are currently fielded to the Army through Product Management Office Secure Electronic Transactions Devices. The Common Access Card Desktop Middleware supports any CAC and any reader. The need for administrators to visit every desktop and go through the installation of the middleware and the registration of the user's CAC is eliminated. This middleware can be remotely managed at an enterprise level. Users can move about the Army and be assured of a compatible product anywhere they go. This middleware saves the Army 33 percent on its current middleware prices.

The Best e-Army Initiative recognizes an initiative that uses technology to improve the way an organization serves its customers, optimizes its internal processes, and streamlines processes with its product and information suppliers by automating the entire process cycle. It is both customer centric and business focused. The Army Test and Evaluation Command's Developmental Test Command deployed the Electronic Signature Management Information System Department of Defense wide. ESMIS provides the ability to electronically sign and route any official government document, to include Department of the Army Forms and DoD Forms. ESMIS transforms the modus operandi for the entire business process. The process improves the quality and speed of signed documentation flow with secure architecture within the containment of the form or document. The transformation assists decision-maker in decreasing the time spent to process any document from their desktop electronically. When the DoD PKI and the ApproveIt secure signature software is used, a trust relationship is established between the sender and receiver of a signed form or document.

The Best Community of Practice recognizes a 'knowledge community' or virtual team environment that brings together groups of people with common work needs so they can share knowledge to achieve results. The U.S. Army Reserve has established the largest and most active set of Communities in the AKO Collaboration Center. When AKO established the collaboration center, the USAR built knowledge centers for its staff sections at Army Reserve Command Headquarters, each of the Regional Support Command Headquarters, and each of the Direct Report Command Headquarters. When Operation Enduring Freedom and Noble Eagle began, deploying units quickly realized that the only way to effectively communicate with their home station was through the AKO Collaboration Center. One of the greatest impacts that the USAR Communities of Practice has had is the ability to quickly communicate critical information and forms to soldiers as they mobilize in support of operations.

The Best e-Learning Initiative recognizes a knowledge-based process that uses technology to promote a new model for education, learning, and / or information dissemination. The Army Education Division at the Total U.S. Army Personnel Command uses eArmyU to augment traditional Army distance learning programs ensuring that eligible enlisted soldiers have full access and student support services to fulfill their educational goals – anytime, anywhere. As structured, eArmyU provides access to a variety of online degree programs and related educational services via a comprehensive web portal, eliminating many of the barriers to education that soldiers have traditionally faced throughout their military careers. With eArmyU, the Army Continuing Education System is able to more efficiently track important metrics such as soldier-student admissions, course enrollments, and student success rates.

The AKM Pioneer Award, given in recognition for outstanding achievements in the Knowledge Management arena, was presented to CSM Daniel Elder, for his work in establishing NCO communities of practice for the mentoring, teaching and coaching of non-commissioned officers in the several years before the Army introduced Army Knowledge Online.

Information provided by Patrick A. Swan, CIO/G6, public affairs officer.

NO DIRECT FUNDING NEEDED- ARMY ENTERPRISE AGREEMENT PROVIDES 494,000 MICROSOFT LICENSES

by Stephen Larsen

FORT MONMOUTH, N.J. – Over the last several weeks, Dee Wardle feels like she's talked to everyone in the Army – twice.

"I have over 4,000 e-mails," Wardle said. "I've been contacted by places I didn't know existed in the Army."

Ms. Wardle, a product leader with the U.S. Army Small Computer Program and ASCP's Enterprise Software team leader, is getting all those calls and e-mails in the wake of the Army's award on May 30,2003, of the six-year, $471 million Army Enterprise Infostructure - Enterprise Software Consolidation (Microsoft) agreement for Microsoft products to Softmart Government Services, Inc. The Army has centrally funded the purchases of 426,000 licenses for the base year with plans to centrally fund the next five years; after the third year, the quantity increases to 494,000. The Army will distribute the software to local Directorates of Information Management, which will provide the software to approved users at their respective sites.

"So they (Army users) can get software and don't have to lay out their direct funds," said Ms. Wardle.

Ms. Wardle has recently returned from Fort Hood, Texas, where she briefed personnel of the Directorate of Information Management. She has also visited the DOIM school and School of Information Technology at Fort Gordon, Ga., and the U.S. Army Forces Command and U.S. Army Reserve Command headquarters at Fort McPherson, Ga., and was joined by Olga Lawrence, assistant project manager, ASCP, at the Army's Regional Chief Information Officer Southwest conference in San Antonio, Texas – all to get the word out about this and other ASCP information technology contracts and agreements. What are sites most interested in?

Dee Wardle (standing left) and the Army Small Computer Program team will be busy getting the word out to Army personnel that they don't have to spend their direct funds to acquire Microsoft software via the Army Enterprise Infostructure - Enterprise Software Consolidation agreement.

"The people out in the field basically want to verify that they understand the ordering process," said Ms. Wardle, then she paused. "And that they aren't really directly funding these buys, which nobody can believe."

She said she and the ASCP team – including Lawrence, Tom Leahy, deputy APM, ASCP and ASCP product leaders Shacasia Thompson and Marian Keitelman – will be busy in the weeks ahead continuing to get the word out to Army sites.

Wardle said the agreement offers three categories of software: Desktop, business and enterprise applications – potential users can check the ASCP website (http://pmscp.monmouth.army.mil/) for a complete list of products and services available.

According to Shacasia Thompson, a computer engineer and ASCP product leader who helped build the business case "to prove that this was the best deal for the Army," the agreement is open to all Active Army (military, civilian and contractors), Army Reserves and National Guard Bureau organizations. Personnel residing in a joint organization, such as the U.S. Central Command and those covered under an educational license, such as West Point, may not order from the agreement.

Getting a grip on IT assets

Robin Baldwin, a contracting officer with the Army Contracting Agency Information Technology E-Commerce and Commercial Contracting Center said agreement is actually a delivery order against the DoD Enterprise Software Agreements for Microsoft Products "competed" among the nine resellers authorized to sell Microsoft products. She said that the fact that Softmart, a small business out of Downingtown, Pa., won the award is significant. "It proves that you don't have to be a giant to do business with the Army," said Baldwin, adding that the Army has already funded the first year of the agreement, worth $78 million.

But what is really significant to Baldwin is how the agreement leverages the buying power of the Army.

"The agreement consolidates our buying power, rather than each organization going out on their own," said Ms. Baldwin. "There's now one source – plus, for the first time we have asset management, so we know exactly what was purchased – we were never exactly sure what each organization was buying on their own."

Ms. Wardle agreed. "This give the Army a handle on assets, both from a desktop and server perspective." She said. "And because software will be initially distributed to the installation DOIM, this fits

right in with the 'single DOIM' concept."

The agreement will also allow everyone in the Army to be on the same version of a software – especially helpful for software that's not supported any more, such as Windows 98. "Now if the Army says, 'Go to Windows 2003,' we can easily do it," Ms. Wardle said. She added that the agreement includes work-at-home licenses for telecommuting – "this is a big benefit," said Ms. Wardle. "Microsoft has never done this for us before."

More bytes for the buck

Another benefit is locked-in prices for six years. "What if prices go down?" asked Wardle. "Our prices will go down, too. Our prices can go down but not up."

Wardle said the agreement can help the Army as a whole can save more than 50 percent over General Services Administration prices. A case in point: Terminal services cost about $100 a desktop – with 494,000 potential users, cost avoidance for that item alone could total $49.4 million.

Also, the agreement has helped the entire DoD realize a lowered price by reaching the number of seats needed for further discounts. "It's only a couple of dollars a seat," said Wardle, "but it could be 100,000 seats, so that could be a significant savings or cost avoidance."

It's because of those anticipated Army-wide savings that Claude M. Bolton Jr., Assistant Secretary of the Army for Acquisition, Logistics and Technology and LTG Steven Boutelle, the Army's Chief Information Officer / G6A, issued Army memorandums declaring an immediate moratorium on all new purchases of Microsoft products and product support services, including those bundled with a hardware purchase.

"This means Army organizations may not purchase Microsoft products with a credit card, through contract actions or any other means," said Thompson. She said that Army organizations currently in a payment plan on one of the DoD MS Enterprise Software Initiative Agreements are obligated to continue payments. After they make payment in full, those Army organizations must be migrated to the Army Enterprise Infostructure - Enterprise Software Consolidation (Microsoft) agreement.

Where do they go from here? Wardle said the U.S. Army Network Enterprise Technology Command / 9th Army Signal Command – which amassed the Army requirements for the agreement - is working the implementation plan, with ASCP - the Army's designated Software Product Manager - responsible for license management. The implementation process is due in September, she said.

Meanwhile, for Wardle it's back to those 4,000 e-mails and getting the word out that *yes*, Army users can get Microsoft software without laying out their direct funds.

Mr. Larsen serves as the public affairs officer for the Program Executive Office for Executive Information Systems at Fort Monmouth.

TACTICAL SATELLITE TERMINALS TO GET NEW LEASE ON LIFE

by Anthony J. Ricchiazzi

TOBYHANNA ARMY DEPOT, Pa.—Engineers and technicians in the Satellite Communications Systems Directorate here have embarked on a $38 million Service Life Extension Program for the military's primary tactical satellite terminals.

The AN / TSC-85 and AN / TSC-93 Ground Mobile Forces Tactical Satellite communications terminals fielded in the mid-1980s, were due to be replaced by the Military Satellite Communications Super High Frequency Tri-Band Advanced Range Extension Terminal system.

Tobyhanna has been repairing, testing and upgrading the GMF TACSAT terminals since they were fielded.

But the STAR-T fielding has been delayed and Tobyhanna is working with the U.S. Army Communications-Electronics Command's Logistics Readiness Center to upgrade the Army's existing fleet of AN / TSC-85C and AN / TSC-93C terminals to the new D model configuration in order to extend the service life through 2012.

"The TSC-85s and TSC-93s are the TACSAT workhorse of the military, used by the Army, Air Force and Marine Corps," said Mark Fagotti, electronics engineer, Engineering Design and Development Division, SATCOM Directorate. "They provide all long-haul communications from overseas locations, like Kuwait and Korea. They're everyone's link back to the U.S."

But simply maintaining the systems is not enough. Mr. Fagotti said Tobyhanna will be replacing the aging legacy equipment, which is becoming costly and difficult to repair, with commercial off-the-shelf and non-developmental items.

"The systems as they are now don't satisfy modern requirements," he explained. "Some of the equipment is difficult to integrate with modern technology. To make the systems compatible with systems such as C-STEP (contingency standardized tactical entry point), they have to be upgraded to operate at higher data rates."

C-STEPs send and receive analog or digital voice, video and data messages. Tobyhanna recently upgraded these systems to allow the terminals to process more data at a faster rate.

All Army terminals (Active Duty, Reserves and National Guard) will get upgraded modems and converters, high voltage power supplies, antennas, frequency modulation orderwire (allows users to talk via telephones over satellites) and enhanced tactical satellite signal processors, GPS timing receivers (provides network synchronization) and fiber optic modems. The upgrades will improve reliability and maintainability.

"We're going to increase the bandwidth use, which will increase the number of channels to improve the system's efficiency," said John

John Morelli, electronics mechanic leader, Satellite Communications Systems Directorate, checks new cabling in a prototype AN/TSC-85D Ground Mobile Forces Tactical Satellite communications terminal. Tobyhanna is upgrading the TSC-85 and the AN/TSC-93 to the D model to extend their service through 2012.

Morelli, electronics mechanic leader, Tactical Multiband Systems Division, SATCOM Directorate. "For example, the systems will change from handling one person talking to another person to several people talking at once from different terminals."

Another improvement is decreasing the system initialization procedure from four minutes to 10 seconds. "In other words, users will be able to ready a system for use in seconds," Mr. Morelli said. "The systems will work digitally, with improved encryption and will have features similar to instant messaging. The system will not only work faster, but will be more user friendly."

The upgraded systems will also have e-mail, video teleconferencing and Internet access.

"We've been modifying the RF [radio frequency] side of the systems, this mission is to modify the baseband side," Fagotti noted. "It's the largest upgrade we've ever attempted and pretty daunting to try to satisfy everyone's needs."

Fagotti said his division carried out the engineering and is working with the LRC's Tactical Satellite Special Project Office's program manager, Dennis Coviello, to coordinate the upgrade.

Mechanical Engineer Dennis Green, Engineering Design and Development Division, SATCOM Directorate (a resident of Honesdale), is leading the mechanical engineering effort.

"The new equipment is not made for mounting in shelters," Mr. Green said. "So we designed and are fabricating mounting brackets and cables that will allow us to install the new equipment in the shelters."

Tobyhanna is also designing and fabricating patch panels that allow the components to be connected in any configuration necessary.

"Once the prototypes are done, we'll include the equipment we designed, the brackets and all associated equipment in kits that will be shipped to the field where our teams will conduct the upgrades," Mr. Green said. SATCOM's Tactical Multiband Systems Division will carry out the upgrades.

Production Management, Systems Integration and Production Support Services directorates are supporting this critical system upgrade. The SATCOM Scheduling Division in Production Management Directorate is providing schedule and program coordination, Systems Integration is fabricating cable assemblies and signal and patch panels, and Production Support Services is providing refining support.

The program is also being supported by Northrop Grumman Information Technologies, located in the SATCOM Mission Facility, with drawings, technical manuals and installation procedures.

SATCOM is in the process of developing the prototypes; personnel from the Tactical Multiband Systems Division will install the new configuration in the field. Once the prototypes are proven, Tobyhanna will build all the installation kits, each having more than 100 wiring harnesses, and perform systems tests.

"A very challenging part is designing the terminals to accept and use the ETSSP, which replaces the 20-year-old tactical TSSP," Mr. Fagotti said. "It's the heart of the baseband side and is actually a multiplexer. It's what allows the systems to work together simultaneously, rather than point to point. It's extremely complicated and can accept and process any type of data."

Mr. Ricchiazzi is a public affairs specialist at Tobyhanna Army Depot Public Affairs Office, Tobyhanna, Pa.

TROKA COMMUNICATIONS UPGRADE

by 2LT Frank Medina

At a moment's notice United States forces must be able to coordinate with the Republic of Korea's three main military forces headquarters, the First ROK Army, Second ROK Army and Third ROK Army are the three main military components that structure the South Korean military, each with its own geographical area of responsibility, the three are the major centers for planning and mobilizing ROK forces throughout the peninsula.

To each headquarters, USFK assigns a military intelligence element comprised of about 150 soldiers who work jointly with their

ROK Army counterpart as U.S. military liaisons to support and coordinate military operations between the two nations. Combat Support Coordination Team's act as military liaison's between the ROKAs and the Combined Forces Command. These teams form a bridge for communication between U.S. military forces and ROK military forces in order to achieve success on the battlefield through coordination and planning.

The three major ROK Armies will always remain in their locations and the CSCTs will continue to provide support along with them. As the demand for faster and more reliable communications between these teams become more critical, 1st Signal Brigade will face the challenge of fulfilling these requirements. As a result, 1st Signal Brigade is sponsoring a project that upgrades the communications network infrastructure of all the CSCTs.

The 362nd Signal Company, 41st Signal Battalion supports CSCT #3, which works with TROKA at Yongin, Korea. The unit provides several dedicated battlefield command and control computer services such as the Global Command and Control System – Korea and Pacific Area Secure Server- Korea that are critical to managing and planning battles. Additionally, the unit provides DSN phone and Internet services.

A telecommunications firm called Alcatel serves as the primary contractor to improve the communications network infrastructure in TROKA. The upgrade includes the installation of the Alcatel 7270 Multiservice Concentrator which is a circuit switch that adapts, aggregates and implements services for ATM, internet protocol, and MPLS converged networks. Additionally, the contractor will install two Alcatel 3600's Multi-service Bandwidth Managers which combines the functions of an integrated voice and data multiplexer, a frame relay and X.25 switch, a low capacity asynchronous transfer mode access node, and intelligent channel bank and a digital cross-connect switch.

Philip Roberts, project manager for the upgrade, said the technicians are working long hours to complete the deadline. The installation of this new equipment will provide broader channel bandwidth's and speed for voice and data services. Presently, technicians are setting up the configurations and parameters on the equipment ensuring that all of the settings are correct. Along with the technicians is a quality assurance team from the brigade that oversees and monitors the whole project upgrade ensuring that the contractors' product meets standards.

Overall, the new upgrade will play a key role in enhancing the bridge way of communication between TROKA CSCT #3, and the Combined Forces Command personnel to coordinate and mobilize forces effectively to achieve success on the battlefield.

2LT Frank Medina is with 362nd Signal Company, 41st Signal Battalion, 1st Signal Brigade.

LEADER TRANSITIONS

SIGNAL BRIGADE REACTIVATES IN KUWAIT

by SPC M. William Petersen

CAMP ARIFJAN, Kuwait – Soldiers and leaders from throughout the U.S. Army Signal Corps gathered at Camp Arifjan, Sept. 3, for the activation of the 160th Strategic Signal Brigade.

While the 160th soldiers present were minimal due to far-scattered units and continuing operational requirements, the activation of the "Finest of the First" began changes that will be felt throughout the Southwest Asia Theater of Operations and the Army.

"The 160th Signal Brigade fills an existing communications support void within the Southwest Asia Theater," said COL John M. Blaine III, commander of 160th. "Prior to the 160th's arrival, the 54th Signal Battalion had been the in-theater strategic communications provider for the past 12 years. The operations that began almost two years ago with the onset of the global War on Terrorism have increased the size and scope of the SWA strategic communications network beyond the capability of a single battalion."

The 160th has a history reaching back as far as World War II. The unit was originally activated March 6, 1945, as the 3160th Signal Services Battalion. Though deactivated only two years later, the unit has gone through several different incarnations in Germany, Texas and Vietnam. Currently the unit has two battalions: the 25th Signal Battalion and the 54th Signal Battalion. The resident signal company at Camp Doha, Kuwait, the 385th Signal Company, is also under 160th's operational control. The brigade is headquartered at Camp Arifjan, but has assets throughout the theater of operations.

COL Blaine, the incoming commander, graduated from the United States Military Academy at West Point in 1979 and has served the Signal Corps and the Army in many diverse capacities from platoon leader in the 3rd Armored Division to the Army's G8 Force Developments, where he was responsible for the Army's budget for procurement of new tactical signal equipment.

In addition to the 160th Signal Brigade's activation, the 25th Signal Battalion was also activated Sept. 1 at Camp As Sayliyah, Qatar. The 25th will be responsible for Qatar, Saudi Arabia, and the Operation Enduring Freedom area of responsibility. The 54th Signal Battalion, formerly a part of the 11th Signal Brigade, will have responsibility for Kuwait and the Operation Iraqi Freedom area of responsibility. Currently 11th Signal Brigade, the deployed Theater Tactical Signal Brigade, is pulling double duty in providing both tactical and strategic communications support, according to COL Blaine.

"As the communications sites in both OEF and OIF receive stabilization communications equipment, the 160th will assume network management control and will have the

'operate and maintain' mission for the fixed-site communications infrastructure throughout the theater," said COL Blaine. "Unlike other theater signal units, the operators and maintainers will be contract employees rather than soldiers. Our relatively small contingent of soldiers will provide the technical monitor [supervision] of the contracted work force."

The stand-up of the 160th began as OIF was getting underway. The initial cadre began arriving in late spring, continuing through late summer, with the majority of the military personnel arriving in August. The task of creating a new brigade during wartime operations was not the only hurdle faced by the 160th in its formation.

"As with the stand-up of any unit, we have had our challenges. Because we are a new unit, there are no existing policies or procedures in place; we have had to develop these from scratch," said COL Blaine. "Since no other unit in the Army performs the type of mission we are about to assume, we are having to modify the existing model for communications support."

While these tasks may be daunting for any commander, COL Blaine sees his responsibility to the unit and the challenges facing his soldiers as a unique opportunity for a unique signal unit.

"These are the type of things that make this unit particularly exciting for all involved. Since the concept for the brigade was developed, the mission has changed significantly," COL Blaine said. "We were originally designed to support – with the same organizational structure – four Army garrisons, but will now support up to 50 geographically dispersed sites that represent close to 200 communications nodes."

The coming year will serve as a formative time for the "Finest of the First," as 160th faces new challenges as a maturing signal brigade. As commander, COL Blaine has focused on two major goals during his command: to improve Network Enterprise Technology Command support in-theater and provide a permanent signal network for forces in Southwest Asia.

"I view the 160th Signal Brigade as the NETCOM in-theater coordinator of the ARCENT (U.S. Army Central Command) requirements-to-solutions process. The purpose of the ITC is to facilitate between Coalition Forces Land Component Command, NETCOM, Combined Joint Task Force-7 and Combined Joint Task Force-180 the requirements refinement and validation, technical engineering, and the logistics involved in providing an efficient and timely solution to meet the customers needs."

The 11th Signal Brigade and 160th Strategic Signal Brigade share the current echelons-above-corps signal mission in Southwest Asia.

"The stand-up of the 160th Signal Brigade is vital to the 11th Signal Brigade's ability to redeploy, reconstitute and prepare for any future tactical contingency requirements in support of the Global War on Terrorism," said LTC Mark Crenshaw, deputy commanding officer of the 11th Signal Brigade. "As the theater communications systems are commercialized, the 11th Signal Brigade will relinquish control of these systems to the 160th Signal Brigade, who will have the responsibility of sustaining the theater communications network. Without the 160th's contribution, critical-tactical command and control resources would be tied up for the duration of our nation's commitment in Iraq."

The 11th Signal Brigade is a theater tactical brigade capable of rapidly deploying anywhere in the world to extend strategic communications services via their tactical communications system to deployed combat units. The 160th is a fixed-station brigade providing strategic communications primarily from permanently installed facilities.

"We have the opportunity working with the 11th Signal Brigade to provide CFLCC, CJTF-180 and CJTF-7 with a more permanent and stable communications infrastructure. During the war, working under severe time constraints and with limited resources, the great signal soldiers of the 11th Signal Brigade established a very good foundation on which to build a fixed communications network," COL Blaine said. "Now it is the 160th Signal Brigade's purpose to continue to build on this foundation to move over time from a predominantly tactical infrastructure to a predominantly fixed station infrastructure. In the coming months, as the 160th assumes control over the strategic network, the number of support contractors will increase proportionally to provide the necessary operations and maintenance functions for the various communications nodes. We are the link to the worldwide Defense Information Infrastructure, providing access to CONUS-based logistics systems and other critical DoD[Department of Defense] information systems and services."

Though COL Blaine has worked for a relatively short time with the soldiers he leads, his confidence in the 160th troops is unwavering. He sees his brigade's soldiers as "highly motivated, professional and technically competent.

"As with every place I've been in my 24-plus-years in the Army, we have absolutely first-class soldiers and leaders," said Blaine. "They are excited to be here during this very challenging time and are focused on standing-up the brigade and getting on with our very challenging mission."

SPC Petersen is with the 11th Signal Brigade Public Affairs Office.

DONAHUE TAKES COMMAND OF 516TH

by Bill McPherson

FORT SHAFTER, Hawaii — COL Brian J. Donahue assumed command of the 516th Signal Brigade from COL Monica M. Gorzelnik Aug. 22 at a Palm Circle ceremony. MG James C. Hylton, commanding general, U.S. Army Network Enterprise Technology Command, officiated.

"The next two years is not about me," COL Donahue told the audience. "It will be all about meeting mission and taking care of the members of this command. Safety is an inherent part of leadership.

"Our goal will be to finish with everyone we start with, with every member of this command better off personally and professionally than they are today," COL Donahue said. "It is great to be here at Team Signal."

COL Brian J. Donahue accepts the colors from MG James C. Hylton during the change of command as he assumed command of the 516th Signal Brigade.

COL Donahue came to his new assignment from the Pentagon, where he had served as the executive officer to the Army's G-6/chief information officer.

Participating on the field were units headed by the four battalion commanders and command sergeants major and the 516th Headquarters Company commander and first sergeant, as well as the 25th Infantry Division's Tropic Lightning Band. LTC Stephen M. Donahue served as commander of troops.

More than 400 watched MG Hylton pass the brigade colors to COL Donahue, and COL Donahue pass the colors to the 516th's CSM James W. Anderson, marking the assumption of command.

COL Donahue concurrently accepted the jobs as U.S. Army Pacific's deputy chief of staff, G-6, and as U.S. Army Installation Management Agency Pacific's regional chief information officer.

In his remarks, MG Hylton praised COL Gorzelnik's leadership and discussed some of the brigade's major contributions to USARPAC the past two years. He then welcomed COL Donahue, saying, "We look to you to lead from the front and exploit the mission and transformation momentum created over the last two years."

COL Gorzelnik thanked Team Signal "for all you've done to make this a strong, mission-focused unit providing world class support.

"Our world and our view and way of war changed forever on 11 September 2001," COL Gorzelnik said. "It has not been business as usual in either the Army or in our country. Your talent, drive and teamwork enable command and control and information superiority for our soldiers to fight and win the Global War on Terrorism."

COL Gorzelnik's next assignment is with the staff of the Army's G-6/chief information officer at the Pentagon.

COL Donahue and his wife Karen, their sons Hunter and Keenan and COL Donahue's father, retired LTG Robert J. Donahue, were welcomed to the Army in Hawaii by well-wishers at a reception following the ceremony. LTG Donahue currently serves as president of the national Signal Corps Regimental Association.

COL Donahue was commissioned into the U.S. Army Signal Corps in June 1982 after graduating from the University of South Florida. He later earned master's degrees from the University of Colorado and the Marine War College.

In September 1990, Donahue deployed to Operation Desert Shield/Storm as assistant operations officer for the 35th Signal Brigade, XVIII Airborne Corps.

From 1998-2000, Donahue commanded the 82nd Signal Battalion, 82nd Airborne Division, Fort Bragg, N.C., where he earlier had commanded a company. He then served as the Signal Branch chief at Personnel Command.

His awards and decorations include the Bronze Star, Defense Meritorious Service Medal, Army MSM (fourth oak leaf cluster), Joint Commendation medal, Army Commendation Medal (third oak leaf cluster), Joint Achievement Medal, and Army Achievement Medal (fifth oak leaf cluster).

COL Donahue has earned the Joint Staff and Army Staff identification badges, as well as U.S. Army master, U.S. Navy, German and Australian parachutist badges.

Mr. McPherson is with the 516th Signal Brigade.

ACRONYM QUICKSCAN

ACA – Army Contracting Agency
AEI-ESC (MS) – Army Enterprise Infostructure - Enterprise Software Consolidation (Microsoft)
APM – assistant project manager
APM BRS – Assistant Project Manager, Base Radio Systems
APM KICC – Assistant Project Manager, KICC
AOR – area of operations
ARCENT – Army Central Command
ASCP – Army Small Computer Program
ATM – Asynchronous Transfer Mode
C4 – command, control, communications and computers
C4IEWS – Communications, Command, Control, Computer, Intelligence, Electronic Warfare and Sensors
CAC – Common Access Card
CCU/SPO – Command Center Upgrades/Special Projects Office
CECOM – U.S. Army Communications-Electronics Command
CENTCOM – Central Command
CFLCC – Coalition Forces Land Component Command
CJTF7 – Coalition Joint Task Force 7
CONUS – Continental United States
COTS – commercial off-the-shelf
CSCT – Combat Support Coordination Team
C-STEP – Contingency Standardized Tactical Entry Point
DoD – Department of Defense
DOIM – Directorates of Information Management
DISA – Defense Information Systems Agency
DMS – Defense Message System
DSN – Digital Service Network
ESI – Enterprise Software Initiative
ESMIS – Electronic Signature Management Information System
ETSSP – enhanced tactical satellite signal processors
FBCB2 – Force XXI Battle Command Brigade and Below
FM – frequency modulation
FORSCOM – Forces Command
FROKA – First ROK Army
GCCS-K – Global Command and Control System – Korea
GMF TACSAT – Ground Mobile Forces Tactical Satellite
GSA – General Services Administration
IP – internet protocol
ISEC – Information Systems Engineering Command
ITC – in-theater coordinator
ITEC4 – Information Technology E-Commerce and Commercial Contracting Center
KC – Knowledge Center
KICC – Kuwait Iraq Command, Control, Communications and Comupters
KM – Knowledge Management
km – kilometers
LRC – Logistics Readiness Center
MCS-L – Maneuver Control System-Light
MILSATCOM STAR-T – Military Satellite Communications Super High
MPLS – Multi Protocol Label Switching
STAR-T – SHF Tri-Band Advanced Range Extension Terminal system
NETCOM – Network Command
NETCOM/9th ASC – Network Enterprise Technology Command/9th Army Signal Command
Pass- K – Pacific Area Secure Server- Korea
NCO – non commissioned officer
PMSEID – Product Management Office Secure Electronic Transactions Devices
PM DCASS – Project Manager, Defense Communications and Army Switched Systems
OCPA – Office of the Coalition Provisional Authority
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
ORHA – Office for Reconstruction and Humanitarian Affairs
PM DCATS – Project Manager, Defense Communications and Army Transmission Systems
Product Manager, Defense Wide Transmission Systems (PM DWTS
PM WIN-T – Program Manager Warfighter Information Network-Tactical
POM – Program Objective Memorandum
QA – Quality Assurance
RF – radio frequency
ROK– Republic of Korea
SROKA – Second ROK Army
TROKA – Third ROK Army
U.S. – United States
USAR – U.S. Army Reserve
USARC – U.S. Army Reserve Command
USFK – United States Forces Korea

2003 marks the 31st Annual Signal Regimental Symposium

Dec. 1-5 are the dates of the 31st Annual Signal Regimental Symposium, and this year's event is shaping up to be the largest ever. The symposium generates the second highest amount of revenue to the Augusta area, exceeded only by the Masters Golf Tournament. From the local military perspective it is the most informative and significant event that the Signal Regiment has each year.

The theme for 2003's symposium is, "Meeting Today's Challenges, Getting the Future Right."

"Our theme represents current efforts in the Signal community to bridge the gap between capabilities that we must provide today to support Army and joint operations, including emerging requirements from Operation Eduring Freedon and Operation Iraqi Freedom lessons learned, and positioning ourselves to provide what our warfighters will need down the road," said COL Bernie Kulifay, chief of staff for the U.S. Army Signal Center.

CPT Stirling West and SGM Mark S. Stroh are planning this year's event. "We have a really exciting agenda planned for this year, we are focusing on the transformation that our Signal Regiment is undertaking in forming the objective force," said CPT West. SGM Stroh added, "We have had a very informative year with scores of lessons learned in the conflicts that we have participated in while in the Middle East and the rest of the world.

The symposium allows us the forum, as a regiment, to gather and discuss these lessons and update or change our doctrine as needed. That alone is a very exciting and profitable factor of the symposium each year."

However, that is only one factor of this multifaceted event.

One of the most visited events each year is the exhibit tent that the Armed Forces Communications and Electronics Association sponsors. This year's tent will be the largest ever covering approximately 53 thousand square feet of the parking lot in front of The Signal Towers on Chamberlain Avenue. This exhibit allows commercial vendors the opportunity to show their products to the soldiers and receive first-hand feedback from our warrior force on what works and what doesn't.

This priceless feedback is collected and used by the industries' design departments to produce items for our services that are truly the best in the world.

"The feedback provided by our soldiers is the voice of experience. Their knowledge and ideas are where the rubber meets the road to improve these companies' products to better serve their users," said Bryan Tuschen local Armed Forces Communications-Electronics Association representative and head coordinator for the exhibit tent.

Workshops are a large part of the symposium. This year's informative workshops will provide a productive exchange of information that is integral in determining where the Signal Regiment is going and how it will take advantage of today's technology. The Signal Corps is on the cutting edge of the technology transformation taking place that allows our world to communicate quicker and more efficiently than ever.

The regiment is not only staying on the cutting edge, but they are developing the equipment that will outfit our objective force of the future. One important aspect of this year's event is to determine the best path to transform our current military from where we stand right now with the equipment we have in our motor pools and shops to the objective future force of 2008. This transformation is based partly upon concepts that are still being designed on the drawing boards today as we speak.

"We know the capabilities are out there and we have to plan and prepare for these evolutionary developments that are taking place so rapidly in the communication field. It is an exciting and fast paced time in the Signal Corps right now," said Regimental Command Sergeant Major CSM Michel Terry.

This year's Signal Regimental Symposium definitely promises to be an exciting event, and the knowledge gathered will serve as a platform to continue the professional performance that the Signal Corps provides by "Meeting Today's Challenges, Getting the Future Right" for our service and this great country. We as a corps are looking forward to this awesome event and we hope that everyone makes plans to attend.

DEPARTMENT OF THE ARMY
ARMY COMMUNICATOR
USASC&FG
ATTN: ATZH-POM
Fort Gordon, Georgia 30905-5301

OFFICIAL BUSINESS
ISSN 0362-5745

PERIODICALS
Postage and fees paid
at Augusta, Georgia, and
additional cities

CHANGE SERVICE REQUESTED

Army Communicator

Signal Towers, Room 713
Fort Gordon, Georgia 30905-5301

PIN: 081047-000