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Headquarters,
Department of the Army

TRAINING THE SIGNAL WARRIOR

FOR A NETWORK-CENTRIC BATTLEFIELD

Special Focus:
Gulf coast relief efforts help those devastated by Hurricane Katrina

Chief of Signal's Comments

Training the Regiment for certainty and educating the Regiment for uncertainty

Fellow members of the Signal Regiment:

The essence of the Army's transformation today lies in capturing opportunities created by the technological change omnipresent in our increasingly complex world. Key to that change is the education and training of signal warriors so they can take advantage of these advances and feel comfortable with the new equipment.

It is clear that the Regiment needs to educate Soldiers in a more network-centric environment and provide consistency from doctrine to actual employment of the network.

We must ensure that our instruction addresses the entire network. In order to produce adaptive Soldiers who are agile thinkers and competent with ever-evolving technology, we need to bring the whole training system and structure into net-readiness. We cannot do it piecemeal. The network is a critical weapons system. It is time to go after our training strategies in order to be positioned for the future.

With this in mind, we have set out to dramatically re-tool our signal school. It is apparent that training our signal warriors so that they function comfortably in a net-centric contemporary operating environment would not be truly effective if we simply focus on new technology. We need to create a new mindset – a new understanding of fighting a networked force. This warrior thinking is information age appropriate and not just new technology grafted on old thinking patterns. The training construct that we developed breaks down internal educational stovepipes and goes from "whole to part." We will introduce every Soldier to the entire network and then provide MOS training based on the military occupational specialty requirements.

BG Randolph P. Strong
Chief of Signal

Using this methodology and lessons from deployed units, we have changed the paradigm in which we think, talk, and teach the network. We are now teaching our Soldiers and leaders how to "fight" rather than "manage" the network. We are now going to train all signal Soldiers and leaders to see themselves – at all times – as critical enablers charged with assuring the health and operation of this critical weapon system. We owe our intelligent Soldiers, Airmen, Marines, and Sailors attending our classes the skills and knowledge to network the force in the joint and coalition fight.

We have started by transforming the advanced individual training experience into three new and distinct parts. In the first part all Soldiers are taught about networks holistically through a "Signal 101" core program while they live in a forward operation base. Through reinforcing warrior tasks and battle drills training, Soldiers are educated on network fundamentals, Internet Protocol fundamentals, information assurance fundamentals, combat net radio, and blue force tracking fundamentals.

Soldiers then go to the second phase and complete competency courses for their specific MOS. Finally, all students have their skills validated in a capstone field training exercise. During this exercise, the signal warrior completes reception, staging, onward-movement,

See Chief of Signal Comments continued on Inside Back Cover

In order to produce adaptive Soldiers who are agile thinkers and competent with evolving changing technology, we need to bring the whole training system and structure into net-readiness. We cannot do it piecemeal. The network is a critical weapons system.

U.S. ARMY SIGNAL CENTER AND FORT GORDON

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

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Command

Commander/Commandant
BG Randolph P. Strong
Command Sergeant Major
CSM Michael Terry

Editorial Staff

Editor-in-Chief/Graphic Designer
Janet A. McElmurray

Senior Adviser
Susan Wood

Illustrator
Billy Cheney

Photography
Stephen Larsen, Tony Medici, Richard Mattox, LTC Stephan Middleton, Anthony Ricchiazzi, Marlene Thompson, White House Photo,

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Cover by Billy Cheney

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PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

SANDRA R. RILEY
Administrative Assistant to the Secretary of the Army

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Modular communication solutions in 2ID

By CPT Benjamin Genthner

Effective command, control, communications, computers, and intelligence systems are critical to the success of a modular force on the modern battlefield. In order to make precise and timely decisions during the battle, our commanders require the ability to access secure voice and data, video teleconferencing, real time intelligence and collaboration tools. The employment of these capabilities gives the commander a common operating picture from which he can make swift and accurate assessments based upon relevant and well-timed information. The ability to share a COP among subordinate, higher, and adjacent units is a force multiplier which pays dividends in every war fighting function.

The Army is currently investing in these C4I capabilities through the Joint Network Node fielding. JNN has proved to be a valuable C4I system during in its recent deployment in support of Operation Enduring Freedom/Operation Iraqi Freedom. 2nd Infantry Division and many other units across the Army have yet to be fielded.

JNNs, however, are still expected to buoy up the growing needs of a modular force. Faced with subscriber needs racing beyond its network capabilities and a JNN fielding no where on the horizon, the 2ID G-6 has aggressively pursued viable solutions.

This path led 2ID to the procurement and fielding of the Combined Operational Very Small Aperture Terminals Network Korea. The light weight, easily deployable terminals were a perfect match to support brigade tactical operating centers, major subordinate command posts, liaison officer teams, or just about any modular CPs requiring secure voice and data. Through much experimentation and fine-tuning by the 2ID G-6 and Northop Grunman the COVN-K has quickly bloomed into a C4I mainstay on the Korean peninsula.

Thesis

Since its fielding in January 2005, the COVN-K has proved invaluable in 2ID's ability to communicate as a modular force. Although the JNN has enhanced interoperability and networking capabilities, COVN-K has become an extremely attractive alternative to legacy mobile subscriber equipment/tactical satellite communications. Its high bandwidth, ease of installation and generally low maintenance and overhead make it a perfect solution for any organization looking for quick, efficient, and sustainable communication. The COVN-Ks abilities have been tested, refined and validated during Warpath III, War Fighter 05, and the ULCHI Focus LEN 05 exercises, in which the system provided secure voice and data services to major subordinate commands within 2ID and also to our Republic of Korea LNO teams across the peninsula.

Origin

Although heavily employed for operational needs since its induction at 2ID, the COVN-K system was originally designed by and for United States Forces, Korea J2 to provide signal intelligence, human intelligence, and imagery intelligence data to military intelligence units. The J2 system, named Combined Intelligence VSAT Network Korea, quickly became popular because of its ease of deployment, reliability and maintainability. To delineate the operational systems from the intelligence systems it was renamed COVN-K and was fielded by the 122nd Signal Battalion in January 2005. The COVN-K has been used intensely for operational needs of the 2ID ever since.

Composition

The COVN-K can be grouped into two major parts groups. (1)The spoke antenna and radio frequency subsystem; which includes the antenna, up-converter, amplifier, low noise block converter, and inter-facility link cables. (2)The COVN-K LAN subsystem; which consists of a Cisco black side router, a KG175, a Tactical Command Post /Internet Protocol link enhancer and the red side router. The COVN-K integration of top of the line commercial-off-the-shelf hardware makes replacing parts convenient.

Deployability

In comparison to conventional MSE and TACSAT assets, COVN-K is very easy to deploy. Using a lightweight 2.4 meter off-set feed antenna dish transportable via humvee, the COVN-K system can be setup and operational by two trained operators in as little as 30 minutes. This setup time makes it an attractive communications tool to modular command posts on the move.

Survivability

The COVN architecture was designed to promote survivability among intelligence/communications networks around the Pacific Theater. With hubs, servers and Multi-Controlled Units located on Sunset Beach, Oahu, Hawaii, the systems gateway is survivable despite possible hazardous situations on the Korean peninsula. This survivability is a key feature considering the unpredictable nature of the enemy.

COVN-K is fully scalable, super-high frequency VSAT terminal approved for C-band operation.

Data

The COVN-K is a fully scalable and modular super-high frequency VSAT terminal approved for C-band operation with a tested data rate of 3.0 Mbps In bound to the hub and up to 60 Mbps outbound from the hub. The system is capable of operating in the SI/TK, Sensative Infomation Releasable to Republic of Korea, SECRET COLATERAL, SECRET Republic of Korea classification level individually, or any combination of the four classification levels to include all four simultaneously.

Scalability

Featuring full redundancy at the commercial hub, the COVN-K can support scalable multi-meg data rates depending on the assigned bandwidth provided by the Network Management System. The COVN-K has the ability to allocate bandwidth to each terminal on the network making it scalable to whatever mission requirements may be. The COVN-K network administrator continually monitors and assesses how terminals are using their allocated bandwidth to ensure optimal performance.

Terrain 1

The employment of COVN-K has also helped resolve terrain challenges that with 2IDs traditional LOS architecture were sometimes difficult to overcome. A brief terrain analysis of the Korean peninsula reveals a mountainous landscape with an abundance of foliage, plant life and undergrowth. Large low lying areas are susceptible to flooding and are often used for agricultural means. Conventional LOS based radio systems such as the Single-Channeled Ground to Air Radio System and MSE face a unique challenge on the Korean peninsula. The abrupt terrain throughout Korea is not conducive to LOS voice and data communications.

Terrain 2

In the event of sudden North Korean invasion the Korean terrain would severely impede the 2ID's ability to Install, operate, maintain and protect a LOS architecture. Due to the vulnerability of relay positions, deploying a network using these systems would require excess security, and co-habitation with protection elements. Aviation assets, already taxed with theater level missions, would be required to place nodes and relays upon otherwise inaccessible hilltops. Extended logistics and maintenance operations would have to be planned, executed, and sustained. In summary, deploying a conventional MSE/frequency modulation architecture in support of a fast moving modular force would most likely be a complex and hazardous venture. In the event that 2ID would "Fight Tonight" the modular nature of COVN-K would help mitigate these risks, creating a flexible communication network which is easy to install, operate, maintain, and protect.

Challenges

The COVN-K program has not been without its challenges; 2ID has yet to move their servers to Hawaii. This has caused undue latency in the COVN-K network. This "Double Hop" situation is an ineffective way to use the network because it essentially has doubled the time for a subscriber in the field to connect to his hub/server.

Currently 2ID has resorted to a "virtual hub" solution in which a hub is made from a COVN spoke terminal located at the division main. This "virtual hub" is acting as an inject point to the division servers. This solution does work, however it causes undue latency because Instead of having to travel from a subscriber in the field to the satellite and down to a server farm in Hawaii, in the "virtual hub" configuration, packets have to travel twice the distance, leaving again from Hawaii, back to the satellite and back down to the "virtual hub" at the main. There are future plans to move 2ID's servers to Hawaii, however until this is done extended latency will continue to cause problems. Specifically at the application layer in which many "real time" applications which seek information constantly have experienced issues due to latency.

Conclusion

In conclusion, with the ever growing demand for bandwidth and C4I systems by commanders of a modular force; units such as 2ID have experienced a period in which the demands of the subscriber often do not match the ability of a traditional line-of-sight network. These challenges have led to great strides made in an unconventional manner. By thinking outside the box, 2ID and the G-6 team working closely with Northup Grunman have created a solution to support the modular communications needs of a transformed force.

The COVN-K has been an integral part to 2ID's transformation, and although it has had its challenges it has proven to be a more than adequate placeholder for JNN. With the current fielding of JNN steadily slipping to the right, 2ID is currently slated to procure seven additional COVN-K systems in fiscal year 05-06. There are also plans to integrate COVN-K into the eventual 2ID JNN Network. Despite the eventual fielding of JNN, future research development and refinement of the COVN-K will remain a key training objective of the 2ID G-6 as we move to expand in our role as the "Voice of the Warrior".

CPT Genthner is currently assigned to the 2nd Infantry Division where he works in the G-6 NETOPS section at Camp Red Cloud Korea. He was previously assigned to Fort Bliss, Texas, where he served as a Air Defense signal officer and MSE platoon leader from 2001-2004. He attended the Signal Captains Career Course class 06-04 where he graduated in March 2005.

Acronym QuickScan

BDE – Brigade
C4I – Command, Control, Communications, Computers, & Intelligence
COP – Common Operating Picture
COS – Commercial-off-the-shelf
CIVN-K – Combined Intelligence VSAT Network Korea
COVN-K – Combined Operational VSAT Network Korea
CP – command posts
FM – frequency modulation
FY – fiscal year
HUMINT – Human Intelligence
ID – Infantry Division
IFL – inter-facility link
IMINT – Imagery Intelligence
IP – Internet Protocol
JNN – Joint Node Network
LAN – Local Area Network
LEN – Large Extension Node
LNB – low noise block
LNO – Liaison Officer
LOS – Line of Sight
MCU – Multi-Control Unit
MSE – mobile subscriber equipment
NMS – Network Management System
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
RF – radio frequency
ROK – Republic of Korea
SHF – super high frequency
SIGINT – Signal Intelligence
SINCGAR – Single Channel Ground to Air Radio System
TACSAT – Tactical Satellite
TCP – Tactical Command Post
TOC – Tactical Operations Center
USFK – United States Forces, Korea
VSAT – Very Small Aperture Terminal

Tactical COTS concept used for GWOT

By CPT Jack Sander

Commercialization concept

Initial combat operations within Iraq in support of the Global War on Terrorism required rapidly deployable communications personnel and equipment. Once initial combat operations were concluded, those same communications personnel began to focus on building a long-term strategic commercial communication infrastructure that provided a robust, redundant, and reliable extension of the Global Information Grid to U.S. and Coalition forces.

The transition from initial combat operations to stability and sustainment operations occurred very rapidly in Iraq.

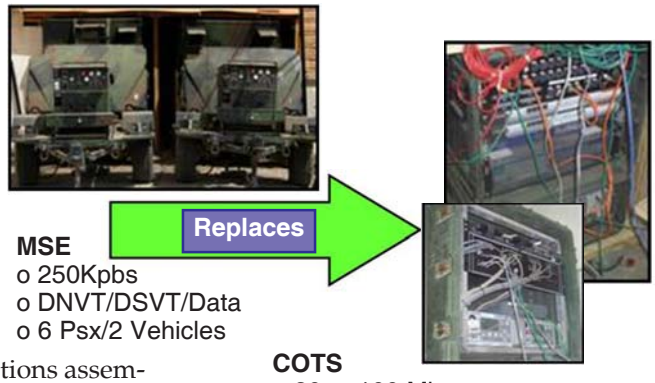
The supporting transition from the tactical communications network that existed during initial combat operations to the long-term strategic commercial communications infrastructure that provides service for stability and sustainment operations does not occur as rapidly as necessary to keep pace with the combat maneuver units. Providing immediate command, control, communications, and computer support to the warfighter is the responsibility of the tactical signal units within theater. Conversely, the operations and maintenance of the long-term, strategic commercial infrastructure falls under the purview of personnel at the Network Enterprise Systems Technology Activity within the Network Enterprise Technology Command, based at Fort Huachuca, Ariz.

This paradigm resulted in a situation that required the Signal Corps to develop an interim solution designed to rapidly relieve tactical units in order to free them up for reconstitution and follow-on missions in support of the GWOT. In order to fulfill the need for this interim solution, the tactical commercialization concept was developed by the 35th Signal Brigade (Airborne), based out of Fort Bragg, N.C. Commercialization of networks is defined as the displacement of tactical communications assemblages by modular, commercial-off-the-shelf solutions. In other words, commercialization of the tactical network is a bridge between the tactical communications network and the long-term strategic commercial infrastructure.

In other words, commercialization of the tactical network is a bridge between the tactical communications network and the long-term strategic commercial infrastructure.

All commercial components and devices are housed in rugged transit cases. They represent a standardized solution that can meet current and future subscriber demands through a modular design that allows easy relocation as the supported commander moves throughout the battlespace. A good example of this application would be to consider a unit that is currently located at a remote Forward Operating Base. While stationed at the FOB, the unit is receiving C4 services extended from the campus architecture through a COTS solution within ruggedized transit cases. This unit then hypothetically receives orders to relocate to another base that has a more permanent, long-term strategic information infrastructure with limited Outside Plant fiber optic cable already in place.

As the unit prepares to move, they merely disconnect the COTS components within their transit cases and then transport those cases with them as they move to the new base. Upon arrival at the new base the unit already has an organic capability to hook directly into the existing OSP infrastructure, without having to wait for additional fiber optic cable to be extended to their location. This methodology saves time, effort, and supports our combat forces effectively with the necessary C4 services.



Commercialization of network technologies

Commercialization of networks consist of the design and implementation of a commercial-off-the-shelf network solution that can be placed into operation immediately to relieve tactical communications assemblages. These COTS solutions are

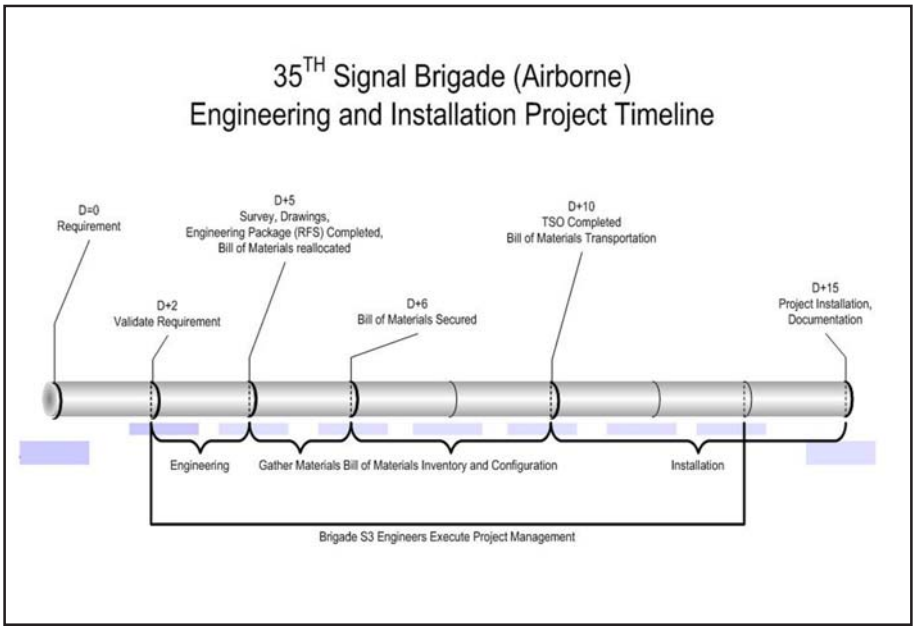
based upon several current and emerging technologies such as the Redline Communications' AN-30e Broadband Wireless System, Canon's Free Space Optics Transceivers, Cisco System's VG248 Analog Phone Gateway, and the Coalition Military Network.

The AN-30e Broadband Wireless System operates within the 5.4 to 5.8 gigahertz range of the electromagnetic frequency spectrum and is designed to be capable of transmitting up to eight full T1 circuits over a planning range of 80 kilometers. The Canon Free Space Optics is a bi-directional optical beam transceiver designed to be capable of transmitting a data rate of 156 Mbps over a planning range of 2000 meters. Both the AN-30e Broadband Wireless System and the Free Space Optics Transceiver can be managed remotely through Simple Network Management Protocol.

Cisco System's VG248 Analog Phone Gateway provides full integration of analog devices (telephones, modems, fax machines) into the CallManager Internet Protocol telephony system. The Cisco VG248 Analog Phone Gateway is housed in a 19-inch rack-mount chassis and capable of supporting up to 48 wireline subscribers.

The Coalition Military Network provides a rapidly deployable, self-contained tactical-type capability that extends the campus architecture for secure and nonsecure voice, Nonsecure Internet Protocol Router Network, and coalition classified data network connections to remote sites. The Coalition Network architecture uses a multifrequency, time division multiple access, demand-assigned multiple access system which fully integrates into an Internet-Protocol information infrastructure.

These COTS solutions have several advantages in terms of increased bandwidth, quality of service, and a reduction in both the number of personnel and vehicles required for operation.



The mission

During OIF-III, the lead tactical signal unit in theater was the 35th Signal Brigade (Airborne), which deployed to Iraq as the Multinational Corps-Iraq Coalition Network Operations and Security Center. From the beginning of the receipt of deployment orders for the rotation the Soldiers, non-commissioned officers and officers of the 35th Signal Brigade began preparing for the challenging mission of commercialization. Realizing that the skills required to install a commercial network infrastructure normally reside at the Echelon Above Corps level the brigade's leadership formed a plan to prepare for the upcoming mission.

Preparation before deployment included Soldiers attending fiber optic cable splicing/installation schools, engineering/installation courses, and a myriad of advanced data networking classes, all designed to ensure that they built the skills necessary for success in the commercialization mission. The foresight of this preparation by the unit's leadership paid huge dividends throughout the deployment.

The mission defined by the brigade's leadership was to install an interim commercial network solution that provides enhanced command, control, communications and computer services to the warfighter while displacing tactical communications assemblages for follow-on missions in support of the Global War on Terrorism.

In order to meet this mission the unit developed teams within each subordinate unit's area of operations. Based upon bottom-level-up input from both subscribers and the teams, the brigade developed an Engineering and Installation model for the design of COTS solutions. This model consists of several phases and is depicted graphically in the illustration above.

The process begins with the validation of the subscriber's communications requirements. Once validated an initial engineering survey is completed to determine the necessary Bill of Materials and the engineering design is modeled through the use of automated tools. Next any necessary Requests for Service are submitted to higher headquarters and the necessary equipment to fill the Bill of Materials is located. Once all equipment is located an inventory is performed along with initial configuration and testing of all components/devices. Once the Telecommunications Service Order is approved by higher headquarters, the Bill of Materials is transported to the installation site. Upon arrival at the installation site the equipment is placed into operation and end-to-end user connectiv-

ity is verified. Upon verification of end-to-end connectivity the tactical communications assemblage is relieved of its mission. All necessary documentation such as engineering instructions and AutoCad drawings are then completed and distributed to the appropriate agencies.

The main requisition source for the bill of materials during the OIF III rotation was either equipment that had previously been procured for a project that was no longer needed or end-of-lifecycle equipment that was repaired and refurbished by the brigade during the deployment.

The Outside Plant missions performed by the Soldiers of the brigade during the rotation were designed to support the tactical commercialization concept while moving towards the goals of a long-term, strategic commercial infrastructure installation.

In some cases we were able to use existing Iraqi manhole structures and conduits for the installation of fiber optic and copper cable. In other cases the manhole structure and conduits were damaged beyond repair and cable assets were direct-buried to bypass the unusable manholes. Continual forward-progress was maintained at all times, providing an ever-increasing quality level of C4 support to the warfighter.

This progress was maintained by using assets that were on-hand in theater as opposed to waiting on additional equipment and resources to arrive from CONUS. In this manner the brigade ensured that there was a constant, steady decrease in the number of required tactical signal forces throughout the duration of OIF-III.

Soldiers from the 35th Signal Brigade (Airborne) install a Tactical Commercialization Data Package during OIF-III.

The results

During the OIF-III rotation the soldiers of the 35th Signal Brigade (Airborne) completed a massive OSP mission, terminating over 5,160 individual strands and installing over 795 miles of fiber optic cable. The in ISP statistics for the brigade's accomplishments were equally as impressive, with over 167 buildings wired for subscribers and over 501 layer-2/3 switches configured throughout Iraq. The brigade also installed over 5,000 Voice over Internet Protocol phones and provided service to over 6,600 commercial subscribers in the largest tactical/strategic communications network in the history of the Signal Corps.

Most importantly, the tactical communications concept allowed the Signal Corps to provide an enhanced quality of service to the warfighter, housed within a modular design that can be relocated throughout the battlespace as necessary in accordance with current mission, enemy, terrain and weather, troops available and civilian factors to achieve tactical and operational objectives.

The tactical commercialization mission was a resounding success for the brigade during OIF-III, allowing the Signal Corps to provide immediate C4 solutions to the warfighter while simultaneously advancing as rapidly as possible with the installation of the long-term commercial infrastructure. The hard work and dedication of the Soldiers, non-commissioned officers and officers of the 35th Signal Brigade (Airborne) paid off as they finished the rotation by achieving a total decrease of almost two full tactical area signal battalions within Iraq.

This is an approximate total of 1,146 Soldiers, 50 communications assemblages, and 25 data packages that will now be able to reset and maintain the combat readiness necessary to meet current and future warfighter demands in support of the GWOT.

Acronym QuickScan

BOM – Bill of Materials
C4 – Command, Control, Communications and Computers
CMN – Coalition Military Network
CNOSC – Coalition Network Operations and Security Center
COTS – Commercial-Off-The-Shelf
E&I – Engineering and Installation
EAC – Echelon above Corps
FOB – Forward Operating Base
GIG – Global Information Grid
GWOT – Global War on Terrorism
ISP – Inside Plant
METT-TC – mission, enemy, terrain and weather, troops available and civilian
NETCOM – Network Enterprise Technology Command
NIPERNET – NonSecure Internet Protocol Routing Network
OIF –III – Operation Iraqi Freedom Rotation III
OSP – Outside PlantRFS – Requests for Service
SNMP – Simple Network Management Protocol
TSO – Telecommunications Service Order
VoIP – Voice over Internet Protocol

CPT Sander is currently assigned to the 35th Signal Brigade (Airborne) S3 Engineer section. He commanded Company C, 327th Signal Battalion (Airborne) during Operation Enduring Freedom IV. His previous assignments include training with industry at AT&T Research Laboratories, Battle captain for the Joint Signal Support Element in support of CJTF-180 during Operation Enduring Freedom II, and Squadron Signal Officer for the 3rd Armored Cavalry Regiment during the Stabilization Force-7 rotation in Bosnia-Herzegovina.

He holds an undergraduate degree in Electrical Engineering from Colorado Technical University in Colorado Springs, Colo.

Commercial technologies in Iraq

By MAJ Mike Parsons

The 35th Signal Brigade (Airborne) deployed to Iraq in support of Operation Iraqi Freedom III to provide command, control, communications, and computers support to Multinational Corps-Iraq and Multinational Force-Iraq. With the support of MNF-I and Central Command, the brigade procured, tested, validated, and fielded many new technologies in support of the warfighter. In each instance bandwidth, quality of service, and overall capability were expanded through the use of commercial off-the-shelf technologies.

Nonstandard transmission

Prior to deployment, the brigade tested two critical Internet Protocol-based transmission technologies with the support of the Office of the Secretary of Defense Horizontal Fusion program. These were wireless metropolitan area networking and free-space optics. In testing, each was able to provide much higher bandwidth than fielded organizational equipment, and each was trained internal to the unit with nothing more than the instruction manual.

The wireless MAN technologies include 802.16-compliant, 802.16-like, point-to-point, and point-to-multipoint packet radios, at up to 56 Mbps transmit rate full-duplex. The primary product line used is the Redline Communications AN30/AN50 series. These serve as an ideal IP-converged solution for commercial replacement of tactical ultra high frequency transmission.

While testing at Fort Bragg, we were able to attain over 20 Mbps throughput at 55 km. Currently in theater, there are more than 40 of these radios maintaining critical command and control communications links between major enclaves. In most cases they are the primary communications paths for all data networks. In some cases they are the sole path. One challenge presented with implementing these radios was frequencies. Because they fall within the commercial and/or unlicensed bands, host-nation approval was required to operate each link. The transmit rate attainable was dependent upon many factors, such as interference, terrain, obstructions, etc. We never attained less than 24 Mbps.

The free-space optics lasers proved to be a quick, simple, and high-bandwidth solution for short-haul (less than 2 km) solutions where cabling was not feasible or timely. The primary product line is the Canobeam DT-120 series. The throughput (in all cases) was equivalent to 10/100 Ethernet (100 Mbps). They operate at the lower-end of the infrared spectrum, and we were concerned with interference to night-vision

Wireless metropolitan area networking, free-space optics lasers and radios were used for communications in Iraq.

buildings, this was not a factor. The second challenge was dust storms, extremely common in theater during the summer months. After constant dust storms of 24-48 hours, lens cleaning was required for the lasers to maintain the links. Unless this was performed daily, the link would drop and could not be brought back until the storm abated, due to lack of visual cues for aligning the lasers.

For both aforementioned technologies, encryption was a hurdle the brigade had to overcome. Neither was equipped from the factory with a high-enough level of encryption to carry even Non-secure Internet Protocol Router Network. Our solution was to use routers on

VoIP is fully-embedded with the PDS-Yes MSE network in Iraq, enabling secure calling between Digital Non-secure Voice Telephone and SIPRNET VoIP.

devices. In theater, they proved not to be a distracter (even cross-airfield) to both ground and air NVDs. The lasers presented two primary challenges. The first was providing an extremely stable mounting platform. The lasers could not maintain the link during windstorms when mounted on masts or poles. In instances where they were tower-mounted or affixed to permanent infrastructure such as concrete

each end of a link to perform the necessary 256AES encryption. To achieve the necessary data rates, the routers were outfitted with Cisco virtual private network encryption modules to encrypt using hardware rather than the router software. Using the router initial operating system as opposed to the hardware VPN module, throughput was limited at 9-11 Mbps. Other networks are tunneled through the NIPRNET with TACLANE type 1 encryptors. This represents a flip-flop in concept, with an UNCLASS backbone as opposed to bulk-encrypted Secure Internet Protocol Router Network as in the Mobile Subscriber Equipment/Tri Services-Tactical networks. In a coalition environment this proved extremely useful on numerous occasions.

Using this methodology, service could be extended "through" a coalition partner, and the SECRET networks broken out only where required, and to what level required.

Voice-over-IP

During this rotation, the brigade built upon the SIPRNET VoIP network established by III Corps and the 1st Cavalry Division. It has now expanded to cover the entire tactical footprint in Iraq, and currently services more than 4,000 subscribers. Significant during this rotation was the fact that SIPRNET VoIP subscribers now outnumber tactical telephone subscribers. VoIP is fully-embedded with the Protective Distribution System-Yes MSE network in Iraq, enabling secure calling between Digital Non-secure Voice Telephone and SIPRNET VoIP. In fact, should two enclaves lose data connectivity, the MSE flood-search network is used as an alternate route.

Each major area of responsibility or enclave has a gateway between the SIPRNET and the MSE network using either a Vantage gateway switch or switching/multiplexing unit. With well over a dozen MSE/VoIP gateways and over a dozen CallManager clusters, redundant gatekeepers have been installed to simplify the theater routing and provide a centrally-controlled architecture. These also provide theater-wide alternate routing and failover.

This architecture has served the fielded modular Joint Network Transport Capability telephony structure well, as each inbound equipped unit needs only to activate one trunk to the gatekeeper to enable theater-wide calling. This

Technology	Miles	Km	Transmit Rate (Mbps)	Remarks
W-MAN	10.78	17.248	36	
W-MAN	3.08	4.928	24	
W-MAN	8.2	13.12	36	
W-MAN	9.13	14.608	48	RF-intense metropolitan area
W-MAN	0.83	1.328	36	
W-MAN	2.61	4.176	36	
FSO	1.1	1.76	100	

has served the warfighter well as the commercial replacement for the tactical Digital Nonsecure Voice Telephone, and meshes well with the IP-converged transmission technologies.

The Cisco VG224/VG248 analog voice gateways were also used extensively. These were especially useful where a copper distribution frame was already present, or where telephone service was required and switched ethernet data (required for a VoIP telephone) was not an option due to security concerns. As an example of the utility of the Iraq VoIP architecture, there are no DNVT remaining on the MNC-I JOC floor. Future plans for SIPR VoIP include interface with the Defense Information Systems Agency VoSIP network, theater-wide G.729 conferencing capability to conserve bandwidth, and voice mail at major enclaves.

Coalition military network

The brigade was able to capitalize on a highly-capable satellite transmission system already present in theater to expand service and reduce the tactical over-the-horizon requirement. It is a TDMA Ku-band system, incorporating equipment sets similar to that of the Joint Network Transport Capability architecture. Each remote terminal (20 total) has two SATCOM paths, one for DSN telephone extension and one for data. The CMN network is a hub-spoke architecture for data, using the Linkstar TDMA modems. For voice, the system uses the Linkway TDMA modems in a fully meshed IP network. Voice locals are multiplexed into an IP stream using Shout multiplexers. "Minor" nodes carry 24 DSN locals and "major" nodes carry 48.

At the beginning of the rotation the data portion was used only to carry the Combined Enterprise Regional Information Exchange System network. During this rotation, nearly half of the remote terminals have been outfitted and equipped to carry both NIPRNET and SIPRNET, in addition to the CENTRIXS network. The CMN network has proven itself to be a reliable, robust, and well-operated IP transmission system.

In some cases, the CMN network is the sole communications link for both voice and data service. Future plans for this network include IP acceleration for both NIPRNET and SIPRNET (CENTRIXS already has them), redundant failover to the voice side of the terminal for data passage, and addition of more Linkway TDMA modems to provide service for assemblages fielded as part of the JNTC architecture or as part of the Joint Intelligence Operations Center-I initiatives.

At endstate for this rotation, the brigade was able to reduce the tactical signal footprint by nearly two signal battalions. Across the board, subscribers with service retained it, new validated requirements were filled, and the quality of service to the subscriber was increased. These new technologies played a crucial part. While not removing the need for Soldier presence, the presence was significantly downsized in terms of tactical assemblages and manpower once subscribers and areas were migrated to these COTS technologies. In many cases the solutions are transit-case mounted, and have proven to be flexible enough to respond to operationally-driven changes yet stable enough to be incorporated into a semi-permanent campus architecture.

MAJ Parsons is currently assigned to the 35th Signal Brigade (Airborne) S3, as the engineering officer-in-charge. His previous assignment was as a student at the Telecommunications Engineering (FA24) Course at Fort Gordon, Ga.

He holds an undergraduate degree in computer science from USMA, and a masters degree in computer science from Southern Illinois University at Carbondale.

Acronym QuickScan

AES – Advanced Encryption Standard
AOR – Area of Operation
C2 – Command and Control
C4 – Command, Control, Communications and Computers
CENTCOM – Central Command
CENTRIXS – Combined Enterprise Regional Info Exchange System
CMN – Coalition Military Network
COTS – Commercial-off-the-Shelf
DISA – Defense Information Systems Agency
DNVT – Digital Non-secure Voice Telephone
DSN – Defense Switched Network
FSO – Free-space Optics
IP – Internet Protocol
IOS – initial operating system
JIOC-I – Joint Intelligence Operations Center - Iraq
JNTC – Joint Network Transport Capability
JOC – Joint Operations Center
MAN – Metropolitan Area Network
Mbps – Megabits Per Second
MNC-I – Multinational Corps-Iraq
MNF-I – Multinational Force-Iraq
MSE – Mobile Subscriber Equipment
NIPRNET – Non-secure Internet Protocol
NVD – night-vision devices
OSD – Office of the Secretary of Defense
OIF – Operation Iraqi Freedom
PDS – Protective Distribution System
PRN – Protocol Routed Network
SATCOM – satellite communications
SIPRNET – Secure Internet Protocol Routed Network
SMU – switching/multiplexing unit
TACLANE – Tactical Local Area Network Encryptor
TRI-TAC – Tri-service Tactical
TDMA - Time Division Multiple Access
UHF – Ultra-High Frequency
VoIP – Voice Over Internet Protocol
VoSIP – Voice Over Secure Internet Protocol
VPN – Virtual Private Network

Black Network proves its mettle during Ulchi Focus Lens 2005

LTG Thomas F. Metz, III Corps commander, GEN Leon J. Laporte, commander, Combined Forces Command Korea, GEN Kim, Third ROK Army commander, receive a battle update briefing in the III Corps TAC.

By COL Robert L. Bethea, Jr., MAJ Edward P. Mattison, Jared Shepard, and CPT Kevin Knowlen

As the Army transforms to a modular force, the dynamic nature and complexity of the signal mission environment has increased. The most significant factors involved are the influx of new technology and the diversity of missions that we are called upon to perform. III Corps G6 and the 3rd Signal Brigade addressed this growing complexity with a simple approach: "any network, any service, anywhere".

The 3rd Signal Brigade has been called upon in the last 36 months to complete a variety of missions. This included establishing and maintaining the largest combined tactical and commercial military network in United States history during Operation Iraqi Freedom II (as documented in the *Congressional Record*).

A black network is basically an unencrypted network used for the sole purpose of transmitting encrypted traffic.

More recently, III Corps was tasked with implementing and integrating a combined Defense Information Systems Agency Asynchronous Transfer Mode and commercial T1 network to support the III Corps tactical command post while deployed to Korea for Ulchi Focus Lens 2005.

The 3rd Signal Brigade also assisted in the deployment and integration of Army Signal assets and commercial assets in support of the Department of Homeland Security for hurricane relief efforts in Louisiana and Texas.

The tactical problem

Due to the rapidly changing mission, the extremely large footprint of tactical assets, and the complex commercialization process, III Corps had to integrate a multitude of transport solutions during OIF II. As a result, the requirement to have a transport independent network design became readily apparent to the officers, non-commissioned officers, and engineers of the 3rd Signal Brigade.

The transport solutions entailed deploying predominantly commercial satellite suites into hazardous tactical environments. In some instances, these commercial communications packages were not under the direct control of the military or even capable of being consistently monitored by a government agency. The need for security on these networks resulted in the

implementation of Tactical Local Area Network Encryptor, Type I, inline encryption devices across the Wide Area Network and Local Area Network environments, in both continental United States and outside the Continental U.S.

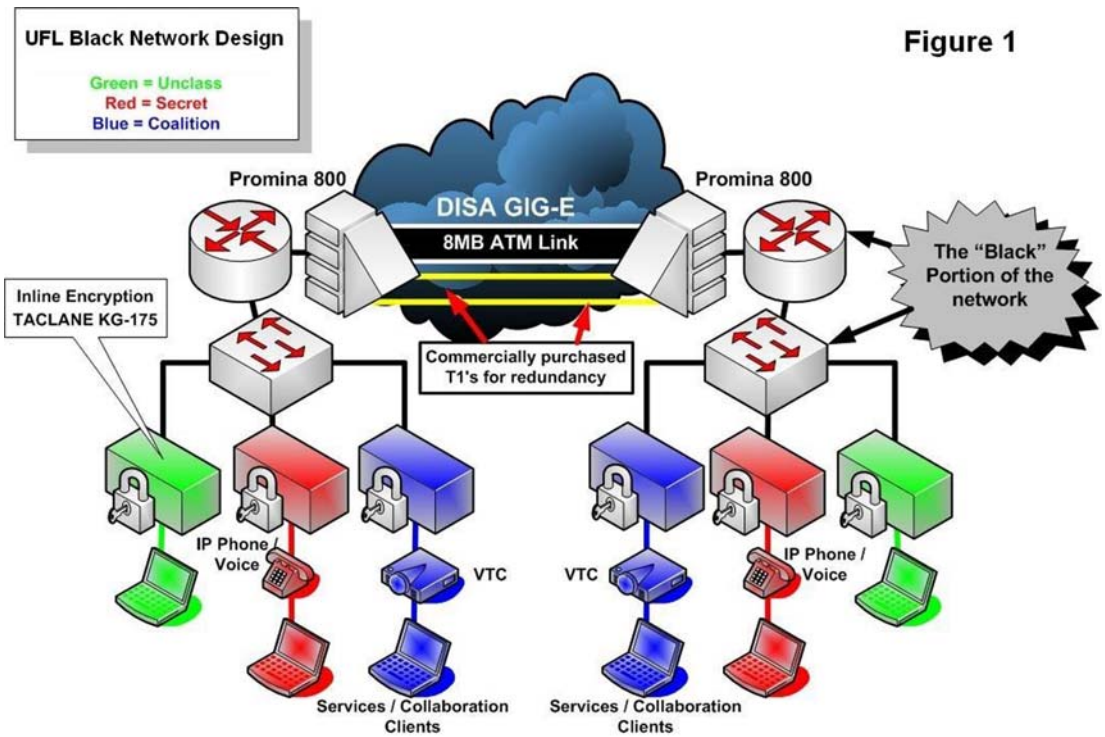


Figure 1. Black Network: this diagram shows the basic layout of how we implemented our black network. An unencrypted ATM circuit is taken from DISA and tunneled to all our tactical networks through this black pipe.

Black network design

To address this growing complexity, COL Robert L. Bethea Jr., 3rd Signal Brigade commander, directed the brigade to develop a solution independent of the transport mechanism, but still scaleable to support multiple networks (i.e.: Top Secret, Secret, Coalition, and Unclassified).

This was done through design and implementation of the black network. A black network is basically an unencrypted network used for the sole purpose of transmitting encrypted traffic. The term "black" was adopted with the intent of emphasizing that the classification of the transport network was independent of the classification of the delivered services network. The transport could be a mobile subscriber equipment node, a joint network node, a commercially purchased circuit, or even a coalition non-terrestrial package. This capability was intended to be available for major command and control nodes in Army corps, divisions, and brigade combat teams. The goal was to maintain simplicity and ease of implementation, while maximizing redundancy and efficiency for data services.

Two III Corps G6 Soldiers transport network equipment during the tactical setup in Korea for Ulchi Focus Lens 2005.

Network architecture

The Ulchi Focus Lens 2005 exercise became a perfect event to test this design due to the limited usage of Army tactical signal assets and the integration of both Defense Information Systems Agency controlled asynchronuous mode links

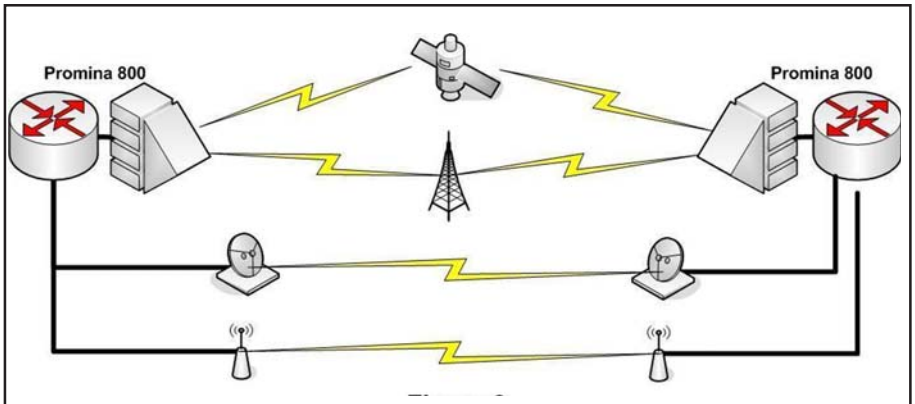


Figure 2. This diagram illustrates the black network design which is completely independent of the communication assets used for the transport method. The black network design remains the same regardless of the communication asset types used.

Tactical pit area of the III Corps TAC, where battle update briefs are received.

and commercially purchased T1 lines. 3rd Signal Brigade decided to use a Defense Information System Agency 8MB asynchronous transfer mode link and two commercial T1 lines, during this exercise, to simulate the bandwidth capacity of a Joint Node Network command post node or an ATM Moblie Subscriber Equipment node. These links were terminated at each end into Promina 800 Multiservice Access Platforms operated by the 3rd Signal Brigade. The brigade engineering team's Promina was located forward in a transit case within the III Corps tactical command post in Korea. The 57th Signal Battalion base ban node van housed the Promina in the Continental U. S. in the vicinity of the corps main command post. The raw connections for both the ATM and T1 circuits brought into the Promina are in the black network state, meaning that the classification and network provider is irrelevant to the customer's Local Area Network environment. These connections are then passed from the Promina into the black router (See Figure 1). The black router is the cornerstone of our design, acting as the central point to consolidate all IP based communications capabilities.

For this application we used a Cisco 3845 router, which allowed for both serial and Ethernet 10/100/1000 connections. This is the point where the routed relationship between any participating black routers would be established and all necessary traffic shaping could be performed. Traffic shaping at this point would be for the prioritization of one network over another, i.e., if the coalition network was the primary operational network, you could provide it the most desirable connection state.

The router is then connected to a Cisco 3560G switch via its Ethernet port, and then to each network's appropriate TACLANE device. The TACLANE device is the demarcation point for each classification's LAN network.

The main advantage of this design is the true independence of the encryption solution from the method of transport. In Figure 1, the network displayed shows the Promina being used to tie in the ATM and leased circuits, as was done during UFL 2005. However, the same design could be used with any combination of circuits and termination devices on the wide area network side of the black router; a mix of tactical assets, commercial assets, line-of-site assets, microwave, or satellites (See Figure 2) could be used. The nature and complexity of the WAN transport environment are invisible to and abstracted away from inside the LAN network.

Gateway Router Encapsulation tunnels are necessary to allow the individual network Point of Presence routers to see each other across the WAN and to exchange routes and relationships via the desired routing protocol. In a GRE tunnel environment, the PoP routers are only one hop away from each other regardless of how many hops the transport network is taking, which greatly simplifies troubleshooting. This design does not require encryption through encryption (causing additional overhead), nor does it add further complexity to the LAN environment.

(Above left) Access Layer Network Case photo: An Access layer transit case for the III Corps TAC command post is displayed. This setup for a switch and an UPS is standard for delivery network connectivity to all our subscribers.

(Above) Populated Promina 800 shows the inner workings of a Promina 800. This device was a key component of our Black network design. It served as the termination device for our ATM and T1 circuits.

(Left) VoIP Call Manager Suite photo: shows a Voice over IP transit case suite that was used in the TAC to manage our voice services provided through our IP phone network.

EoIP strategy

Another significant reason for implementing a converged black network is to eliminate the need for bandwidth provisioning. When we use traditional serial based Defense Information Systems Network WAN services, we provision bandwidth for each network or circuit individually. This bandwidth is often wasted, as it is dedicated for use by only those particular circuits or networks. For example, when bandwidth is provisioned for a serial video teleconferencing circuit and no conference is in session, the provisioned bandwidth is idle. Converged networks using internet protocol can exploit bandwidth from idle and variable sources by transmitting data from other requesting resources.

III Corps employed an "Everything over IP", or EoIP, strategy for its converged black network. EoIP technologies such as Voice over IP, IP-based VTC, and both synchronous and asynchronous collaboration tools can use the idle and variable bandwidth normally wasted by legacy circuit technology. The ability to exploit this bandwidth attracted our attention and is one of the reasons we thought it was

important to experiment with converged technology.

In our converged network implementation, we avoided bandwidth provisioning by using IP-based technologies in lieu of traditional circuit and circuit switched technologies. VoIP replaced legacy MSE voice systems. IP VTC replaced traditional serial based VTC. TACLAN E replaced circuit-based bulk encryption and provided packet encryption over the black network instead.

Results

3rd Signal Brigade chose to implement the black network design during UFL 2005 in order to simplify and maximize the performance of the communications assets provided to III Corps. This proof of concept showed that converged networking using TACLANEs (KG-175's) is a viable solution, in lieu of traditional multiplexed DISN WAN services.

The black network maintained 100 percent availability throughout the exercise. Through GRE tunneling, III Corps communicators were able to manage each of the networks supporting the corps command posts as a single virtual LAN despite physical separation on two continents. Additionally, network useage of each LAN never exceeded 85 percent across the WAN.

The black network concept has set the foundation for how future voice, video and data services will be deployed in tactical operations for III Corps. This solution is now the standard operating procedure being used in all III Corps command posts after thoroughly proving its capabilities and benefits during UFL 2005.

The way ahead

This EoIP approach worked quite well for III Corps. However, for this exercise, we did not implement quality of service measures to "protect" our high priority traffic types. As an example, in the future we want to ensure that VTC and VoIP traffic have priority over the data packets associated with email and web portals. Prior planning and the implementation of a QoS strategy could have prevented the degradation of our voice and video services we experienced when our network reached approximately 85 percent useage. Future network plans within III Corps and 33rd Signal Brigade will implement QoS by network classification and by traffic type.

The black network design functioned very well for III Corps during UFL 2005, providing a multitude of services and networks to the corps commander for the duration of the exercise. Our first attempt with converged black networking was a huge success.

Despite our lack of experience and limited QoS implementation, our network solution provided a higher standard of service than the corps staff has seen in the past.

This new standard will be expected for all future exercises, as well as the corps' next rotation to OIF.

The black network has definitely proven its mettle to III Corps!

COL Bethea, Jr. is the commander, 3rd Signal Brigade, Fort Hood, Texas. He earned a Bachelor's of Science degree in electronics and technology from Norfolk State University. He previously served as the Multi-National Corps Iraq ACofS C6. He also previously commanded the Joint Communications Support Element, MacDill Air Force Base, Tampa, Fla.

MAJ Mattison is the deputy corps automation officer, III Corps, Fort Hood, Texas. He earned a Bachelor's of Science degree in computer science from the United States Military Academy and a Masters' of Science degree in computer science from Binghamton University. He previously served as the Data Services Manager for Multi-National Corps Iraq.

Mr. Shepard is an employee of Blackhawk Management Corporation. He serves as the Technology Planner for III Corps ACofS G6, Fort Hood, Texas. He earned a Bachelor's of Science degree in Computer Science from Trinity College.

CPT Knowlen is the brigade telecommunications officer, 3rd Signal Brigade, Fort Hood, Texas. He earned a Bachelor's of Science Degree in Administration from Baylor University.

Acronym QuickScan

ATM – Asynchronous Transfer Mode
BCT – Brigade Combat Team
BNN – Battalion Base Ban Node
C2 – Command and Control
CONUS – Continental United States
DISA – Defense Information Systems Agency
DISN – Defense Information Systems Network
EoIP – Everything over Internet Protocol
GRE – Gateway Router Encapsulation
IP – Internet Protocol
JNN – Joint Network Node
LAN – Local Are Network
LOS – Line of Sight
MCP – Main Command Post
MSE – Mobile Subscriber Equipment
OCONUS – Outside the Continental United States
PoP – Point of Presence
QoS – quality of service
TAC – Tactical Command Post
TACLANE – Tactical Local Area Network Encryptors
UFL – Ulchi Focus Lens 2005
US – United States
VoIP – Voice over Internet Protocol
VTC – video teleconferencing
WAN – Wide Area Network

Telecommunications service distribution

in an expeditionary Army

By CPT Ross W. Charton and 1LT (P) James R. Minicozzi

Heavy cable and wire companies are an essential land warrior asset for distributing telecommunications services in the Army's networks. In order for the heavy cable and wire company to be a more effective asset for current and future operations, the mission must be refined and modifications to modified table of organization and equipment and training must be made on a continual basis. These changes will ensure that a network distribution asset is always available within the Army to extend services from the point of entry into the global information grid to the end user.

These companies must be retained within the Army's force structure due to the acute need for professional non-tactical installation of commercial communications cabling systems within undeveloped theaters. This critical installation includes both outside and inside plant jobs providing absolutely necessary command and control communications to the field.

The Army must properly and appropriately resource the heavy cable and wire company to retain these desperately needed capabilities this type of unit provides. This company allows for an interim communications cable and wire distribution plan that can be incorporated into the long-term network solution. This plan saves both time and money while facilitating a smooth transition to end state commercial communications services.

In order to offer the services provided by a heavy cable and wire company, their MTOE must reflect tools currently being used in the theater of war today – or comparable tools used by commercial communications companies. A newly proposed structure meeting these requirements is the network extension company.

Purpose

This article outlines suggested modifications to the heavy cable and wire company's organization, training, and mission in order to meet the demands of the future, more expeditionary Army, and the growing joint and combined environment.

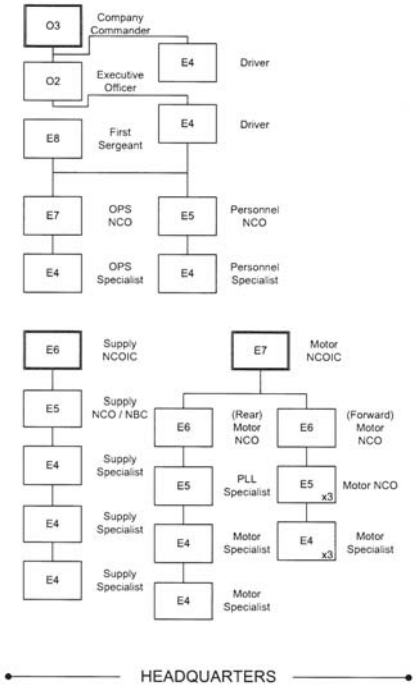
Current environment

Army communications is a rapidly evolving field that has undergone innumerable changes to accommodate user demand for services previously unimagined in a deployed environment.

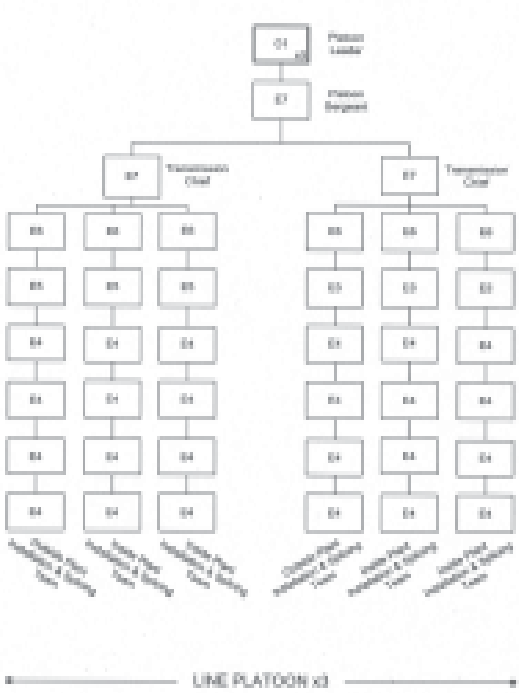
The Signal Corps has advanced to adapt to this demand by employing commercial switching and transmission equipment. Heavy cable and wire support has never played a more critical role than during current operations in Kuwait, Iraq, and Afghanistan. However, they have not received the tools and training necessary to distribute services to the end user.

Until the Army adopts technological advances that enable cost effective, secure distribution of wireless services to the end user level, the demand for heavy cable and wire support will increase. Contractor support proves to be expensive, slow to respond, and inflexible to the perpetually changing requirements of an operational theater. In this setting, the 301st

Soldiers from the 301st Signal Cable and Wire Company's Iraq Commercialization Team gather at Al Faw Palace, Camp Victory, Baghdad, Iraq. The 46 Reserve Soldiers pictured are led by 1LT James Minicozzi, acting detachment commander, and SFC Andrew Alexander. The company was activated in November and deployed to Iraq in February.



Headquarters Depiction, Network Extension Company



Platoon Depiction, Network Extension Company

Signal Company proved that the heavy cable and wire company is not an obsolete relic of the past. Instead, they are valuable tools for supporting the future expeditionary Army.

The 301st Signal Company's success is neither a result of training obtained at Army schools, nor equipping Soldiers with the tools they need to accomplish their mission.

Instead, the success can be attributed to an amalgamation of citizen Soldiers found in the Army Reserves and the initiative of senior non-commissioned officers who developed a thorough in-house training program to teach Soldiers the skills required to install commercial cable, wire, and fiber. In order to facilitate this training, Soldiers borrowed tools from their employers in the telecommunications industry. While this technique worked for the 301st, it is not an acceptable template for others to follow.

Adapting to the environment -

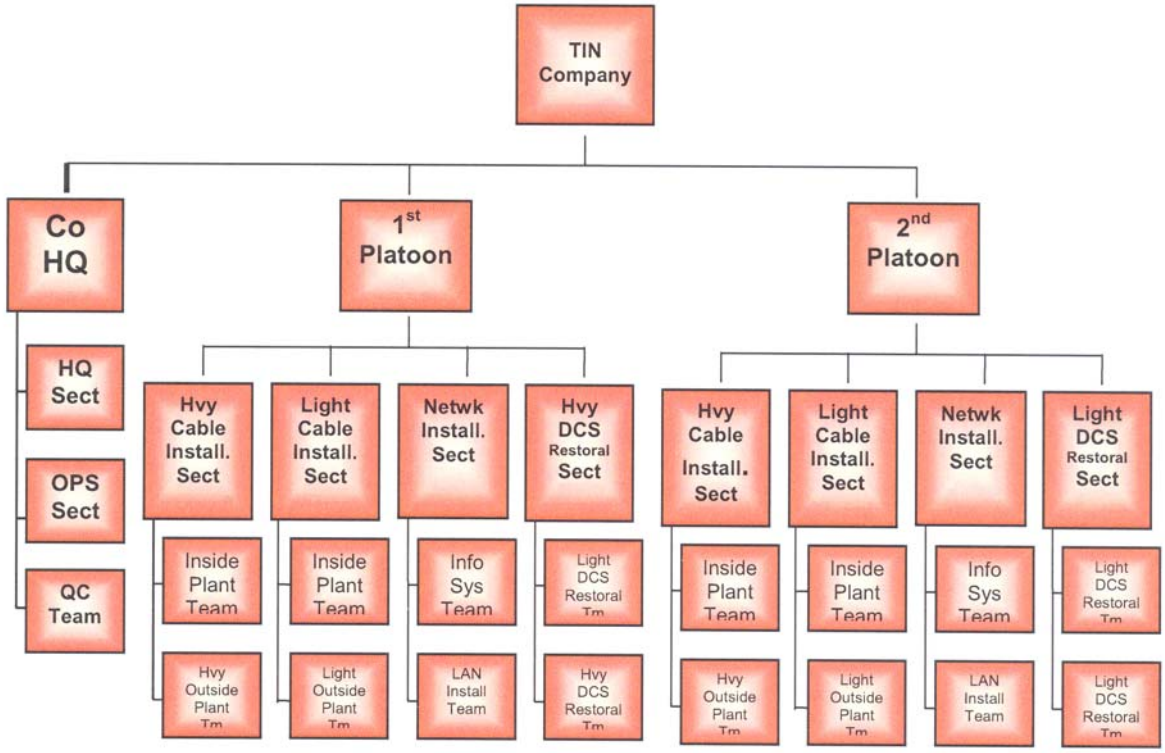
Redefining the mission of the heavy cable and wire is the first step toward the future. During Operation Iraqi Freedom and/Operation Enduring Freedom, the primary mission of the heavy cable and wire company has evolved from installing tactical cable, and has morphed the traditional wire company into what will be referred to as a commercial network extension company.

25L Soldiers are no longer required to simply install a wire and go to the next mission. They must possess the skills required to install and maintain the equipment used to terminate and break out bulk services and be able to troubleshoot fiber optic and copper cable.

In essence, the network extension company of tomorrow must provide the same services as a local telephone company. As technological advances are made, more of these services will be offered through wireless networks. The installation and maintenance of these networks in the strategic environment will be a natural progressive evolution for the network extension company. Therefore, MTOE modifications must be made on a continual basis and standards for training must be established and routinely reevaluated to keep these companies technologically current and postured for mission success.

The current MTOE for heavy cable and wire companies does not support commercial cable and wire installation and maintenance. Tool and personnel allocations must be reevaluated in order to meet the demands of today's lighter, more commercial signal network. A unit designed to install and maintain a commercial network could easily adapt to meet any tactical network requirement. The reverse is not true.

The first factor for consideration in accomplishing the redefined mission is to determine how to task organize to meet the challenge. Presently, the heavy cable and wire company is authorized 205 personnel organized as three line platoons and a headquarters platoon consisting of two sections of heavy cable installers, one section of splicers, and sections for each standard support function, (food service, motor maintenance, supply and personnel).



Tactical Installation and Networking Company

The line platoons are traditionally trained to extend end user wire while the headquarters sections extend bulk services to a point of demarcation. To meet current challenges, the company should be smaller and the abilities of the HQ section must be integrated into each platoon. Line platoons must be able to function autonomously with their assigned equipment, and they must be able to install and maintain infrastructure from the office building to the end user. Supply and maintenance sections, critical aspects of any operation, must be modular so they can forward deploy as part of a platoon. Operations must be decentralized and an executive officer and an operations NCO should be added to the MTOE to allow the commander the freedom to move on the battlefield and monitor the progress of the company as a whole.

After a more streamlined task organization is established, the Soldiers must be equipped with the tools necessary to accomplish their mission. Soldiers must be equipped with the latest technology to maintain the network and they must have tools that enable them to install the network in a neat, professional, permanent manner.

For bulk service distribution, each platoon must have organic equipment to install both aerial and buried cable. Commercial pole trucks, excavation equipment, and cable trailers are a critical aspect of addressing this consideration. Soldiers must have the same equipment used by facilities-based commercial telecommunications companies to install services in homes and businesses.

Basic construction tools such as drills, saws, hammers, and ladders are essential parts of performing permanent infrastructure installation in buildings. Likewise, the most modern tools for testing and terminating fiber-optic cable, coaxial, and twisted-pair feeder cable, and end-user wire are necessary for maintaining the network.

Individual training for heavy cable and wire companies must be redesigned at all skill levels, so that the skill sets closely mirror those found in facilities-based commercial telecommunications companies. In the new network extension company, sections should specialize in outside plant installation, splicing, or inside wire installation - the different crafts of civilian communication workers. Each of these crafts requires practice and training in order to gain and maintain a true level of proficiency.

While specialization is a necessary part of expertise, cross training at the individual Soldier level must be incorporated into every unit's training plan to ensure collective mission accomplishment. Only through cross training will an autonomous platoon be successful in a flexible, commercial environment. The role and skills of the technical leader must be redefined. Junior NCOs must be technically proficient and able to serve as working supervisors.

Officers and senior NCOs must be able to plan outside plant networks, develop detailed inside wiring installation plans, and

identify the materials necessary to complete those plans. Their skills must mirror those of the commercial telecommunications design engineer or manager.

The final step in redefining the heavy cable and wire company is to determine whether the unit should be maintained as an active or Reserve asset in the new expeditionary Army. If the unit's mission is to install permanent infrastructure in the strategic setting as defined above, there is little question that network extension companies should be maintained as a Reserve asset.

There is little need for permanent installation until mobile offensive operations are complete and the battlefield begins to take shape for follow on activities. In keeping with the expeditionary goal, Reserve units should maintain technical proficiency with a minimal amount of equipment on hand to facilitate training. Upon receiving a mission, cable and wire companies should equip to meet the defined objective or receive equipment from the unit they relieve.

Assuming the future heavy cable and wire company mission will be used for permanent infrastructure installation – as it has been in Iraq, Kuwait, and Afghanistan – it makes logical sense to design the future structure based on what was successful in these theaters.

Proposed structures

A diagram of the proposed network extension company is displayed in this article. The new structure offers a reduction of 60 personnel from the current heavy cable and wire company. Food service is eliminated. Each platoon has 10 fewer personnel. The previous headquarters sections are eliminated with that capability now incorporated into the platoons.

The structure depicts a maintenance team and supply specialist with each platoon. Each platoon has two heavy cable and wire teams, one per transmission section that specializes in outside plant installation, repair, and splicing. This increases the ease of cross-training and overall mission package flexibility as installation and splicing go hand-in-hand.

These changes greatly enhance the ability to deploy at the platoon level. While the sections are identified to specialize in outside plant or inside plant, the basic knowledge is there so they can easily switch to either type mission.

Somewhat in keeping with the concept of the network extension company described above, the tactical installation and networking company proposed by Network Command is a step in the right direction.

The tactical installation and networking company provides installation of network systems and cable system in support of Combatant Command, Joint Task Forces, Joint Forces Land Component Commanders, Army Service Component Commands, and Theater Signal Command. Further, it provides rapid defense communications system installation and restoral.

However, the proposed TIN structure falls short in that it limits the Army to one (or two) of these companies. The 69th Cable and Wire Company from Fort Huachuca has had assets deployed continuously since 2001. Each theater network command must have a cable and wire or network extension company, even if it is a COMPO 2 or COMPO 3 unit. The proposed TIN structure also falls short of what a network extension company should be. The TIN sections are not shown as sufficiently multifunctional – they appear too specialized. The network extension company would provide for a cross section of required skills and therefore more flexible in accomplishing any installation mission required.

Again, only two TINs in the Army's force structure are insufficient. There must be one per theater network command in order to accomplish the inevitable installation and networking requirements as seen in Iraq, Kuwait, and Afghanistan. If multiple theaters or extended duration in a theater is in our future, there must be one TIN or network extension company per theater network command.

While this company's component composition may be either active or Reserve, ideally, the active component would start the operations in theater, and the Reserves would take over the planned missions. The active unit could handle immediate missions because they are easier to deploy quickly.

Summary

Today, the ability to rapidly transmit massive amounts of data is a combat multiplier for the warfighter. While much attention has been given to the wireless transmission of this data, the technology is not in place to move to an all-wireless network thus necessitating the heavy cable and wire company of today.

The Army communications network will gradually evolve until it is wireless from the switch to the end user. Even after the wireless evolution is complete, Soldiers will be required to install and maintain this network in the strategic environment. The Army cannot rely solely upon civilian contractors to install and maintain its network. Therefore, properly equipped, well trained, flexible network extension companies will be an integral asset in the expeditionary Army of tomorrow.

CPT Charton is commanding officer of the 301st Signal Company and 1LT (P) James R. Minicozzi is the executive officer for the 301st.

ACRONYM QUICKSCAN

DCS – Defense Communications System
GIG – global information grid
HQ – headquarters
MTOE – Modified Table of Organization & Equipment
NETCOM – Network Command
NCO – non-commissioned officers
TIN – Tactical Installation and Networking

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Editorial/support staff
Editor-in-chief/graphic designer … Janet A. McElmurray (30:1-4)
Senior advisor … Susan Wood (30:1-4)

Illustrators
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Signal Regimental Symposium 2004

Council of Colonels, Battalion Commanders/G6 Forum worked to answer questions; *CPT Jason Winterle; 30:1*
Four Distinguished Members inducted into the Regiment: *Susan Wood; 30:1*
IA workshop focused on defending LandWarNet; *Randell L. McNeil; 30:1*
LandWarNet on brigade, battalion level S6 workshop focus; *David Palmer; 30:1*
MG Hicks delivers address; *MG Janet A. Hicks and Geofrey Wells; 30:1*
Warrant Officers briefed on issues at 32nd symposium; *CW5 Andy Barr; 30:1*
Four Distinguished Members inducted into the Regiment: *Susan Wood; 30:1*

Tactical Radios

TSM-TR Update: Assessment will provide basis for recommendations; *Douglas A. Wilson; 30:4*
TSM-TR Update: Joint Tactical Radio System; *Douglas*

A. Wilson; 30:1

Tactical Headsets

Army and Industry working overtime to supply Improved Tactical Headsets for troops in Iraq; *Stephen Larsen, 30:1*

Training

22nd Signal Brigade executes Corps CPX VICTORY START; *Maureen J. O'Conner; 30:1*
551st Integrates Warrior Ethos tasks in local FTX; *CPT Tausha Smith; 30:2*
Communication and Simulation Operations Center in a joint training environment; *Contributors: LTC Mark Eastman, MAJ Bobby E. Dodd, MAJ Dwight Morgan, MAJ William Locke, CPT James D. Watts, and Thomas Lasch; 30:3*
Data package training speeds Signal transformation; *SPC Michael Howard; 30:2*
Georgia National 48th BCT's logisticians train at NTC with CSS VSAT/CAISI before deployment to Iraq; *Stephen Larsen; 30:3*
JNN: Reorganizing to bridge gaps in communication; *CPT Byron G. Johnson; 30:3*
LAR steps to the plate to get systems for NTC training; *Stephen Larsen; 30:3*
LARs: Always training the next group of Soldiers; *Stephen Larsen; 30:3*
Stryker brigade's signal company trains at Gordon; *Charmain Z. Brackett; 30:4*
Training ensures V Corps Signal Soldiers train to 'walk the walk' to let units talk; *SPC Michael Howard; 30:2*
Training Update: University of Information Technology Training Update; *LTC Keith M. Perkins; 30:1*
V Corps Signal Soldiers train to 'own the night'; *SFC Michael Howard; 39:2*

Transformation

22nd Signal Brigade begins transformation in the midst of deployments; *MAJ Maureen O'Connor; 30:2*
Data package training speeds Signal transformation; *SPC Michael Howard; 30:2*
Employing the Signal company in a Unit of Action; *CPT Brian "Jake" Jacobson; 30:3*
Keeping pace with Transformation; *Larry Hunter; 30:2*
Theater defense: New Army Command to stand up in the Pacific; *U.S. Army, Pacific news release; 30:4*

University of Information Technology

Training Update: University of Information Technol ogy Training Update; 30:1

Warrant Officers

Signal systems support technicians key to success in a modularized force; *CW5 Wayne Jensen; 30:4*
Warrant Officers briefed on issues at 32nd symposium; *CW5 Andy Barr; 30:1*

Warrior Ethos

551st Integrates Warrior Ethos tasks in local FTX; *CPT Tausha Smith; 30:2*

WIN-T

TSM-WIN-T Update: AKMS Update: Army Key Management System; *Al Walton; 30:2*
TSM-WIN-T Update: Joint Network Management System Update: (AN/USQ-176 (V) 1 and 2); *MAJ Quentin Smith; 30:2*
TSM-WINT-T Update: Warfighter Information Network – Tactical; *MAJ Camilla A. Wood; 30:2*

TSM update

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

TSM-Tactical Radio

By Douglas A. Wilson

JTRS program update:

Dennis Bauman, the Joint Program Executive Officer for the Joint Tactical Radio System, is near the completion of conducting a full assessment of the JTRS program (Clusters 1, 2, Airborne Maritime Fixed-Station, and 5) to include program dependencies and a comprehensive risk mitigation plan. The results of this assessment will provide the basis for an overall set of program recommendations to re-establish program cost, schedule, and funding health. Subject recommendations may include overall restructuring of the JTRS program and associated acquisition strategy, baselining and prioritization of program requirements, and a revised Future Years Defense Program funding profile. JPEO JTRS is in the final stages of the JTRS Cluster assessments and re-planning efforts. These in-depth reviews are critical to the development of executable paths for these transformational programs. The leadership of the JPEO will finalize the JTRS way ahead in the next few weeks. Once completed, the JTRS way ahead, with projected cost and schedule plans for each cluster procurement, will be briefed to the Service and Department of Defense leadership.

Enhanced Position Location Reporting System:

Training – The U.S. Army's transformation to the Modular Force Structure has resulted in a significant increase in the requisite number of personnel qualified to operate the EPLRS Network Manager. In EPLRS-equipped units all of the personnel assignments for MOS 25C in the Modular Force Structure require the Additional Skill Indicator T2, the EPLRS Network Manager Operator/Maintainer.

Office of the Chief of Signal projects 400+ positions in the EPLRS-equipped Modular Units. This compares with approximately 150 positions for the previous fielded EPLRS Version 4 system. OCOS also projects an additional 50 positions for the Reserve component and 50+ National Guard slots. Current planning for the ASI T2 course at the Signal Center is for an annual capacity of 96. This will not meet the fielding and sustainment requirements for ENM Operators.

The skill sets required for ASI T2 are rapidly becoming the standard for operation of data networks at Units of Action/Brigade Combat Teams and below. As more networks gravitate to Internet Protocol and away from the Army Data Distribution Systems Interface, the importance of T2 skill sets will increase exponentially. Currently, the Army has no MOS-producing Course that provides for the training of Mobile Network Operators/Managers. Traditionally, this function has been performed by MOS 25C Soldiers.

The inclusion of ASI T2 training in the mainstream resident POI for 25C is the most reasonable, and potentially attainable, solution to the problem. The inclusion of T2 training in 25C resident training will increase the 25C course by four weeks. Thus the potential maximum student load at any single point in time will be 96 *(24 students per class, one class start per week for four weeks).* The increased equipment training requirements must meet this potential student population. Upon approval, initial conversion to T2 training in the resident MOS 25C is projected for FY-07

In the past the centralized management of the EPLRS MOS 25C in the field was under the control of the Signal battalion commanders. The management of the ASI made it very difficult to keep trained personnel in the units, because in most cases, the commander had to schedule and send his troops back to the Signal School for the ASI resident certification training. The modular structure changes resulted in a decentralized control of MOS 25C and continues to make it more difficult to get ASI-qualified Soldiers assigned in the BCTs.

Mainstreaming the ENM course into 25C core training will remove the requirement for Commanders to return their 25Cs to the Signal Center for ASI resident training. The skill sets will be universal in 25C and sustainment will be conducted at Unit Level.

Materiel – The current production contract expires in June 2006. The ordering extension window is Dec. 31, 2005. Present status of the Army deliveries is approximately 11,000 radio sets. The JTRS waiverable ceiling remains at 12,896

Acronym QuickScan

ADDSI – Army Data Systems Interface
AMF – Airborne-Maritime Fixed Station
ASI – Additional Skill Indicator
BCT – brigade combat team
CAV – Cavalry
DoD – Department of Defense
ENM – EPLRS Network Manager
EPLRS – enhanced position location reporting system
FYDP – Future Years Defense Program
ID – Infantry Division
JPEO – Joint Program Executive Officer
JTRS – Joint Tactical Radio System
OCOS – Office Chief of Signal
UA – Unit of Action

radios sets. DA redistribution of assets has resulted in fielding support for the 4thInfantry Division, 1st Cavalry, the Stryker BCTs, and National Guard units which support Operation Clear Skies. Additional quantities to support fielding of SBCT-7 and the remaining divisions will require further redistribution and/or additional quantity buys.

Mr. Wilson is with the TRADOC Systems Manager – Tactical Radios, Fort Gordon, Ga.

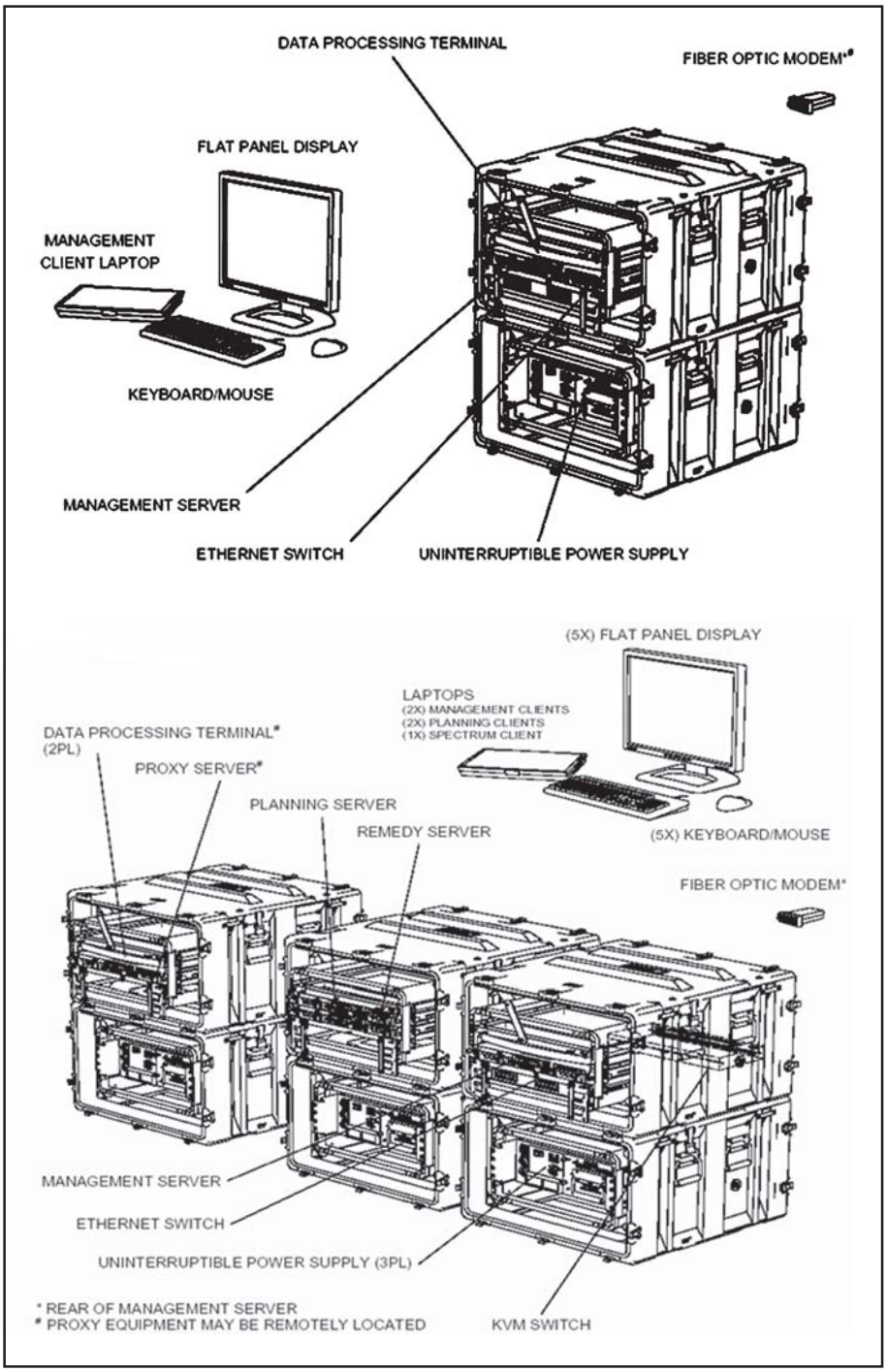
TSM-WIN-T

'Let the Fielding Begin' An Update on the Joint Network Management System (JNMS) (AN/USQ-176A (V) 1 and (V) 2)

By Billy Rogers

With the Army Test and Evaluation Center's Independent Evaluator declaring that the Joint Network Management System had demonstrated remarkable improvements in the recent limited user test since it's March 2004 initial operational test and evaluation, the product manager for network operations – current force took the first steps toward fielding by seeking approval for full rate production and type classification from the system's Milestone Decision Authority, the program executive officer for command, control, and communications – tactical on Oct. 25, 2005.

The MDA approved the JNMS to go into full rate production and also its type classification of Standard. The next step required before the JNMS can be officially fielded is approval of the JNMS for materiel release. The material release documents are being prepared and are expected to be ready by the end of November 2005. Approval of a "conditional" materiel release is expected by mid-December 2005. Conditional release means that the PdM must have an acceptable "get well plan" to satisfy all issues identified by the system's stakeholders. First unit equipped system fielding is expected to begin in January 2006 with the 311th Signal Command, Fort Shafter, Hawaii, followed by the 93rd Signal Brigade, Fort Gordon, Ga. Concurrent with these Army fieldings, the other services are also fielding the JNMS to their respective commands.



ATEC's system assessment of the LUT was approved and released in September 2005 and indicated that the JNMS had met all its key performance parameters and was operationally suitable, effective, and survivable with minor limitations. The LUT SA, along with the GA and Beta feedback was used by the PdM during the full rate production decision review to demonstrate the system's software maturity and readiness to officially request materiel release and begin the fielding process.

The JNMS is an acquisition

category level III joint program that provides an automated joint communications network planning and management capability to joint tactical communication network planners/managers at Combatant Commands, COCOM Service components, Joint Task Force, and JTF Service components. It is an integration of the capabilities of commercial-off-the-shelf, government-off-the-shelf applications coupled by some developmental software to meet deficiencies identified by the COCOMs. It will replace the interim system, the Joint Defense Information Infrastructure Control System – Deployed, fielded to the warfighting COCOMs in the late 1990s.

JNMS provides the means for timely decisions and synchronization of communication assets to support joint mission requirements, adds flexibility to better support the commander's intent, improves situational awareness by providing a common view of the network, and provides a capability to better use scarce resources to optimize the capacity of the network and support the fight.

There are two versions of the JNMS being developed. These versions are distinguished by the level of functionality provided. The JNMS (AN/USQ-176A(V) 1) has only a network monitoring capability. The JNMS (AN/USQ-176A(V) 2) has the full operational capability which includes planning, monitoring and reconfiguration, fault management, and security functionality. The V1 comes with a one-way fiber modem that provides a capability to display the network common operating picture of both the unclassified and classified networks on the V2's management screen. The implementation of this cross-domain solution is dependant upon accreditation approval by each site's designated approving authority, as well as, final approval by the Defense Information Systems Agency. The current build of JNMS (Build 1.3.x) received its "generic" type accreditation and full authority to operate by the program's DAA, PEO-C3T, in May 2005.

The JNMS materiel developer, PdM Network Operations – Current Force, in conjunction with the Air Force and Navy lead commands for JNMS implementation, hand receipted 13 suites (comprised of 1-V1 and 1-V2 systems) to the Missile Defense Agency, Offet Air Force Base, Neb.; U.S. Central Command organizations at USCENTCOM's Theater C4 Control Center, MacDill AFB, Fla.; USCENTAF's Network Operations and Security Center and 281st Combat Communication Group, Shaw AFB, S.C., and Rhode Island; USCENTCOM's TCCC-Forward, Bahrain; USARCENT's NOSC, Kuwait; USPACOM and USJFCOM TNCC/GNCC; and the 93rd TNOSC. A 14th suite was hand receipted to the 93rd Signal Brigade, Fort Gordon, Ga., in support of its Hurricane Katrina mission.

The Beta initiative was implemented to gain additional user feedback on training and operational effectiveness prior the full rate production decision and approval to officially field. Abbreviated training for the JNMS system administrators, planners and managers was provided to all receiving organizations. The ARCENT suite has now been returned to the PdM. Final installation and operational checkout of the systems are in varying stages of completion. Additionally, the Joint Staff J6 used this Beta initiative to validate the JNMS concept of operations.

Concurrently with the Beta initiative, the next version of JNMS software (Release 1.3) was developed and tested by the JNMS Contractor – Science Applications International Corporation. Contractor functional qualification testing was completed in February 2005. Upon completion of the FQT, the government took control of the software and then conducted an independent government assessment of the software's planning and management functionality, also in February 2005, to determine if it was mature enough to request an extension to the previously approved low rate initial production and also continue into a limited user test in July 2005. The Army's Test and Evaluation Command conducted the GA and published an official system assessment report in April 2005. Approval of the LRIP extension and continuing with the planning for the LUT was granted. The LUT was conducted by ATEC's Operational Test Command in July 2005. Personnel from all the services participated in the LUT. Training for the test participants was conducted in June 2005. The LUT consisted of two sites, one functioning as a COCOM Global C4 Control Center and the other as a JTF Joint C4 Control Center.

The Army, as the executive agent for the development of the JNMS, requested that an inter-service training review organization study be conducted to determine the feasibility of consolidating all service JNMS resident training at one location – Fort Gordon, Ga. The study was conducted in three phases during late 2004 and early 2005. The study recommended consolidating the JNMS training at Fort Gordon.

Discrepancies discovered during the staffing of the study will require that the resource requirement analysis be redone and staffed again within the services. This effort is scheduled for November 2005. Final approval of the study's recommendation is expected within 90 days after completion of the new RRA. Once approved, actions necessary to establish the joint school and resident training program by 2nd Quarter FY07 begins.

The May 2000 approved JNMS operational requirements document is currently being revised to include the mandated Net Ready KPP. The ORD has completed Stage I Joint staffing. All comments have been adjudicated and the ORD is now going through Stage II J6 certification staffing. Once certification staffing has been completed, any comments received will be adjudicated. ORD approval is expected by December 2005.

For further information on JNMS, contact Russell Benoit or Billy Rogers, TSM WIN-T, (706) 791-7501/2334, respectively. DSN prefix is

780. Email addresses are benoitr@gordon.army.mil or rogersb@gordon.army.mil.

Mr. Rogers is a currently a Senior Systems Analyst with Femme Comp, Incorporated (FCI) and provides TSM WIN-T with contract support services for the JNMS program. Mr. Rogers has been the primary TRADOC POC for the JNMS and has worked program issues with representatives of the Joint Staff, other Services and Agencies since the contract was awarded to Science Applications International Corporation (SAIC) in 2001. Mr. Rogers managed network management programs for the Defense Information Systems Agency (DISA) prior to his retirement and also provided contract support services to TSM Network Management before its merger with TSM WIN-T in 2001.

Acronym QuickScan

ACAT – Acquisition Category
ATEC – Army Test and Evaluation Center's
COCOMs – Combatant Commands
CCG – Combat Communication Group
CONOPS – Concept of Operations
COP – Common Operating Picture
COTS – Commercial-off-the-shelf
DAA – Designated Approving Authority
DISA – Defense Information Systems Agency
IOT&E – Operational Test and Evaluation
ITRO – Inter-Service Training Review Organization
FQT – Functional Qualification Testing
FRPD – Full Rate Production Decision
FUE – First Unit Equipped
GA – Government Assessment
GCCC – Global C4 Control Center
GOTS – Government-off-the Shelf
LRIP – Low Rate Initial Production
LUT – Limited User Test
JCCC – Joint C4 Control Center
JDIICS-D – Joint Defense Information Infrastructure Control System – Deployed
JTF – Joint Task Force
KPPs – Key Performance Parameters
MDA – Missile Defense Agency
NOSC – Network Operations and Security Center
ORD – Requirements Document
OTC – Operational Test Command
PdM – Product Manager
PEO-CT3 – Program Executive Officer for Command, Control and Communications – Tactical
RRA – Resource Requirement Analysis
SA – System Assessment
SAIC – Science Applications International Corporation

TSM-SATCOM Update
Ka-Band Satellite Transmit and Receive System
AN-GSC-70(V)

By Frank Stein

The Ka-Band Satellite Transmit and Receive System, AN/GSC-70(V) is a new terminal that was developed to provide additional wideband communications capability to Department of Defense users and alleviate the spectrum saturation of the X-band. Ka-STARS will greatly increase both available single user data rate and total satellite capacity over today's DSCS III satellites and future Wideband Gapfiller System satellites while focusing support to warfighting forces.

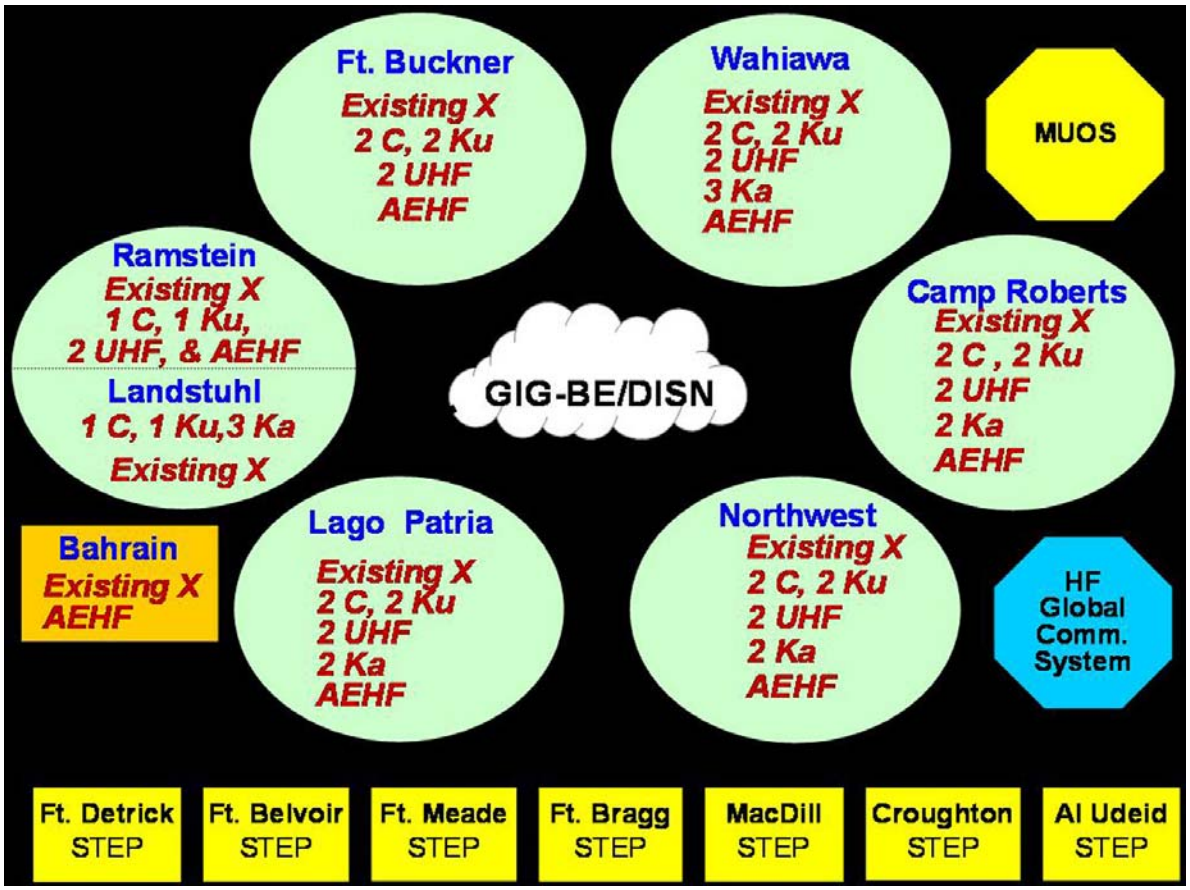
The AN/GSC-70(V) is a non-developmental item consisting of a combination of commercial-off-the-shelf and government furnished equipment. Ka-STARS is a shelterized or fixed SATCOM terminal capable of transmitting up to 48 uplinks and receiving up to 56 downlinks simultaneously. Ka-STARS will also have the capability to transmit and receive in both polarizations (right and left hand circular). This terminal system is comprised of six subsystems: antenna, antenna tracking servo, transmitter, receiver, frequency generator, and control and monitoring. The terminal has redundant subsystems with fault isolation capabilities. The initial terminals will use the 9.1 meter diameter antenna.

AN/GSC-70(V)/Ka-Stars terminal, Camp Roberts, California.

Terminal locations and testing: The program manager for Defense Communications and Transmissions Systems will procure and install seven Ka-STARS terminals. One will be located at Fort Monmouth, N.J., to support the PM DCATS test bed and the other six terminals will be installed at teleport locations to support WGS satellites 1 - 3. The Army is considering procuring an additional four terminals to support WGS satellites 4 and 5. The Teleport Program Office is also considering procuring an additional six terminals (location to be determined) to satisfy increased teleport requirements.

The first Ka-STARS terminal is currently being installed at Camp Roberts, where system integration testing, the maintenance demonstration, and instructor and key personnel training will be accomplished over the next year.

The automated test station software developed for the AN/GSC-52 Modernization Program will



Proposed Teleport Generation Three Architecture

be modified as required to support the Ka-STARS terminals. The test types and functionality of the original software shall be retained, but modified as required to interface and control any new ATS test measurement and diagnostic equipment that may be required by the new operating frequencies.

Training: Currently, there is no requirement to train the Ka-STARS terminal within the resident 25S course at Fort Gordon; however, this requirement will be reevaluated every year. To satisfy the Army's training requirements for Ka-STARS, the contractor is developing a training plan, which will be reviewed through the Department of Training at Fort Gordon to ensure standardized training. This plan will detail the training approach for IKP Training, New Equipment Training, and Computer Based Interactive Training. The training plan will include a listing of all training support materials needed to conduct IKP and NET, to include a curriculum outlin e. The contractor is also developing the Interactive Electronic Technical Manual. The IETM is being developed, with coordination at the Signal Center training department, Space and Missile Defense Command/ARSTRAT, Network Command and PM DCATS.

Point of contact for additional information on Ka-STARS is Frank Stein, TSM SATCOM, DSN: 780-7903, email: steinf@gordon.army.mil.

Teleport: - in a theater near you!

By Dale Sleeper

Warfighters around the globe can expect a major increase in reachback capacity and capabilities through the DoD Teleport System. The Teleport Program Office within the Defense Information Systems Agency along with representatives from each service has been working for the past several years developing a better system to support warfighter reachback requirements. Teleport has significantly added to the capabilities and capacity of the current standardized tactical entry point. Teleport will integrate, manage, and control a variety of communications interfaces between the Defense Information System Network terrestrial and tactical satellite communications assets at a single point of presence.

Teleport will add capabilities to eight existing STEP sites which include: Camp Roberts, California; Northwest, Virginia; Fort Buckner, Japan; Wahiawa, Hawaii; Lago Patria, Italy; and Landstuhl/Ramstein, Germany, which will be considered a single virtual teleport. Bahrain will be used as a secondary site for extremely high frequency only. TPO has taken a generational approach to implement the system.

- Generation One (FY02-06) is well under way. It will provide satellite connectivity for deployed tactical communications systems

operating in X-band (DSCS, Wideband Gapfiller Satellite), commercial C- and Ku-bands, ultra high frequency, EHF SATCOM, and initial Ka-band capabilities.

- Generation Two's (FY06-07) architecture will be supplemented with additional Ka-band capabilities. The Ka-band terminals will provide interfaces to the WGS, which will provide Ka-band and X-band coverage with throughput far exceeding the current DSCS satellite constellation. This generation will continue to support legacy requirements and begin adding Internet Protocol baseband equipment to support emerging Tri-Service IP requirements.

- Generation Three (FY08-12) consists of technology insertion for the Advanced EHF System. Teleport will also have terrestrial connectivity to Mobile User Objective System to support service crossbanding and multiple hop requirements. Teleport is also expected to install the Warfighter Information Network - Tactical suite of equipment to support Army communications-on-the-move requirements and incorporate the Joint IP Modem to support all tri-service at-the-halt requirements.

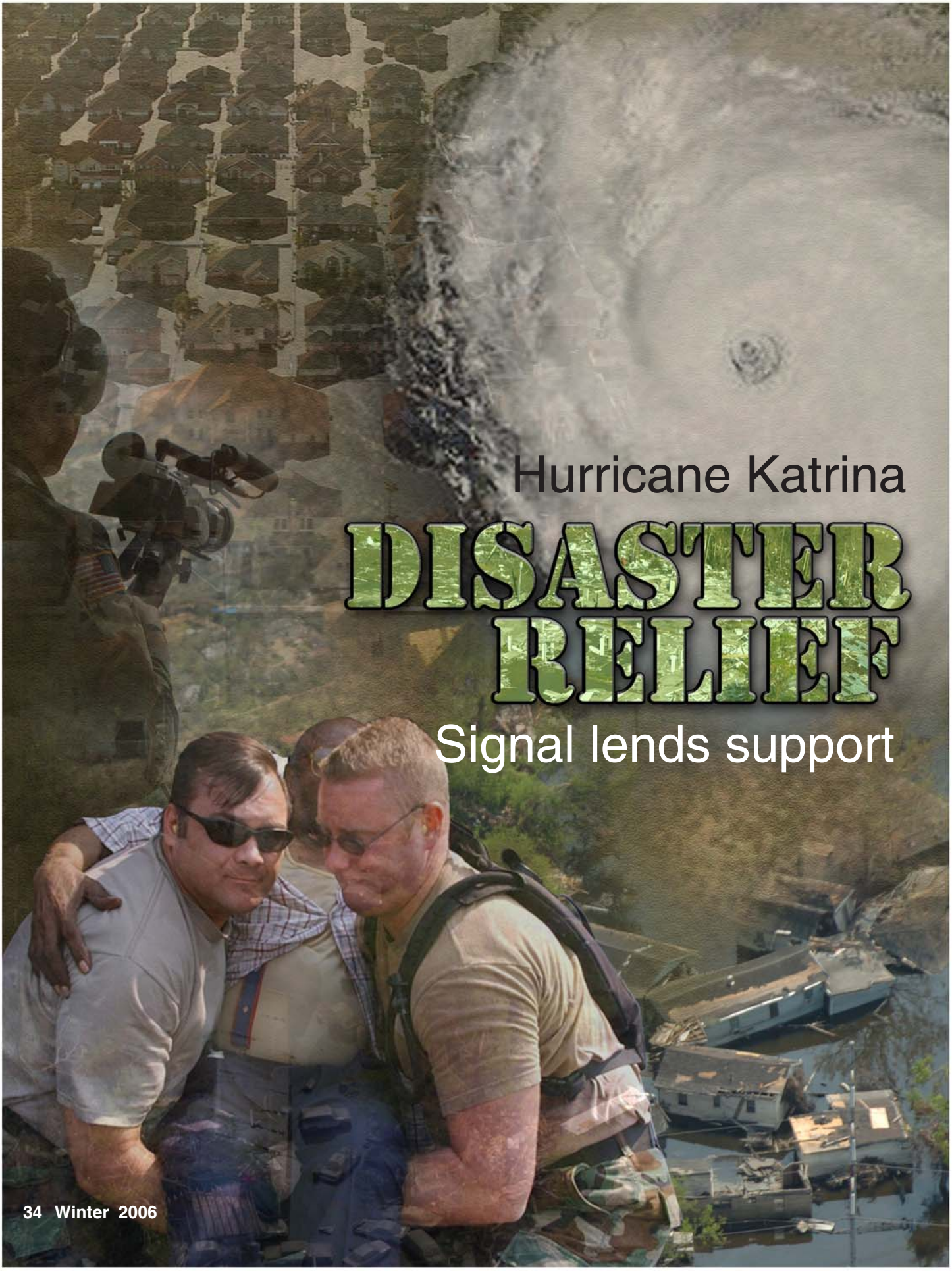
Once Generation Three is completed, teleports will require future upgrades to support the Transformational Satellite and the Enhanced Polar System networks.

So remember warfighters, teleport will always be in a theater near you providing enhanced reachback capability when and where needed.

For more information on teleport, contact Dale Sleeper, TSM SATCOM, DSN 780- 7917, commercial (706) 791-7917, email: dale.sleeper@us.army.mil.

Acronym QuickScan

ATS – Automated Test Station
ATSS – Automated Test Station Software
CBIT – Computer Based Interactive Training
COTM – communications – on – the – move
COTS – commercial-off-the-shelf
DCATS – Defense Communications and Transmissions System
DISA – Defense Information Systems Agency
DISN – Defense Information System Network
DoD – Department of Defense
DSCS – Defense Satellite Communications System
EHF – Extremely High Frequency
GFE – government furnished equipment
IETM – Interactive Electronic Technical Manual
IKP – instructor key personnel
IP – Internet Protocol
Ka-Stars – Ka-Band Satellite Transmit and Receive System
M-Demo – Maintenance Demonstration
M-hop – multiple hop
MUOS – Mobile User Objective System
NET – New Equipment Training
NDI – non-developmental item
PM – program manager
SMDC – Space and Missile Command
STEP – Standardized Tactical Entry Point
TBD – to be determined
TMDE – Test Measurement and Diagnostic Equipment
TSAT – Transformational Satellite
TPO – Teleport Program Office
UHF – Ultra High Frequency
WGS – Wide Gapfiller System
WIN-T – Warfighter Information Network - Tactical

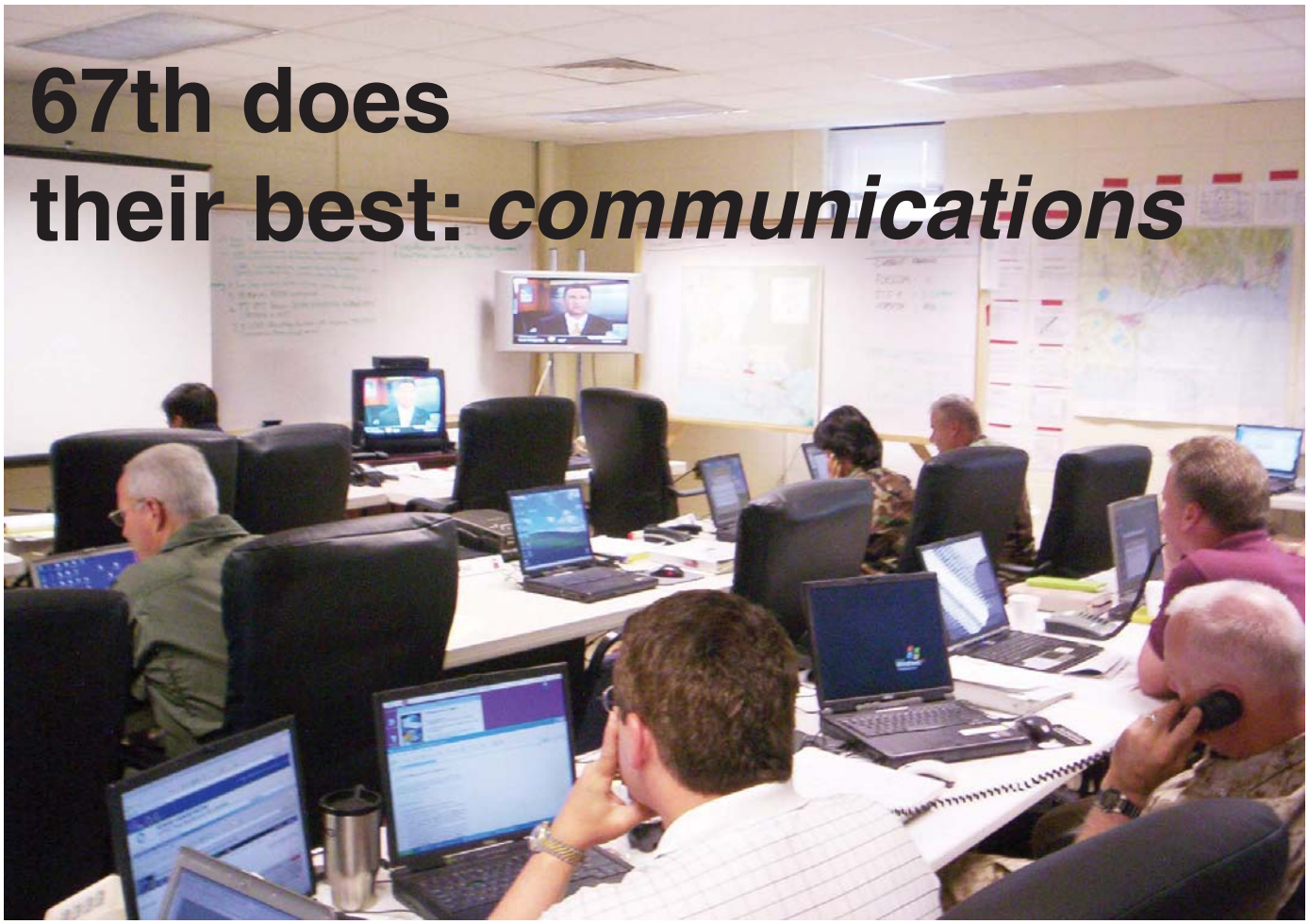


Hurricane Katrina

DISASTER RELIEF

Signal lends support

67th does their best: *communications*



By Kristy Davies

While Hurricane Katrina was pounding the Gulf Coast, the 67th Signal Battalion, part of the 93rd Signal Brigade here, was already on alert to go into action. The 67th deployed to the devastated area Aug. 30 to do what they do best: communications.

"We were the first Soldiers to deploy from Fort Gordon in support of the hurricane," said LTC Michael Plummer, 67th Signal Battalion commander. "We left at 5:30 a.m. on that Tuesday (after the storm hit)."

"We knew we would be supporting the First Army, commanded by (LG Russel Honoré)," added Plummer.

The 67th initially sent 44 Soldiers to Camp Shelby, Miss., a training post primarily for the National Guard. The camp is also a mobilization center and was the nearest military location where a command post could be set up that did not encroach upon civilians.

"We were the first people from (Joint Task Force-Katrina) there so at that point I had (my) Soldiers with 24 members of the First Army staff," said Plummer. "We were the initial ones who went in and started hooking up the building, setting up what was going to be the base for the (First Army headquarters)."

Plummer returned for medical reasons, leaving his executive officer in charge of the Soldiers remaining at Camp Shelby.

The 67th set up a data package to allow Honoré the ability to communicate through commercial telephones, e-mail and video teleconferences.

"It wasn't just military people…I saw teams from South Carolina, a few vehicles from Georgia and (Federal Emergency Management Agency) definitely had representation there," added Plummer.

"Since we were dealing with a lot of civilian and non-Army agencies, (we had) to give them the ability to talk back to whatever states or organizations they came from…pulling in a lot of commercial access," explained Plummer. "That was something we're very capable of doing, but we don't normally bring in that much commercial access."

The data package the 67th uses for setting up communication in combat or in situations such as JTF-Katrina, comes with a phone and internet capability, both secure and non-secure, and can be set up anywhere in the world to bring services to any organization they are supporting. The package has video teleconferencing capability as well.

"We set up a VTC that we hosted at our site that included LG Honoré, the (U.S. Northern Command) commander and the president and his staff," said Plummer

with a smile. "It was kind of neat being a fly on the wall (during the VTC). It's a full motion video and you're seeing the president there interact with LG Honoré who is sitting at his table with his staff.

"Our Soldiers are there to provide communications to enable those people to direct the clean up teams," said Plummer.

For the 67th it was a unique experience to be supporting Americans in the homeland rather than in a foreign country.

"These were American people, so motivation is high and it just feels good to be helping Americans directly," said Plummer. "These are the people who stood by the sides of the road waving American flags to support the Soldiers. Just being able to go back and help those people who have been supporting us in what we've been doing, to me, that is probably the most satisfying and rewarding thing to do."

Currently, the 67th has 72 Soldiers deployed to Joint Task Force-Katrina in addition to approximately 10 Soldiers from the 93rd and 105 Soldiers f"I think we're doing great strides in helping our own people," said COL Mark Calvo, 93rd Signal Brigade deputy commander. "This will always be remembered in the eyes of the American people for many years to come.

"We are providing backbone communications for military and civilian authorities," Calvo said about the 93rd's role. "The 67th (Signal Battalion) has done an outstanding job establishing communications for FEMA and other authorities to reach out and bring in help."

"(COL David Dodd), the commander of the 93rd, is on the ground directly involved with communications support for JTF-Katrina," added Calvo.

The Soldiers with the 67th were deployed for a 17-day string, or longer.

"Some Soldiers will be coming back and others will stay longer," explained Plummer. "As long as there is a command structure there, we will probably have some of our Soldiers engaged and whatever day they decide to officially turn off JTF-Katrina under LG Honoré …it will go down to a trickle as we pull back."

The experience of having a stateside mission has taught the Soldiers lessons that will not soon be forgotten. "The Soldiers (learned) they can contribute, they are a player and that they can make a difference," said Plummer. "We have something we can do right here in our country. You don't have to deploy to make a difference. You can do good right here."

Ms. Davies is the editorial assistant for The Signal *newspaper on Fort Gordon. Prior to employment with the paper, Davies was a radio news director for several radio stations in the Destin, Fla. area. Davies is an Army veteran who hails from Niceville, Fla.*

Signal Soldier proves blood *IS* thicker than water

By SPC Brandon Aird

NEW ORLEANS – The entire nation, if not the world, watched on the news when Hurricane Katrina struck with devastating power. Things were carried off like feathers in the wind. Even huge, steel billboards were not safe; many crashed into the businesses they once promoted. After it was all over New Orleans and everything within a few hundred miles could be viewed by an outsider as a third world country.

Soldiers of the 93rd Signal Brigade knew there was a very good chance they would be deployed as Hurricane Katrina bore down on New Orleans; with levees breaking, the worst-case scenario was soon becoming a reality.

"When the hurricane started toward New Orleans I asked if any Soldiers in the battalion had family in New Orleans," said LTC Stephan Middleton, commander, 56th Signal Battalion. "I found I had three Soldiers with family in the region. We left the field training exercise (we were participating in) and went straight down south."

By the time the 56th Signal Battalion Soldiers left for New Orleans, everyone with family made

SPC Cory Kelly, 518th Signal Company, and his father, Warren, reunite Sept. 7, in New Orleans after Hurricane Katrina devastated the area. Kelly deployed to New Orleans Airport with his unit to provide communications to relief organizations and military units. Kelly was fortunate to be part of a recon mission going past the neighborhood where his whole family lived.

contact except SPC Cory Kelly, a New Orleans native assigned to the 518th Signal Company (Tactical Installation Networking). Two of his aunts, his father, grandparents and a bunch of cousins all live in a small neighborhood on the south side of the Mississippi River.

When the 56th received the call to deploy, Kelly didn't know what to think. "I almost didn't want to go at first; but at the same time, I wanted to find Pops," Kelly said, referring to his father. What Kelly eventually came across could be seen as an answer to prayers by many. Not only did he find his father Sept. 7, but he found his uncle and his 95-year-old grandfather who refused to leave his house, and stayed put to weather out the storm. Kelly's father and uncle had refused to leave his grandfather's side. Kelly said his grandfather's house didn't suffer much flood damage but that it was affected by the wind.

Kelly, who has six brothers and sisters, credited Middleton and COL David E. Dodd, 93rd Signal Brigade commander, with helping him find his family. "I was hoping to find his family," said Middleton. "He had to be pretty worried not hearing from them at all."

When Kelly, who briefly attended Louisiana State University on a basketball scholarship before joining the Army, arrived at the neighborhood where he lived almost all his life, he couldn't believe the carnage the hurricane had wrought.

"There was a tree going through the front room of my cousin's house," Kelly said. "I didn't think my house would have made it." His house was empty, but it wasn't damaged although there wasn't any power or running water. Most of the stores in the area were looted.

At the last house he checked, he found his cousin, and was told to go to a different location to try and find his father. After leaving that street and turning onto a different one, they passed by the church his grandfather built. It was still standing without any damage. "We always referred to my grandfather as one of the 'oaks' of the family," Kelly said softly of his family's patriarch.

"When I knocked on the door of the second place, I was told to go away," said Kelly. "I looked through the window and said 'Hey, Pops. It's me!' He couldn't believe I was there 'cause I haven't been home in almost two years," said Kelly, who in November, has spent five years in the Army.

"His father came outside and they both hugged," said Middleton. "It was a great feeling reuniting Kelly with his family. It's pretty much the essence of why we are here."

The reunion was hard for Kelly.

"It made me both happy and sad. It was really hard seeing my neighborhood like that," said Kelly. "Everything I know is changed. I was planning on getting out of the Army and coming back home. Now there is almost nothing to come back to. I don't know what I'm going to do." Kelly went on to state that being in Louisiana and a part of the disaster relief efforts made him feel good about being in the military.

SPC Aird is with the 93rd Signal Brigade Public Affairs.

1LT Sharron Stewart, 252nd Signal Company, also contributed to this article.

56th Sig Bn assists in Katrina disaster relief

By 1LT Sharron Stewart

Like a Phoenix rising from the ashes, the city of New Orleans steadily rises from the mire and goes about the mission of restoring order to her citizens. Soldiers of the 56th Signal Battalion came to assist the beleaguered city in her greatest time of need.

Approximately 120 members of the 56th Signal Battalion were alerted Labor Day weekend for support with Hurricane Katrina disaster relief efforts; and the Soldiers haven't stopped moving.

According to LTC Stephen A. Middleton, 56th battalion commander, approximately 120 Soldiers deployed to assist New Orleans in providing communication services for members of Joint Task Force Katrina. Members of the battalion deployed to Camp Shelby, Miss., Baton Rouge, La., and parts of New Orleans.

The battalion's responsibility included supporting 5th U.S. Army, the 13th Corps Support Command and parts of the 82nd Airborne Division with telephone communications, voice, data, and video-teleconferencing.

Middleton explained the battalion's responsibility included supporting 5th U.S. Army, the 13th Corps Support Command and parts of the 82nd Airborne Division with telephone communications, voice, data, and video-teleconferencing so they could coordinate Katrina relief efforts. In addition, the 56th Signal Battalion provided non-secure Internet Protocol services, secure Internet Protocol services, and satellite communications. Fort Bragg, N.C., and Fort Dietrich, Md., served as the strategic tactical entry points that allowed access to the signals.

He noted the battalion was participating in a data exercise before the Labor Day weekend when it was notified to deploy. He believes the timing worked for the good of the battalion because Soldiers had validated the mission's equipment

before they got the call to deploy.

In New Orleans, elements of the 56th set up operations at a Carnival Cruise Line terminal. Two vessels, the Carnival Cruise ship, *Ecstasy* and USS Naval ship, *Iwo Jima*, were used by FEMA for operational purposes. The vessels also provided housing for evacuated Americans and members of the New Orleans law enforcement community who lost homes in the flood or fires following Hurricane Katrina's strike.

Middleton went on to say that one of the experiences that moved him most was the honor of restoring the American flag at the Louis Armstrong New Orleans International Airport. Middleton said it was brought to their attention that the flag was tattered and had flown upside down. After the flag was removed it was rendered proper honors. The Soldiers conducted a mini retreat and raised a new flag.

"I think taking down the old flag and raising the new one is pretty symbolic of why we are down here," Middleton said.

Middleton was impressed with the dedication of the Soldiers, noncommissioned officers and officers to complete the mission. "It's been apparent since we've been down here that our Soldiers believe in our battalion motto, 'Get the mission through.' I couldn't be more proud of what they are doing," he said with a slight nod of his head.

He added he has not felt the same synergy or united purpose since the aftermath of the horrific events of Sept. 11, 2001. "We've had the opportunity to work alongside with people from all over the country, be it Red Cross workers, state officials, firefighters, policeman, National Guardsmen, Reservists and members from our sister services. We are all here," he said.

SGT Douglas Maye, a 63B, light-wheel vehicle mechanic with 252nd Signal Company, said he was humbled by the effects of the devastation and at the same time proud of being part of the mission. "I can actually say that I was able to come down here, get on the ground and be able to do what I could do, instead of watching things from a distance. That makes me feel good," Maye said.

SSG Carmella Rivera, a 25L, cable systems installer/maintainer with the 518th Tactical Installation Network Company, was awed by the impact of the damage Hurricane Katrina wrought in downtown New Orleans.

"When we first got here, one of the first things I saw was a tree that was completely torn out of the ground and that had left a big, gaping hole. It was lying on top of a house and the house was completely caved in," she said shaking her head. Rivera said she saw police cars with windows blown out, completely stripped of their tires, radios and valuables.

CPT Courtney Henderson, commander for the 252nd Signal Company, had elements of his company travel to Baton Rouge and different locations in New Orleans. "Although the Soldiers are away from their families and were pretty much told to move out without much notice, they have not complained and have worked tirelessly because they believe in what we are doing. They make it easy for me to say that I love my job."

"The motivation of the Soldiers has been outstanding. Even when we were in a holding pattern in Baton Rouge, everybody did what they had to do without complaining. They were pretty restless, they couldn't wait to get their systems up and running in order to show what the 56th is made of," he said.

1LT Stewart is with the 252nd Signal Company.

G6, 35th Division's participation in Hurricane Katrina relief efforts

By MAJ Francis Polashek

The G6 communications section of the 35th Division's Task Force Santa Fe deployed for five weeks to New Orleans Naval Air Station, La., for Hurricane Katrina relief. This Kansas City unit successfully coordinated communications for units from all 50 states and four territories. Its critical planning allowed units to function seamlessly in New Orleans and southeast Louisiana. The section supported 23,000 Soldiers, coordinating disjointed planning into a central point. It worked with Defense Information Systems Agency, United States Northern Command (Homeland Security), National Guard Bureau, Louisiana Army National Guard, Missouri Air

MAJ Michael Devine adjusts the CSS Very Small Aperture Terminal of a CSS SATCOM system recently at Louis Armstrong New Orleans International Airport, where he served as part of Joint Task Force-Katrina.

National Guard, Missouri National Guard, Louisiana Air National Guard, and 82nd Airborne Division. It issued more than 1,500 radios, created the division Signal Operating Instructions, deployed signal assemblages, emplaced a relay used to summon a MEDEVAC to save a diabetic civilian, and managed five different types of radio nets.

The Jefferson Barracks, Missouri 218th Engineering Installation Squadron, Missouri Active National Guard collocated with the G6, providing data, voice, video, and radio service through their Interim Satellite Incident Site Communications Set. The consolidation of the Air and Army teams was transparent to the division through the dedication and hard work of both the Airmen and Soldiers involved.

The G6 section was impressed by the huge outpouring of support from people along the way during the four-day convoy to New Orleans. According to the G6, LTC Robert Williams, "the people of Louisiana have shown remarkable support to us." He was impressed by the way "the Guard personnel, many of whom had lost their homes in the flooding, welcomed us and bent over backwards to help."

The G6 had many challenges to include only hours notice before reporting for duty, remaining in place and weathering Hurricane Rita, transforming unit structure during deployment, serving on a Kansas staff, and coordinating joint and interagency assets without an existing command and control. Although challenging, Williams stated this deployment has proven to be a very rewarding experience.

MAJ Polashek is the 35th Division deputy G6, Task Force Santa Fe, New Orleans Naval Air Station, Belle Chasse, La.

Katrina task force volunteer meets President Bush

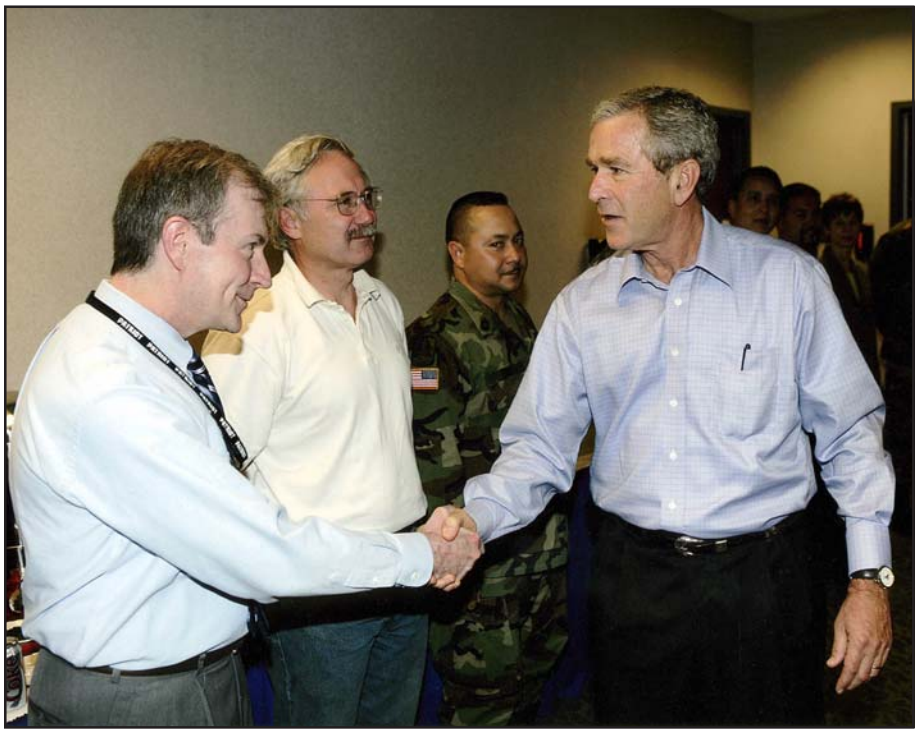
By Stephen Larsen

FORT MONMOUTH, N.J. – In the aftermaths of Hurricane Katrina and Hurricane Rita, many citizens, touched by the plight of the people whose homes were destroyed and lives were turned upside down, tried to help in any way they could. Within Department of Defense, this desire to help took the form of communications and acquisition specialists volunteering their time and special skills to join the Joint Task Force-Katrina and Joint Task Force-Rita.

One such volunteer was Alan Thompson, an engineer with the Project Manager, Defense Communications and Army Transmission Systems' Product Manager, Defense Wide Transmission System. For nearly three weeks in September, Thompson who works at Fort Monmouth, N.J., was deployed at Peterson Air Force Base, Colorado Springs, Colo., as part of JTF-K with the U.S. Northern Command/U.S. North American Aerospace Command. He worked in the J6 Theater C4ISR Control Center, commanded by Rear Adm. Nancy Brown.

"We worked 12-hour days, seven days a week," said Thompson, adding that he is grateful for the opportunity – not only because it has allowed him to apply his special skills to help his fellow citizens, but also because it gave him a glimpse of the big picture that not many get to see.

For instance? On Saturday morning, Sept. 24, Brown's executive officer, CPT Mary McLendon, came through the J6 TCCC and told all



President George W. Bush shakes the hand of engineer Alan Thompson as other members of Joint Task Force-Katrina await their turn to meet the president, Sept. 24 at Peterson Air Force Base, Colorado Springs, Colo.

parties to follow her. The team was ushered into a room, and before they knew it, they were face-to-face with President Bush, who firmly shook each JTF-K team member's hand and thanked them individually for their help in the relief effort.

"Doesn't everyone spend their Saturday mornings shaking hands with the president?" quipped Thompson, quickly adding "I appreciated, and was overwhelmed, that someone who deals with the leaders of the world would take the time to, individually, stop by and thank each of us for the hours and effort we put in away from our families and communities."

Thompson said that his role at NORTHCOM was to represent PM DCATS/PM DWTS' higher headquarters, the Program Executive Office, Enterprise Information Systems, working closely with personnel from the Program Executive Office, Command, Control and Communications-Tactical.

"I let the military planners know what PEO EIS/PM DCATS/PM DWTS products fit in with the overall plan of JTF-K for restoring the strategic and tactical communications in the Joint Operations Area," said Thompson, "and looked for opportunities to bring our products to the table to assist in the rebuilding."

Some PM DCATS products Thompson offered to the JTF-K effort included land mobile radios, a product of the Assistant Product Manager, Land Mobile Radio, for first responder communications; the Fort Monmouth Teleport site, a product of the Assistant Product Manager, Satellite Communications Systems, as a backup to the JTF-K effort's satellite communications network; and the Multi-Media Communications Systems and Combat Service Support Satellite Communications system, products of PM DWTS, which provide satellite access for Non-secure Internet Protocol Router Network and Secure Internet Protocol Router Network connectivity and wireless local area network connectivity.

"I really appreciate the support of my immediate management – Tom Lucy, PM DWTS, Linda Bartosik, the leader of PM DWTS' Team Global Communications, and of course, COL Gale Harrington, PM DCATS and Art Reiff, the deputy PM DCATS – for allowing me this opportunity," said Thompson.

Mr. Larsen is a public affairs officer with Program Executive Office, Enterprise Information Systems at Fort Monmouth, N.J.

Acronym QuickScan

APM LMR – Assistant Product Manager, Land Mobile Radio
APM SCS – Assistant Product Manager, Satellite Communications Systems
CSS SATCOM – Combat Service Support Satellite Communications
CSS VSAT – Combat Service Support Very Small Aperture Terminal
ISISICS – Interim Satellite Incident Site Communications Set
J6TCCC –J6 Theater C4ISR Control Center
JTF – Joint Task Force
JTF-K – Task Force-Katrina
JTF-R – Joint Task Force-Rita
LAANG – Louisiana Air National Guard
LARNG – Louisiana Army National Guard
MMCS – Multi-Media Communications Systems
MOANG – Missouri Air National Guard
MOARNG – Missouri Army National Guard
NGB – National Guard Bureau
NIPERNET – Non-secure Internet Protocol Router Network
NORAD –North American Aerospace Command
NORTHCOM – U.S. Northern Command
PEO C3T – Program Executive Office, Command, Control and Communications-Tactical
PEO EIS – Program Executive Office, Enterprise Information Systems
PM DCATS – Project Manager, Defense Communications and Army Transmission Systems
PM DWTS – Product Manager, Defense Wide Transmission System
SIPRNET Secure Internet Protocol Router Network
SOI – Signal Operating Instructions

Circuit check

News and trends of interest to the Signal Regiment

NEWS

Redesign Conference addresses Signal future Part I

By Kristy Davies

It is the beginning of the end, the end of old thinking that is.

Day one of the Signal Redesign Conference kicked off Nov. 7 at the U.S. Army Reserve Center on Fort Gordon, as representatives from multiple Army organizations including 3rd Infantry Division, Training and Doctrine Command, Network Enterprise Technology Command and every organization related to Signal, gathered in the drill hall.

Opening remarks were made by BG Randolph Strong, chief of Signal, and COL Tim Day, director of Combat Development, U.S. Army Signal Center.

Strong welcomed everyone to the conference, but reiterated that the conference was a working conference and not a social gathering.

With the Joint Network Node having been fielded rapidly, there are still some issues that must be solved prior to the Signal Regiment moving towards Warrior Information Network-Tactical.

"We just really have to clean up the battlefield of JNN, get JNN sorted out and change our focus to the future fight," explained Day.

"We have to make sure the (organizational) structure and equipment fight the future fight but integrates with WIN-T l)," added Day. "What we're talking about (at this conference) is the force structure implications for JNN."

In his briefing to the representatives, COL Jeffrey Smith, director for TRADOC Program Integration Office-Network, explained the importance of the redesign in regards to networking and "enabling the Warfighter."

(Left) BG Randolph Strong, Chief of Signal, emphasized the conference was a working conference, not a social gathering. The first step is redesigning the Signal Corps to meet the needs of the Army, pointed out by (not pictured) COL Jeff Smith, director for TRADOC Program Integration Office-Network. "The focus of this (conference) is to get the organizational piece correct," Smith stated.

"The network is commanded by the Warfighter," Smith said in an exuberant voice to the Soldiers and civilians attending the conference.

Smith proceeded with the results of LandWarNet II, lessons learned from 3rd Infantry Division and the concept of Doctrine, Organization, Training, Material, Leadership, Personnel, and Facilities.

"LandWarNet II taught us that our organizational solutions had to reflect the joint nature of war," said Smith. "The fundamental purpose of the network is to enable and inform a commander, leader or Soldier to make better decisions, provide more devastating fire power and to achieve more comprehensive results on the battlefield."

Certain issues have arisen during the implementation of the new networking technology.

"Based on Operation Iraqi Freedom One, the Army decided to provide its maneuver force with a joint, interoperable data network. 3rd ID received the JNNs for its deployment to OIF three," explained Smith. "That allowed people to connect directly to a hub."

Smith explained the concept of DOTML-PF, the basis of restructuring Signal. A common doctrine will result in having a common way of fighting. Organizations must be prepared for future transformation and training must prepare Soldiers for an adaptable network. No one in the commercial world has the Army's requirement for near real time connectivity and information exchange.

"We need to bring in commercial technologies and train our new Soldiers on those commercial technologies to include IP," explained Smith. "We have to train on

this new language of IP."

Having material which is more tailored to the needs of communication between the Soldier and command post would allow everyone to be using information that can be shared by anyone at any location at any time, according to Smith.

Smith also briefed that the network is a complex interaction of biology and physics.

"The network itself reflects the profoundly human nature of combat," Smith explained. "We must have a (structural design) that constantly keeps up with the warfighter."

The first step is redesigning the Signal Corps to meet the needs of the Army.

"The focus of this (conference) is to get the organizational piece correct," continued Smith. "We (need to) organize all these Signal Soldiers on the battlefield so that they bring the network ever closer to the warfighter. If we can make the warfighter and the network largely one and the same, then we will achieve an extraordinary capability."

After Smith's briefing, conference participants split into work groups for the remainder of the day to work on funding, personnel, organizational, and technical issues.

"We have the right (people) here and have representation of all levels," said Day. "We have people from the field to the guys who do the strategic hubs. They are tremendous professionals."

The conference continued Tuesday and Wednesday with all day work groups and a back briefing to the Council of Colonels on Wednesday. The last day for the conference is today and will consist of feedback from the work group proponents, briefings to the general officers and closing remarks.

"We've got to have network-savvy Signal officers, Soldiers, (noncommissioned officers), civilians and contractors who are able to understand the scientific and biological basis of this network well enough to influence and alter the course of an enemy's intentions," said Smith. "Approaching these issues from a DOTML-PF standpoint, our easy way of describing it, is the only comprehensive way."

Ms. Davies is the editorial assistant for The Signal *newspaper on Fort Gordon. Prior to employment with the paper, Davies was a radio news director for several radio stations in the Destin, Fla. area. Davies is an Army veteran who hails from Niceville, Fla.*

Redesign Conference addresses Signal future Part I

By Kristy Davies

The outlook for the Signal Regiment is positive and strong as it moves into a new era of Joint Network Node and LandWarNet.

The Signal Redesign Conference, held at the U.S. Army Reserve Center here, ended Nov. 10. The conference opened the eyes of organizations and representatives from throughout the Army including Training and Doctrine Command, Network Enterprise Technology Command, 9th Army Signal Command, Division G6s, Theater and Corps Signal Brigade commanders and the Department of the Army.

BG Randolph Strong, Chief of Signal; BG Carroll Pollett, NETCOM commanding general; and BG Jeffrey Foley, director for architecture, operations, networks and space, Office of the Chief Information Officer/G6, listened to the general officer back brief on the final day and wrap up of the conference.

"There is going to be a shift of expertise," said COL Jeffrey Smith, director for TRADOC Program Integration Office-Network when addressing the panel of general officers. "Our focus today is Signal organizations that now support the warfighter. A warfighter never asks for an (Integrated Theater Signal Battalion - Joint), he asks for capability."

Approximately 180 personnel representing organizations throughout the Army attended the four-day conference.

The Signal Center conducted the force redesign conference to refine the LandWarNet operational construct and the Signal Regiment's force structure in order to meet the requirements of the Army modular expeditionary Army and clean up the JNN battlefield.

The leaders of four workgroups addressed the accomplishments made during the three-day period. While doing so, Pollett requested clarification on the basis of certain aspects of the redesign while Foley emphasized the importance of knowing what you are changing.

"We have to be very careful on what source we use to identify the problem," explained Foley. "We have to make sure we clearly define the problem, who said it, what

Leaders from four workgroups addressed the accomplishments made during the three-day redesign conference. BG Carroll Pollett, NETCOM commanding general, requested clarification from the group on the basis of certain aspects of the redesign and BG Jeffrey Foley, director for architecture, operations, networks and space, emphasized the importance of knowing what you are changing.

authority, under who's action are we working this and does it have the blessing of those commanders out there who are living it."

John Twohig, division chief of Force Design Requirements Integration Directorate Future Center, Headquarters TRADOC, stepped up to explain more of the purpose of the conference.

"A redesign implies a much greater change," he said. "The reason why we are looking at doing this now is because now is the opportunity when the conjunction with the ITSB redesign throughout Signal structure can be pushed around to address shortfalls in the G6/S6 with that structure. It's a refinement of Signal structure from the support to theater level."

Issues with the Signal structure were addressed from the strategic and tactical levels.

"At the conference, we at least identified a lot of key areas that we now have to focus our efforts in order to restructure all of Signal," said Terry Edwards, director of architecture, office of the CIO/G6. "Not just the technology and equipment part of it, but also the structure so that they can meet the objective."

Signal, medical and infantry personnel walked away from the conference with a feeling of accomplishment.

"Sometimes it is difficult to measure because we're only here for a few hours," said Foley. "From the out brief that we received ... I think we did make progress. I think we did hit a number of the targets."

Changes to be felt as a result of the conference will vary from immediate to future changes. A Force Design Update will be submitted by Dec. 1 for the new ITSB-J, which are JNN based NETCOM battalions for theater Army support missions.

"Many of the concepts developed (from the conference) will be played out in the (Total Army Analysis) 9-13 and will enable the Army to begin the resourcing process to gain dollars, equipment and personnel for this force structure," explained COL Tim Day, director of Combat Development, U.S. Army Signal Center.

Signal Soldiers have much to look forward to as the changes ensue. The Signal Regiment will completely change to a JNN-based force in conjunction with Army modularity by 2009.

"There will be no more Signal battalions in below corps level," explained Day. "Signal units and Soldiers will be integrated into the Army warfighting organizations as an integral part of the warfighters weapon systems. warfighters will fight the network, and employ it, just like any other weapon system."

"This JNN force structure, without Signal battalions in the tactical formations, is a natural transition to the units," continued Day.

Focus for Signal officers will be the S6/G6 positions supporting the warfighter while Soldiers coming out of Advanced Individual Training will go to a JNN company or to a G6/S6 network operations section. A significant change is that there will no longer be a Signal battalion or brigade headquarters above the Soldiers, according to Day.

Training will be greatly impacted as Signal moves closer to LandWarNet-University.

"The LandWarNet-University concept has the potential to change training across the Army," added Day.

The current equipment, Mobile Subscriber Equipment, is expected to be replaced by JNN and later with Warrior Information Network-Tactical by 2009.

"JNN is a transitional capability to overcome our network capabilities gap until WIN-T arrives on the battlefield," explained Day.

Having a say in restructuring the Signal Regiment is a revolutionary change as officials received input from the field.

"I think the biggest thing Soldiers in the field need to understand is that they do have a voice in fixing and changing the regiment," Day explained. "The CG (of the Signal Center) has made it a huge priority to go out and get feedback from the field and do something about it. The men and women here today are very professional, motivated and focused on taking care of our Soldiers in the field. I think that message is getting out to the field and that's just based on the amount of e-mails and phone calls we now get from corps, division and brigade G6/S6."

The Signal Redesign Conference has been deemed a success.

"It was a synchronization effort," added Foley. "We identified some major decision points that have to be made. (The conference also) helped educate the Signal Regiment by letting everyone know what we are doing. It was a wonderful information sharing opportunity."

Although the Signal Redesign Conference came to a close, it is just the beginning of the full transformation.

"(The conference) was a special conference designed to 'clean up' the JNN force structure," said Day. "We will have LandWarNet Wargame III (early 2006) to validate the results of this conference and to begin the WIN-T preparation for TAA 10-15."

Fort Gordon is the center of the entire Signal transformation and plays a key role.

"Signal is a critical piece to the overall Army architecture and is a key component," said Edwards. "Signal plays a critical part because what enables us to get to be a net centric force is the network and the network structure is being designed right here at Fort Gordon. Fort Gordon is, therefore, a critical player."

Transformation, redesign, restructure and refinement will continue to be significant to the Signal Regiment as many changes lie ahead.

Foley expressed his gratitude towards the Signal Regiment.

"I'm proud to be associated with so many good people working so hard to make the Army a better place to serve, and our warfighting forces a better place to fight."

Ms. Davies is the editorial assistant for The Signal *newspaper on*

Fort Gordon. Prior to employment with the paper, Davies was a radio news director for several radio stations in the Destin, Fla., area. Davies is an Army veteran who hails from Niceville, Fla.

JNN-N simulation continues transformation

By Tammy Moehlman

Stimulating training is now available online for the new Joint Network Node - Network.

The new 25N occupational specialty, or JNN-N nodal system operator/maintainer Soldiers, are now able to train using simulations.

The 25N military occupational specialty was recently made official along with the beginning of course training this month for the new JNN-N equipment. The biggest thing with the new equipment and related training is the simultaneous introduction of simulation training for JNN-N online.

"The most significant thing about this particular simulation is the timing. It's the first time that a simulation has come out with a new piece of equipment at the same time," said Terry Moehlman, chief of Publications/Media Branch, University of Information Technology Division. "The simulation is not standalone training, but is used in conjunction with regular training at the resident schoolhouse."

Soldiers with an Army Knowledge Online account can access the UIT portal at http://uit.gordon.army.mil and download the simulation.

A forum has been established on the website to provide technical support for UIT Simulations, according to SSG Christopher Page, noncommissioned officer in charge, Simulations Branch, Directorate of Training. He also adds that "all simulations that have been developed to support Life Long Learning are available through the UIT web portal."

The simulation provides realistic training including the turning on of lights, the actual sounds the equipment makes during each process, and also simulates the actual time it takes the equipment to perform an action.

"Simulations are high fidelity 3D virtual reality views of equipment and systems that are used as initial (resident) and sustainment (deployed) training," said Page. "The 3D environment makes it very realistic. All aspects of creating a simulation for a system have been taken into account.

"For instance, if it takes one minute for a radio to perform a self test, then that delay time is duplicated within the simulation. All LED (light emitting diode indications), alarms and warnings have also been duplicated in the simulation."

The simulation took a year to develop and was loaded to the website Oct. 18, 2005.

"Simulation is a key part of the Lifelong Learning initiative that the Signal Center has been working on for the past four years.

Lifelong Learning simply means using technology to deliver training and education to Soldiers and leaders wherever they are and whenever they need it.

"Simulation helps us get away from the heavy dependency that we have on equipment. It helps us use a PC-based replication of the equipment for familiarization, acquiring and practicing information technology skills. Of the three types of simulations (live, virtual and constructive), the JNN-N simulation is a virtual simulation used to assist instructors with initial JNN-N Nodal System Operator/maintainer training and units with sustainment," said MAJ Charles Dugle, chief, Simulations Branch, Directorate of Training.

All simulations are set up in the same way so that operating and navigating a simulation never changes, just the subject matter. This makes it easier for the users to focus on learning the equipment and not on how to run the simulation program.

The training focuses on four modes of learning: familiarize, acquire, practice, and validate, according to Page.

"A simulation will actually save on the amount of the actual equipment we'll need in the schoolhouse for training. You can have fewer pieces of the equipment in the schoolhouse because you train using the simulation on laptop or desktop computers. Then the student goes through a series of tasks," said Moehlman.

The simulation is followed up with a hands-on validation with the actual equipment. Often equipment gets damaged when it's used for training and that's another advantage to simulations.

"You can't break the simulation; if something happens you reboot your computer... and start over," says Moehlman. "Plus it tracks how many errors are made and where they need to go back and do a refresher."

Another advantage to the online simulation training is the access it gives to Soldiers deployed or in Reserve or National Guard units.

The simulation also "provides training for the reserve component Soldiers," said Moehlman.

With most training provided on the UIT portal Soldiers have the option of going through the whole course or just the simulation. The simulation is the only training available online at this time for JNN-N, but the whole course will be available in the future. The training is so new not all the parts have been placed online. This realistic training will compliment instruction at the resident schoolhouse and those hundred to thousands of miles away, he said.

"No matter where the Soldier is stationed, they will be able to come back to one location and download the simulations that they need for training," said Page.

Ms. Moehlman is with the Fort Gordon Public Affairs Office. A graduate of Augusta State University with a degree in communications, she worked for five years as a visual information specialist before working with the PAO office. She serves as a broadcaster and staff writer/graphic artist for the

newspaper The Signal.

$5 billion World-Wide Satellite Systems contract will offer one-stop shopping for federal agencies

By Stephen Larsen

FORT MONMOUTH, N.J. – Federal agencies – both Department of Defense and non-DoD – requiring commercial satellite terminals and associated services will soon be able to order what they need, when they need it, from the World-Wide Satellite Systems contract, a comprehensive indefinite delivery/indefinite quantity contract.

Army officials expect the WWSS solicitation to be released to industry in the first quarter of fiscal year 2006, with contract award slated for the third quarter of fiscal year 2006.

A partnership of the Project Manager, Defense Communications and Army Transmission Systems and the Project Manager, Warfighter Information Network-Tactical, the WWSS contract will have a ceiling value of $5 billion over a term of five years.

The WWSS contract will offer six commercial satellite terminal types: Combat Support Service Very Small Aperture Terminals, fixed-station satellite terminals, flyaway VSATs, military-certified satellite terminals, prime mover/trailer-mounted satellite terminals and deployable satellite earth terminals. Depending on user requirements, these satellite terminals may be required to operate on any military or commercial satellite in the C, Ku, X and Ka-bands.

"We plan to award the WWSS contract to up to six prime contractors," said Kevin Carroll, the U.S. Army's Program Executive Officer, Enterprise Information Systems. "Each prime contractor will be required to provide complete turnkey solutions, including hardware, software, support services and data."

Federal agencies – both Department of Defense and non-DoD – requiring commercial satellite terminals ranging from (left) Combat Support Service Very Small Aperture Terminals to (right) deployable satellite earth terminals will soon be able to order what they need, when they need it, from the World-Wide Satellite Systems contract. Army officials expect the WWSS solicitation to be released to industry in the first quarter of fiscal year 2006, with contract awarded slated for the third quarter of fiscal year 2006.

According to Scott Mathews, project leader for the WWSS Project Office of PM DCATS, it is the Government's intention to award to at least two to small businesses that meet the full requirements of the contract, assuming a small business is within the competitive range.

For more information about the World-Wide Satellite Systems contract, check the Industry Interactive Business Opportunities Page for Fort Monmouth at https://abop.monmouth.army.mil/ or contact Scott Mathews at scott.a.mathews@us.army.mil or by phone at (732) 532-2339.

Mr. Larsen serves as a public affairs officer with the Program Executive Office for Executive Information Systems at Fort Monmouth, N.J.

DoD, industry leaders meet to support joint warfighter

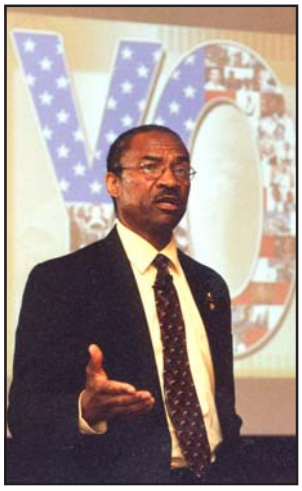
by Anthony Ricchiazzi

TOBYHANNA ARMY DEPOT, Pa.— Department of Defense and private industry leaders recently met to discuss the benefits and challenges of public-private partnerships to continue providing warfighters with the best weapons systems in the shortest time and at the lowest cost.

The Public Private Partnership Conference, sponsored by the U.S. Army Communications-Electronics Life Cycle Management Command and hosted by Tobyhanna Army Depot, was held at the Skytop Lodge June 26-28. The Honorable Claude M. Bolton, assistant secretary of the Army for acquisition, logistics and technology/Army acquisition executive, served as keynote speaker.

Other speakers and attendees included David Pauling, assistant deputy under secretary of defense, Materiel Readiness and Maintenance Policy; MG Michael R. Mazzucchi, C-E LCMC commander; MG Daniel Mongeon, director, Logistics Operations, Defense Logistics Agency; Victor Ferlise, deputy to the commanding general for operations and support, C-E LCMC; representatives of the U.S. Army, U.S. Air Force and Marine Corps, and representatives of more than 23 companies.

"The conference served as an opportunity to share the successes, best practices and challenges of public private partnering and performance based logistics," said Ron Cappellini, director of Business Management and conference chairman. "By having these conferences,



The Honorable Claude M. Bolton, assistant secretary of the Army for acquisition, logistics and technology/Army acquisition executive, addresses attendees of the the Public Private Partnership Conference hosted by Tobyhanna Army Depot. Attendees discussed the benefits and challenges of public-private partnerships. Public-private partnerships help the warfighter obtain the best systems in the shortest time at the lowest cost.

Francesco Musorafiti, owner of EPS, talks to members of the P-3 conference during a brainstorming session. Defense Department and private industry leaders met to discuss public-private partnerships. Partnering offers viable options for long-term sustainment of systems. Tobyhanna has the most partnerships of any Defense Department organization. Currently, there are 32 active and 24 in negotiation.

DoD and industry contribute to a common goal of providing quality equipment and support to America's warfighters."

Partnering is gaining momentum, according to Cappellini. Over the last decade, Tobyhanna has had 97 partnerships. Currently there are 32 active and 24 in negotiations. Business Planning Division, Business Management Directorate, is primarily responsible for partnering initiatives. The team has initiated 19 new partnership agreements this year alone.

Tobyhanna has the most partnerships of any DoD organization. Partnerships include Engineering and Professional Services Corporation for the AN/PRC-112D radio and Northrop Grumman for the Command Post Platform.

The AN/PRC-112D is a great example of partnering, Cappellini said. A small corporation was able to obtain a major program by employing the services of larger organizations. The Soldier, the private corporations and the depot have all benefited by this initiative. "The Communications Systems Directorate has done an outstanding job assembling, testing and fielding AN/PRC-112D radios," he added.

"On the CPP [Command Post Platform] program, we will work for Northrop Grumman providing new equipment training. This will allow us to gain further knowledge of the system, which gives us stronger leverage to provide long term sustainment," Cappellini said. "We also have partnerships for the Stryker Brigade Combat Team, the Tactical Operations Centers and are establishing partnerships for unmanned aerial vehicles.

"We also had AMC input about Performance Based Logistics," he added. "PBL is a hot topic in the Defense Department. It provides a focal point for managing a system's life cycle."

Representatives of businesses such as General Dynamics, Northrop Grumman and VSE Corp. shared their experiences and insights. Cappellini said attendees also had brainstorming sessions to discuss the benefits of partnering and identify areas for improvement. This was a powerful vehicle for the private sector to share their perspectives with key government policy makers, government customers and organic partners, he noted.

"We'll use that information to document and correct systemic problems affecting partnering," he added. "For example, smaller companies sometimes could not meet the advance payment requirement when working with depots. We have to be paid before we begin work on a system. That's a 'sometimes' problem for large companies, but a stumbling block for small companies who don't have the financial reserves to pay up front. Legislation now allows them to receive advance payments from program managers, which can then be forwarded to depots they work with."

Cappellini added that the private sector representatives had many positive comments about partnering with Tobyhanna personnel, their strong work ethic and the quality of products produced.

"For the most part, partnering has been successful," he said. "The private sector can take their work anywhere; it's imperative to provide quality products on time and within cost. If a business comes back to Tobyhanna, it tells me we're meeting these criteria. The number of new partnerships we've established is evidence that we are recognized as a one of the Defense Departments leading full service providers and we are the best value." Cappellini said that partnering "keeps depots and the private sector healthy" by contributing to workload for both. He explained that by keeping a steady stream of workload for both sides, neither loses significant capabilities and can meet the current and future needs of warfighters.

"The private sector is very good at developing new products and technologies to give our warfighters the best capabilities," he said. "There is a clear need to maintain that science and engineering edge, and to maintain the sustainment side, which is at depots like Tobyhanna. There are certain aspects of equipment sustainment for which they have better capabilities than the private sector. If we work together, then we can keep

them both viable, so if a surge comes from a war or other emergency, the nation has the capability to meet it."

If the partnering is done correctly, the warfighter will obtain the best systems in the shortest time at the lowest cost. Also, public and private sectors will have viable options for long-term sustainment of the systems.

"Many of the systems we support now are relatively old," Cappellini said. "Partnerships bring us back into the fold as subcontractors when new systems are developed. Legislative initiatives allow us to work directly with private corporations. As a result, we can work with program managers and corporate laboratories to develop partnerships, which we've been doing for about 10 years now."

Tobyhanna Army Depot is the Defense Department's largest center for the repair, overhaul and fabrication of a wide variety of electronics systems and components, from tactical field radios to the ground terminals for the defense satellite communications network. Tobyhanna's missions support all branches of the Armed Forces.

Tobyhanna Army Depot is part of the U.S. Army Communications-Electronics Life Cycle Management Command. Headquartered at Fort Monmouth, N.J., C-E LCMC's mission is to research, develop, acquire, field and sustain communications, command, control computer, intelligence, electronic warfare and sensors capabilities for the Armed Forces.

Mr. Ricchiazzi is a public affairs officer with the Tobyhanna Public Affairs Office, Tobyhanna, Pa.

AWARDS

PM DWTS' Devine honored for 'Connect Army Logisticians' solution with Army Acquisition Excellence

AWARD

By Stephen Larsen

ARLINGTON, Va. – MAJ Michael Devine, under whose leadership Team CSS Communications of the Project Manager, Defense Communications and Army Transmission Systems/Product Manager, Defense Wide Transmission Systems met the Army Deputy Chief of Staff for Logistics' (G-4) number one goal to "Connect Army Logisticians" by providing warfighters with Combat Service Support Satellite Communications systems, was honored with a 2005 Army Acquisition Excellence award at the U.S. Army Acquisition Corps annual awards ceremony in Arlington, Va., on Oct. 2.

Devine, who served as the assistant product manager, DWTS-Belvoir from Jan. 21, 2003, to May 30, 2005, won the individual award in the category of "Information Enabled Army," which honors exceptional achievement in the development and implementation of a network-centric, knowledge-based Army architecture interoperable with joint systems and incorporating technological advances.

The Honorable Claude Bolton Jr., Assistant Secretary of the Army for Acquisition, Logistics and Technology ASA, and LTG Joseph Yakovac Jr., the military deputy to the ASA (ALT), presented the award to Devine before an audience filled with the Army's Acquisition Corps leadership.

Kevin Carroll, the Program Executive Officer, Enterprise Information Systems, to whom PM DCATS reports, said he was proud that not only did Devine win the individual award in the "Information Enabled Army" category, but that PEO EIS' Product Manager, Joint-Automatic Identification Technology won the team award in the same category.

"This was a good night for PEO EIS," said Carroll. "It underscores that we (PEO EIS) are on the right track in our programs to provide information and enterprise tools for not only Army, but also for Joint warfighters."

Kevin Carroll (left), the Program Executive Officer, Enterprise Information Systems with MAJ Michael Devine, after Devine was honored with a 2005 Army Acquisition Excellence award at the U.S. Army Acquisition Corps annual awards ceremony in Arlington, Va. on Oct. 2.

"I am proud of MAJ Devine and the entire Team CSS Communications and their dedication and tireless efforts to connect Army logisticians," said COL Gale Harrington, the Project Manager, Defense Communications and Army Transmission Systems. "Their innovative approach streamlined the business process and ultimately saved the lives of Soldiers by eliminating the need for them to be placed in harms way in the conduct of their daily logistics mission."

"Mike (MAJ Devine) is the epitome of today's Army Signal Officer – bright, energetic, and innovative," said Thomas Lucy, the Product Manager, Defense Wide Transmission Systems. "As the PM DWTS, I watched as Mike took an idea and turned it into a reality. He's a genuine out-of- the-box thinker."

Devine, who said he was "flattered" to receive the award, recently returned from Louisiana, where he reunited with members of Team CSS Communications as part of Joint Task Force-Katrina, to provide CSS SATCOM systems to support the relief effort.

"In Louisiana, we provided a smaller version of what we fielded in Iraq," noted Devine. "Whether it's a war or emergency, there are the

same requirements for tracking materiel – to know what you have, what you need what you've got coming, and where it is."

First dedicated communications network for Army logisticians

Before Devine and Team CSS Communications provided the CSS SATCOM system, Combat Service Support warfighters – the logisticians of the battlefield – did not have their own dedicated communications network on the battlefield. To place requisitions for everything from "bullets to butter," Soldiers had to rely on "dropping disk" or "sneaker net" – that is, they have had to physically hand-carry disks containing requisitions data from one location to another. In Iraq, this made Soldiers targets for insurgents' attacks on convoys with improvised explosive devices, car bombs, rocket-propelled grenades, and small arms fire – until Devine and Team CSS Communications provided CSS SATCOM.

"This is the first time a logistics system is saving lives in a tangible manner," said CW-2 Angel Montero, a Combat Service Support Automation Management Office technician for the 3ID. "Every single CSS SATCOM use is a drive Soldiers didn't have to take through 'ambush alley.'"

The commercial-off-the-shelf CSS SATCOM system, which includes CSS Very Small Aperture Terminals in tandem with the CSS Automated Information Systems Interface, which provides secure wireless local area network access. The CSS SATCOM system provides Non-Classified Internet Protocol Router Network access via satellite to CSS users almost anywhere in the world through a global network, connecting remote users to one of several hub stations around the world.

Devine and Team CSS Communications contributed to Army transformation by fielding CSS SATCOM systems to the Army's first modular unit of action, the 3rd Infantry Division of Fort Stewart, Ga. Using a spiral, rapid development approach, the CSS SATCOM fielded prototype systems to the 3ID, starting in April 2004, then replaced them with newer technology throughout the fielding process, which they completed fielding in October 2004. The fielding successfully culminated with the 3ID's redeployment to Iraq in January 2005, fully-trained and with the opportunity to conduct reception, staging, onward movement and integration – tasks units must complete as part of deployment with 33 CSS SATCOM systems.

According to CW-2 Tim McCarter, of the 3ID's Supply Support Activity, the CSS SATCOM system is improving the processes of the 3ID by "maximizing the potential of the whole requisition system."

"Previously, units were not reliably getting status on parts," said McCarter. "Were they ordered? Not ordered? Re-ordered? But with CSS SATCOM, they know the status of their orders instantaneously, and it takes the human error out of the process, because no longer does every single person down the line have to be available to do what they have to do. Soldiers can now order parts in the middle of the night – being able to order at any time is a huge combat multiplier."

"This is the first time in the history of the Army that someone at the battalion level has got this capability," said Montero. "We're right there with corporate America in logistics communications – that has never happened before."

The Army Deputy Chief of Staff for Logistics' (G-4) made CSS SATCOM the centerpiece of its number one goal to "Connect Army Logisticians," funding for 775 CSS SATCOM systems to be fielded throughout the Army. As of Sept. 29, 2005, Team CSS Communications has fielded 278 CSS SATCOM systems to modular force and other units.

Mr. Larsen is a public affairs officer with the Program Manager Defense Communications and Army Transmission Systems, Fort Manmouth, N.J.

Leader Transition

MG James C. Hylton – Exit Interview

By Eric Hortin

FORT HUACHUCA, Ariz. – "It's been a terrific ride."

How many out there would be able to say that after working for the same company for nearly 34 years?

MG James C. Hylton, commanding general, U.S. Army Network Enterprise Technology Command/9th Army Signal Command, is on the last leg of a ride that started back in December 1971. After a long series of assignments from company-level to the Joint Staff, Hylton ends his career in a place where he is very familiar.

Twice before, he was assigned to the 11th Signal Brigade at Fort Huachuca; first in 1985 as the 40th Signal Battalion executive officer, and the second time in 1994 as the brigade commander. Hylton was no stranger to Greely Hall, either. He served in the Inspector General's office in 1983, when it was called United States Army Information Systems Command, and then again in 1996 as the Assistant Chief of Staff, G-3, when it was United States Army Signal Command.

Hylton assumed command of USASC in July 2001, when it was a major subordinate command of U.S. Forces Command. Army Transformation was underway, and Hylton was up to the challenge.

"Essentially the transition that took place here was a traditional transition of command," Hylton remarked on his arrival to command USASC. "We (Hylton and MG William Russ) talked about the near-term priorities, some near-term actions that were on-going, and of course his perspective on some of the longer term challenges that might confront the command.

Those priorities included sustaining current missions while posturing USASC to respond to new missions as the command and the rest of the Army transformed.

"I felt very comfortable from day one… we had a great staff in place," Hylton said. "We were postured and we had the right people in the right positions to be able to respond to both priorities that we shaped early on as we moved into this command position."

These priorities didn't change, even when the rest of the world did. Just two months after assuming command, the nation suffered the worst terrorist attack in its history; Sept. 11, 2001. As far away as Fort Huachuca is from New York and Washington, D.C., USASC forces were playing parts in both locations.

Several USASC Soldiers, on duty providing communications support to the Secret Service in New York, worked side-by-side with fire fighters and police to rescue and evacuate the wounded at the World Trade Center buildings. Several members of the command were inside the Pentagon when the attack occurred, and witnessed the devastation first-hand. Individuals and teams from USASC, and more out of the 21st Signal Brigade from Fort Detrick, Md., were immediately called into action at the Pentagon to repair the destroyed infrastructure there.

"We leveraged every capability we had to be responsive to the Army and to the Defense Department's immediate requirements as a result of the attack on our nation and the infrastructure that was destroyed," Hylton said. "But, almost concurrently with that, we immediately began to posture our tactical formations; specifically the early priority was the 11th Signal Brigade. We had good indications that we were going to – as a result of presidential press conferences, presidential correspondence, the leadership of our congress – it was very clear that we were going to respond in some manner to the attacks on our nation."

Elements of the 11th deployed just before Christmas 2001, to support the early stages of Operation Enduring Freedom. The 86th Signal Battalion, supporting the 10th Mountain Division (Light) from Fort Drum, N.Y., deployed to Afghanistan. There, the 86th performed the mission for which it was trained – to help the warfighters communicate. With a mix of tactical satellite, line-of-sight and a lot of ingenuity, the 86th supplied the task force a mix of secure and non-secure data and voice communications, and video teleconferencing capabilities.

MG James C. Hylton relinquishes command of NETCOM/9th ASC, Fort Huachuca, Ariz.

As the war on terrorism progressed, more and more often, NETCOM's units were called in to support the constantly growing requirement for high-level communications services. The 7th Signal Brigade, 93rd Signal Brigade and the entire 11th Signal Brigade – to include elements from the headquarters – were deployed into Southwest Asia.

"At one point in time, about 79 percent of our command's total tactical force capability was deployed," Hylton said. "We were in a position where we simply did not have enough force structure to facilitate the continuation of this enduring mission."

The solution to the dilemma was to commercialize communications in theater. With the assistance of industry, the tactical Signal forces in theater were able to withdraw and prepare for any other missions required of them. Since then, between 1,200 to 1,400 contractors have been deployed at any given time to Southwest Asia – equal to two-plus battalions – over the last two years. They provide the critical, never-ending mission support capabilities commanders on the ground require.

In spite of all the deployments and issues supporting the war on terrorism, USASC still had to transform into an organization that would eventually be known as NETCOM/9th ASC. It would be a global organization with new missions, a reorganization of units and staff, and all the challenges associated with them.

"The actions that were going to be required to transform Army Signal Command to an enterprise C4 (command, control, communications, and computers) global organization were many," Hylton said. "We took a very hard look at what we perceived would be the eventual General Order 5 mission, which was the restated command's mission. Essentially, what we found out as a result of that mission analysis was that the Army Signal Command clearly had within its staff framework the capabilities to meet many

of the missions that were anticipated or that would eventually evolve under General Order #5, signed by the Secretary of the Army; however, we were missing a couple of components."

Army Signal Command would comprise the core of the organizations; but there was also a need for specialized organizations to tackle the issues of standards, policies and requirements across the Army enterprise. One such organization was the Enterprise Systems Technology Activity, which was created to lead the enterprise engineering and implementation efforts. Several organizations within the Army Signal Command were folded under ESTA, along with some from the Chief Information Officer/G-6, formerly known as the Directorate of Information Systems for Command, Control, Communications, and Computers.

General Order #5 was signed Aug. 13, 2002, and NETCOM/9th ASC officially activated Oct. 1, 2002; it was the first direct reporting unit in the Army realigned as a result of Army Transformation. Most in the command would agree that it was a challenging start, but not unexpected given the scope of the requirement. But with a staff that's somewhat smaller than would normally be found in an organization with global responsibilities, Hylton attributes the successful transformation – while still managing operational war fighting requirements – to a hard-working, dedicated staff.

Since that time, NETCOM units have been involved in every operation in support of the war on terrorism, numerous humanitarian missions in the Western Hemisphere, and major exercises. Those same units have also carried out their day-to-day missions supporting overseas theater commands, Homeland Security, the Defense Department, White House, and more. Army Transformation has also been the catalyst for restructuring initiatives within the command; and the command has been at the forefront of major changes within the Signal Regiment.

MG James C. Hylton gets briefed.

"I have great pride in our people and what they have contributed to our mission and the transformation of the Signal Regiment," Hylton said. "Our people have helped shape the organizing and equipping component for both our tactical and strategic forces, our network operational forces; they have helped put into place concepts like the Integrated Theater Signal Battalion, the network operations force design updates, the JC4 force design updates; they've done considerable work to enable our current force, but more importantly to enable the future force."

Hylton has, at every opportunity, done what he could to praise and recognize the people in the command. NETCOM's employees are, in his words, "the silent enablers." Most will never be featured in national magazines, mainstream newspapers, or journals; but Hylton still thinks the members of the NETCOM team are worthy of praise.

"Our people have a tremendous reputation around the world because they perform," Hylton said. "They're part of the team, and that's what contributes to our mission successes, globally; I'm just very proud of all that they've done, and, again, what they've done to set the conditions for the future."

To show his appreciation and let the NETCOM Soldiers and Civilians know how he felt, one of Hylton's final initiatives was to recognize those who have gone above and beyond. Those who made a difference were dubbed "Heroes" by Hylton; and he says that all who work in the gray halls of Greely Hall, in the brigades, and around the world are deserving of the title.

"The fact of the matter is… they are indeed heroes because they work day in and day out to provide an enabling capability to our nation," Hylton commented. "I wanted people to understand and have an appreciation for the role people have had within the context of impacting our global mission. It ranges from the operations mission today to all the incredible work that's been done here as we've attempted to enable and influence and to shape the future capabilities of our regimental forces – both tactical and strategic. They have indeed laid the foundation for the future."

Hylton visits signal Soldiers in the desert terrain of Iraq.

As his successor, BG Carroll Pollett, takes charge, Hylton is comfortable that those same people who have been working so hard and long to make NETCOM/9th ASC successful will continue to be successful under the new commanding general. Pollett was the commanding general of the 5th Signal Command, a major subordinate command of NETCOM. That assignment, Hylton says, gives Pollett an advantage as he assumes command.

"They're going to get an extraordinary leader," Hylton said. "They're going to get a leader that has a broad operational background from his experience at the division and corps level through his experiences at the Defense Information Systems Agency, and of course his assignment just prior to arriving here from 5th Signal Command.

"BG Pollett has a transformational, visionary mind that will be invaluable to the command as he assumes his leadership role."

For Hylton, the time fast approaches and he leaves with good feelings about where the organization is headed and the people in it. He does confess that some things that came naturally in his Army life haven't yet materialized as he transitions into retirement; he has no plan.

"Having been in the Army a little over 33 years, not having a defined plan for the next series of moves is certainly something that's foreign to what has been this wonderful Army life that we have lived," Hylton said. "We leave with wonderful feelings and memories, great friends, and we leave with a level of great anticipation for what comes next."

Mr. Hortin is with NETCOM/9th ASC Public Affairs, Fort Huachuca, Ariz.

(Editor's note: Vince Breslin, NETCOM/9th ASC command historian, contributed to this article.)

Tobyhanna welcomes DDTP commander

By Jacqueline Boucher

TOBYHANNA ARMY DEPOT, Pa. — LTC Yvonne MacNamara took command of the Defense Distribution Depot Tobyhanna, during a change-of-command ceremony July 8. She replaced LTC James O'Grady who retired.

DDTP is the Tobyhanna Army Depot tenant agency responsible for receiving, storing and issuing communications-electronics systems, components, repair parts and equipment. The depot and DDTP are recognized as partners providing excellence in communications-electronics systems integration, overhaul and repair, fabrication and worldwide logistics support, according to the unit's mission statement.

"This is a world-class maintenance activity," MacNamara said. "We must ensure we provide world-class support across the spectrum of distribution services."

Sixty-eight employees work for DDTP and provide supply, distribution and transportation support for the depot. Tobyhanna is also the sole communications-electronics maintenance depot in the U.S. Army and the largest full service facility within Department of Defense.

Tobyhanna's material and systems include radar, telephone, anti-intrusion devices, airborne surveillance equipment, and navigational instruments.

Of all the command positions available to her, the 19-year Army veteran chose Northeastern Pennsylvania because she said, "(It's) exactly where I want to be.

"This is the type of command I

LTC Yvonne MacNamara assumed command of the Defense Distribution Depot Tobyhanna, during a change-of-command ceremony July 8. The Tobyhanna Army Depot tenant agency employs 67 workers and provides supply, distribution and transportation support for the depot.

wanted. Tobyhanna was my number one choice of assignment," MacNamara said. "I've worked in numerous jobs where the civilian workforce outnumbered the military. However, I've always worked in the retail side of the house, not wholesale. I'm looking forward to the challenges ahead," she added.

As commander, MacNamara plans to focus on developing and implementing comprehensive training for new employees as well as continue to build on the partnership with the depot and American Federation of Government Employee Local 1647.

MacNamara believes in empowering workers by providing education and training. That includes having capable leaders in positions to ensure the job gets done, she added.

"We have a lot of new people who are hungry for knowledge," MacNamara said. "I want to make sure we give them the tools and training to be able to accomplish their mission."

MacNamara is a native of Big Clifty, Ky., and graduated from Western Kentucky University in Bowling Green in 1986 with a bachelor of arts degree in history. She earned a master's degree in management and leadership from Webster University, Pope Air Force Base, N.C., in 1996.

She has held myriad positions in the United States and overseas. Her career began at the101st Airborne Division, Fort Campbell, Ky., where she served as the tech supply platoon leader for the division main class 9 warehouse under the 801st Maintenance Battalion. While at Fort Campbell, she also worked as the battalion motor officer for the 426th Supply and Transportation Battalion and finally as the assistant division protocol officer at Headquarters, 101st Airborne Division.

Following these assignments, she attended the Quartermaster Officer's Advance Course. Upon graduation, MacNamara accepted an assignment to Okinawa, Japan, where she served with the Area Maintenance and Supply Facility, 58th Signal Battalion, and then as company commander for Headquarters and Headquarters Company, 10th Area Support Group.

MacNamara returned from Okinawa to fill the position of training officer for the Readiness Group Bragg that supported the U.S. Army National Guard and Reserve units in North Carolina. From there she traveled to Germany and was assigned first as a staff supply officer in the Class 9 branch at Headquarters, U.S. Army-Europe, and then as the commander of the Maintenance Activity Mannheim, a subordinate unit of the General Support Center-Europe.

MacNamara then served with the G4, Headquarters, U.S. Army Special Operations Command at Fort

Bragg, N.C., followed by an assignment as chief of the U.S. Army Special Operations Command Materiel Management Center before starting a two-year tour of duty here.

"I recently received the command briefing and took a comprehensive tour of the depot with COL (Tracy) Ellis and Mr. (Frank) Zardecki," MacNamara said. "I'm amazed at the level of the depot's capabilities and the different programs found here. It's no wonder Tobyhanna provides the 'best value' and is DoDs premier electronics industrial facility." the different programs found here. It's no wonder Tobyhanna provides the 'best value' and is DoDs premier electronics industrial facility."

Ms. Jacqueline Boucher, public affairs specialist, is with the Tobyhanna Army Depot Public Affairs Office, Tobyhanna, Pa.

Of Interest

DEPOT'S COMPUTER WARRANTY REPAIR AIDS WAR ON TERRORISM

By Anthony Ricchiazzi

TOBYHANNA ARMY DEPOT, Pa.— Depot technicians here and overseas now repair computers under manufacturers' warranties.

Tobyhanna has repaired computers for the military for 12 years in the Command, Control and Computers Directorate and at Forward Repair Activities worldwide. Computer Service and Repair Division technicians were the first to repair computers for contractors like Dell and Itronix and still offer these repairs to customers in the United States.

Now, with the War on Terrorism, manufacturers like Dell and Itronix are partnering with Tobyhanna to keep up with the demand for warranty repairs.

"This started in 2002," said Alex Radkiewicz, logistics management specialist, Business Management Directorate. "The initial reason warranty repair partnering was developed was a desire by our FRA customers for 'one-stop-shopping' to repair STAMIS (Standard Army Management Information Systems). STAMIS is constantly replacing fielded hardware so that at any given time there is a mix of warranty and out of warranty equipment out there. Soldiers can bring their computers to our FRAs for repair whether it's in or out of warranty."

Since the war started, companies have been approaching Tobyhanna. Because Tobyhanna has FRAs in Southwest Asia, technicians can provide warranty repair on their behalf.

"They provide the parts and pay the labor fees," Radkiewicz said.

Warranty Service Agreements were signed with Dell, Itronix (which provides ruggedized laptops), Hewlett-Packard and MPC, formerly MicronPC.

"With this kind of service, we make it easier on our customers. Soldiers don't have to use different processes for different companies or determine if their computers are in or out of warranty," Radkiewicz said. "They can just bring them to a Tobyhanna FRA."

Tobyhanna can repair computers under warranty for any organization in the federal government, including all Defense Department

Mark Cooper places a computer micro processor chip onto the mother board of an Itronix laptop computer. Tobyhanna repairs these and other manufacturers' computers under a warranty repair program. Technicians repair hundreds of computers here and in Forward Repair Activities worldwide. Cooper is an electronics mechanic in the Command, Control and Computer Systems Directorate's Computer Repair Division.

organizations, civilian and military. Special arrangements are unnecessary because the work is done through the company.

"Tobyhanna was the first depot to put this program in place, and it was initially for units at Fort Bragg," said Charles Marsala, FRA supervisor at Fort Bragg. "We're repairing about 400 per year at Bragg, mostly for Womack Army Medical Center."

Marsala noted that the 3rd Infantry Division bought thousands of Itronix computers and that Tobyhanna is the authorized warranty repair center.

"We were supporting about 40 of those per month in Iraq when I left and we will support them here when the 3rd ID returns this fall," he said.

Marsala was the supervisor for FRAs in southwest Asia and said deployed FRAs repair substantially more than those stateside. The FRAs in SWA are conducting about 700 warranty repairs per month.

"When I left there in June, Balad (Iraq) was processing about 800 work orders per month," he said. "Camp Arifjan (Kuwait) was probably doing that number too."

Most of the problems are from sand getting into the components. Also, Marsala said that sometimes Soldiers would forget to change the voltage setting from 110 volts, used in the U.S., to the 220 volt setting used in SWA and Europe, which would damage the power supply components.

"We've received nothing but positive feedback about the Dell support," he said. "MAJ Mark Walworth, the automation chief at Fort Stewart (Georgia) visited our site at Balad and said the 3rd Infantry Division is very pleased with our support. Itronix has a 48–hour turnaround and every repair was ahead of schedule. They gave us a very good forward stock of parts."

Because of Tobyhanna's quick turnaround ability, a Navy contractor with the Navy's Space and Naval Warfare Systems Command, asked Tobyhanna to repair the computers for the Internet cafes they set up in SWA for the military. There are about 150 cafes with 15 to 20 PCs each. Marsala said technicians had just begun that mission when he left SWA.

"A number of FRA customers and potential customers have expressed their interest in this type of relationship," Radkiewicz said.

Tobyhanna has 25 FRAs located worldwide, including installations throughout the Unites States, such as Fort Bragg, N.C., and Lewis, Wash., Iraq, Afghanistan, Europe and Korea. For further information about these FRAs, call Thomas Yanochko, chief of the Forward Repair Activity Division at Tobyhanna Army Depot, 570-895-6479, DISN 795-6479. Or contact the depot's Customer Service Office, 1-877-ASK-TOBY, 570-895-8629, DISN 795-8629; e-mail: ask-toby@tobyhanna.army.mil.

Tobyhanna Army Depot is the Defense Department's largest center for the repair, overhaul and fabrication of a wide variety of electronics systems and components, from tactical field radios to the ground terminals for the defense satellite communications network. Tobyhanna's missions support all branches of the Armed Forces.

About 4,400 personnel are employed at Tobyhanna, which is located in the Pocono Mountains of northeastern Pennsylvania.

Tobyhanna Army Depot is part of the U.S. Army Communications-Electronics Life Cycle Management Command. Headquartered at Fort Monmouth, N.J., C-E LCMC's mission is to research, develop, acquire, field and sustain communications, command, control computer, intelligence, electronic warfare and sensors capabilities for the Armed Forces.

Mr. Ricchiazzi is a public affairs officer with the Tobyhanna Public Affairs Office, Tobyhanna, Pa.

Announcing the Inaugural Combined Arms Center Commanding General's 2006

Special Topics Writing Competition: "Countering Insurgency"

"The 'expert' thing just kills me. I thought I understood something about counterinsurgency, until I started doing it."

- LTC John A. Nagl, author, *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam*

The Army absolutely needs to understand more about counterinsurgency – nothing less than the future of the civilized world may depend on it. If you have something smart to contribute, submit it to the Combined Arms Center Commanding General's 2006 Special Topics Writing Competition: "Countering Insurgency." The possible topics are near-limitless: relevant historical studies, cultural considerations, gaining and sustaining public support, ethical challenges, enhancing COIN coalition operations, transitioning from combat to nation-building, tactical and strategic issues, armor in COIN, winning hearts and minds, the battles for Fallujah, "lawfare," etcetera (for more ideas, see the contest rules, enclosure 3, at militaryreview.army.mil).

Winning papers will be well-written, carefully researched, analytically oriented critiques, proposals, or relevant case histories that show evidence of imaginative, even unconventional, thinking. Submissions should be approximately 3,500 to 5,000 words long.

First prize is $1,000, featured publication in the Combined Arms Center's *Military Review,* and a certificate of recognition signed by the commanding general, LTG David Petraeus. Second prize is $500, publication, and a signed certificate. Third prize is $250, publication, and a certificate. Fourth prize is $250, special consideration for publication, and a certificate.

Essays should be submitted with an enrollment form not later than April 1, 2006, to *Military Review*, ATTN: COIN, 294 Grant Ave., Fort Leavenworth, KS 66027-1254, or via email to milrevweb@leavenworth.army.mil (Subject: COIN).

For a copy of the enrollment form and additional information, visit the *Military Review* website or call (913) 684-9330.

Army Announces Unit Designations in the Modular Army

U.S. Army Public Affairs

The U.S. Army announced Sept. 30 new unit designations in ongoing efforts to build the modular force. These naming conventions support the Army's continued modular force restructuring, while preserving most of its famous and historic lineages. A blue-ribbon panel composed of distinguished military leaders reviewed various proposals for naming these units before making its recommendations. The resulting plan enables the U.S. Army to retain the names of many of its activated regiments and divisions, allowing these units to continue their proud traditions among today's Soldiers.

Until now, the Army was using working terms to describe various units and their levels of responsibility. Now that the redesign is complete, the new unit designations provide familiar terms that Soldiers will identify with and use easily:

Armies: The units of employment will become the Army component of a Joint Major Command and will be referred to geographically. This headquarters will be capable of assuming the duties of a Joint Task Force or a Joint Force Land Component Command – with augmentation from other services – and controlling operations. Soldiers assigned to one of these commands will wear the patch of a traditional numbered army and perpetuate its lineage and honors.

Corps and Divisions:

The unit of employment will feature three-star and two-star versions, consisting of a headquarters of about 800 and 1,000 Soldiers respectively and are capable of functioning as a Joint Task Force and a Joint Force Land Component Command. The three-star UEx will be a corps, and will perpetuate the lineages and honors of an historical corps. The two-star UEx will be a division, and will perpetuate the lineages and honors of an historical division.

Brigade Combat Teams:

The unit of action will become a Brigade Combat Team, and will perpetuate the lineages and honors of a divisional brigade or separate brigade. These Brigade Combat Teams will be of three types: Heavy, Infantry, and Stryker.

Battalions:

The constituent battalions for brigade combat teams will continue the lineages and honors of U.S. Army Regimental System's battalions — as they have for nearly 50 years. The special-troops battalion of each Brigade Combat Team will perpetuate the lineages and honors of the headquarters company of the brigade being perpetuated by the Brigade Combat Team.

The unit designs formerly known as support units of action will now be organized into five types: Combat Aviation Brigades, Fires Brigades, Battlefield Surveillance Brigades, Combat Support Brigades (Maneuver Enhancement) and Sustainment Brigades. Battalions subordinate to the support brigades will also continue the lineages and honors of U.S. Army Regimental System battalions.

These unit designations enable the Army to perpetuate virtually all of our regiments and divisions active now, and thus to pass their proud traditions along to our Soldiers.

For more information, contact LTC Carl Ey at (703) 614-2487, or carl.ey@hqda.army.mil.

Acronym QuickScan

ASA ALT – Assistant Secretary of the Army for Acquisition, Logistics and Technology
BCT – Brigade Combat Team
CAISI – CSS Automated Information Systems Interface
COIN – counterinsurgency
COTS – commercial-off-the-shelf
C-E LCMC – Electronics Life Cycle Management Command
CPP – Command Post Platform
CSSAMO – Combat Service Support Automation Management Office
CSS – Combat Service Support
CSS SATCOM – Combat Service Support Satellite Communications
CSS VSAT – Combat Service Support Very Small Aperture Terminal
DDTP – Defense Distribution Depot Tobyhanna
DISC4 – Directorate of Information Systems for Command, Control, Communications, and Computers
DoD – Department of Defense
DOTML-PF – Doctrine Organization Training Materiel Leadership Personnel and Facilities
ESTA – Enterprise Systems Technology Activity
FRA – Forward Repair Activities
IBOP – Interactive Business Opportunities Page
IEDS – improvised explosive devices
ID – indefinite delivery
ID – Infantry Division
IQ – indefinite quantity
IP – Internet Protocol
ISTB – Integrated Theater Signal Battalion
ISTB-J – Integrated Theater Signal Battalion - Joint
JFLCC – Joint Force Land Component Command
JNN – Joint Network Node
JNN-T – Joint Node Network Network-Tactical
JTF – Joint Task ForceSUA – support unit of action
IEDS – improvised explosive devices
LAN – local area network
LED – Light Emitting Diode
MOS – military occupational specialty
NETCOM – Network Enterprise Technology Command
NIPRNET – Non-Classified Internet Protocol Router Network
P3 – Public Private Partnership
PEO EIS – Program Executive Officer, Enterprise Information Systems
PM DCATS – Project Manager, Defense Communications and Army Transmission Systems
PM DWTS – Product Manager, Defense Wide Transmission Systems
PM J-AIT – Product Manager, Joint-Automatic Identification Technology
PM WIN-T – Project Manager, Warfighter Information Network-Tactical
SSA – Supply Support Activity
STAMIS – Standard Army Management Information Systems
SWA – southwest Asia
RPGs – rocket-propelled grenades
RSOI – reception, staging, onward movement and integration – tasks units must complete as part of deployment
TRADOC – Training and Doctrine Command
UA – units of action (BCT)
UEx – units of employment (corps and division)
UEy – units of employment
UIT – University of Information Technology
USASC – United States Army Signal Command
VSATs – Very Small Aperture Terminals
WIN-T – Warfighter Information
WWSS – World-Wide Satellite Systems

Signal Museum outreach:

educating people on Signal Corps' role in history

By Robert Anzuoni

During the past year, the U.S. Army's Signal Corps Museum at Fort Gordon, Ga., has conducted numerous outreach programs to educate people about the important role the Signal Corps and Fort Gordon played in our history. The programs also provide support to community activities, which give the museum a large, captive audience.

The warm spring weather brings many requests and opportunities to begin a new year of outreach programs. The first event of the year was the Fort Gordon American Red Cross Canteen Dance. The museum provided an exhibit with a uniformed living history interpreter to compliment the Red Cross volunteer in period attire. April proved to be the busiest month with seven programs which included a presentation to the Beech Island Agriculture Club in South Carolina, a parade and living history demonstration at the Congaree Western Weekend in South Carolina, a presentation at Woodworth Library on Fort Gordon for National Library Week, the Spring Festival in Mitchell, Ga., an air show at Shaw Air Force Base in South Carolina, the Cinco-de-Mayo Festival on Fort Gordon, and a Military Appreciation Day in Aiken, S.C. The fast pace continued in May with an antique car show in Aiken, S.C., a photographic exhibit in the Augusta Mall, and the Memorial Day Parade in Aiken.

In June, the museum provided an exhibit for the Signal Corps Ball at Fort Gordon and participated in a World War II camp for children sponsored by the State Museum of History in Raleigh, N.C. The whole camp lasted a week, but the first day provided an opportunity for the museum to teach the children about life in the Army during WWII. Topics such as training, uniforms, insignia, field equipment, and communication equipment were covered. The students showed a special interest in the pigeon equipment. The children were even taught about V-mail, used in WWII and given photo copies of it for use during the week. The end of June also brought the chance to celebrate our nation's independence. The museum set up a special exhibit for the public at the Fort Gordon 4th of July celebration. While enjoying the events leading to the fireworks

display nearly 5,000 people were able to see the museum exhibits.

In July, the museum participated in "Georgia on My Mind", an open house at the Georgia Visitor Center. At the center a living history demonstration was conducted for the Augusta Chapter of the American Business Clubs.

Things picked up again in September with the Fort Gordon's New Comer Event, the Professional Cowboy Association Rodeo, and Oktoberfest. The rodeo, again, provided an opportunity for the museum to reach a different audience. The combination of rides, food, and music brought a wide range of visitors from children to retired military personnel. The Signal Corps Museum provided exhibits ranging from messenger pigeons to radios. The museum also provided special exhibits for an Signal Officer Career Course Dining Out and a reunion of the 551st Signal Battalion. Three WWII radar operators attended providing today's young Soldiers a unique opportunity to connect with signalmen of the past.

October provided the opportunity for the museum to participate in five more programs. On Oct. 7, the museum provided a special display at the Fort Gordon Retiree Appreciation Day which included Civil War Signaling and WWII communications. On the 13th, a special exhibit was set up at Silver Bluff High School in Aiken, S.C., for the dedication of a Veterans Memorial Walk. On Oct. 15 the museum sent its Vietnam era jeep to the Boshears Air Show at Daniel Field in Augusta. Tens of thousands of people attended and were able to see the Signal Corps Museum exhibit. On Oct. 19, the museum sent its WWII Willys MB jeep to an antique car show in Evans, Ga.

Also in October the museum joined four Army museums from Fort Jackson, S.C., for the annual Celebrate Freedom Festival at Woodward Field in Camden, S.C. Nearly 100,000 people attended the three day event. The first day was reserved for school groups and brought 1,800 students from kindergarten through high school to the museum exhibits. A complete WWII message center was set up with radio, field telephone, and pigeon communications demonstrations.

Dressed in a WWII uniform, Bob Anzouni (left) with the Signal Corps Museum, tells Aiken County Area 5 assistant superintendent Andy Reeves and Silver Bluff High School teacher Jim Jacks about some of the WWII items he brought to Silver Bluff High School Oct. 13. School officials dedicated a memorial walkway to veterans Oct. 13.

The outreach program schedule for 2005 concluded with two Veterans Day exhibits. On Nov. 10, a special exhibit covering the Signal Corps in the Civil War and WWII was set up in the Signal Tower Courtyard. The WWII exhibit featured a fully equipped PG-68 Combat Mobile Pigeon Loft. The last event was on Nov. 11 at the University of South Carolina campus in Aiken. A special exhibit was set up for a Veterans Day program sponsored by the USCA History Club. The exhibit included Signal Equipment from the Civil War, WWI, WWII, and Vietnam.

Such outreach programs provide a unique opportunity for the Signal Corps Museum to reach larger audiences than its daily visitors, and a chance to educate a large segment of the population about the contributions our Soldiers have made to our nation. Best of all, when the museum joins with an existing event, the museum does not have the worries associated with organizing a large activity; and a diverse group is touched by what the Signal Corps is and has done to preserve the history of the Signal Corps' defense of our country. The Signal Corps Museum is already preparing for outreach programs for 2006.

Mr. Anzuoni, director of the U.S. Army Signal Corps Museum, along with two staff members, operates and maintains the museum on Fort Gordon, Ga. The museum is open daily (not on Sunday or designated holidays).

Strange Signals

Muzak - thanks to MG George O. Squier

By Mike Rodgers

Did you know that Chief Signal Officer, MG George O. Squier invented MUZAK?

MUZAK: Mu'zak

A trademark for recorded background music played in stores, restaurants, elevators, and other public places. (There is no escaping it, editor's opinion).

MUZAK is a trademark name presented by MG George O. Squier in 1922. Squier was the 7th Chief Signal Officer (8th if you include LTC William J.L. Nicodemus who was only acting Chief Signal Officer).

MG George O. Squier

The name MUZAK comes from two words *"Kodak"* and *"mus"*. The *"mus"* came from the word music and the *"ak"* from Kodak to create the word MUZAK.

Squier observed workers were more productive when music was played in the background where they worked. His system was readily put into use by many building owners and shops and of course offices to provide a calming and soothing sound. The most notable of places where MUZAK was piped in was elevators.

A backlash against MUZAK began in the 1950 when some people accused MUZAK of brainwashing and it was even challenged in court. Nonetheless it remained popular. President Dwight Eisenhower had it installed in the West Wing of the White House.

Now while some people find the MUZAK style of music pleasant, others find it annoying to the point of aggravation. The term MUZAK has become synonymous for excessively bland music.

MUZAK was/is delivered in several ways. At first, in the early 1920s, it was distributed from phonograph records over electrical lines. It was also transmitted over frequency modulation radio and also telephone lines. Today much of it is transmitted via satellite.

Today the MUZAK Corporation operates in 15 countries and is still heard in shopping malls, elevators, and while on hold on the phone.

So, love it, hate it or show no indifference to MUZAK you now know who to thank for the background noise you probably pay no attention too anyway.

Mr. Rodgers is the exhibits designer for the U.S. Army Corps Museum, Fort Gordon, Ga.

Army Communicator Statement of Ownership 2005

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PS Form 3526, October 1999 (Reverse)

Chief of Signal Comments continued from Inside Front Cover

and integration and undergoes convoy live-fire training, advanced rifle marksmanship training with reflexive live-fire exercises, and qualifies with their weapon prior to moving past the line of departure. Movement past LD places the Soldiers in a scenario-driven exercise which emulates portions of both a brigade combat team signal network, and its connection into larger division, corps, and joint networks, while immersed in an urban operation environment. After a successful exercise, the students are inducted into the Regiment – confident, competent, and ready to deploy.

Our revisions of AIT are just the first step in our efforts to transform signal education and training. We are developing programs that both educate and train the centerpiece of the Signal Regiment – the signal warrior. It is our goal to bring innovation into that tenuous balancing act between appropriate amounts of education and training so that we provide an even more capable signal Soldier, non-commissioned officer, warrant officer, and officer to the force.

We owe it to every member of the Regiment to properly train them for certainty and educate them for uncertainty.

We now move rapidly to apply similar innovation to the NCO, warrant officer, and officer programs.

As we do, I look forward to hearing your thoughts on the Soldiers and leaders that we send into your formation and how we can do even better in the future.

BG Randolph P. Strong
Chief of Signal

Acronym QuickScan

AIT – advanced individual training
LD – line of departure
MOS – military occupational specialty
NCO – non-commissioned officer

ARMY Communicator

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