ARMY
AL&T

March - April 2005

UNITED STATES ARMY
ACQUISITION CORPS

BLUE AND WHITE DEVILS
RETURN TO IRAQ

A|S|C
ACQUISITION SUPPORT CENTER

Army Transformation and Modularity

In January 2005, I traveled to Fort Stewart, GA, for an event honoring the life and legacy of Dr. Martin Luther King Jr. During my visit, I met with 3rd Infantry Division (3ID) Commanding General MG William G. Webster, and later with several Soldiers — now combat veterans in the global war on terrorism — who stormed through Iraq and into Baghdad to end Saddam Hussein's regime in April 2003. These courageous men and women were preparing to redeploy within a few days of our meeting, and I was very impressed by their dedication, commitment to service and ingenuity. They knew that the mission was not complete when they left Iraq the first time, and they were ready to head back.

I was captivated by their stories. I heard firsthand, candid accounts of the equipment they used in *Operation Iraqi Freedom* — what worked and what they really liked. Body armor and armored vehicles, the Rapid Fielding Initiative and the Rapid Equipping Force all contributed to their success. They told me of the great value of Blue Force Tracking (BFT), also known as Force XXI Battle Command, Brigade and Below System. With this system — a dashboard-mounted, ruggedized computer with touch screen display on combat vehicles and aircraft with a roof-mounted transceiver that beams information via satellite to headquarters and other like-configured vehicles — the 3ID could engage enemy forces during fierce sandstorms, communicate with leaders and one another, distinguish between friend and foe, and allow logistics and supply forces to maintain a constant stream of materiel to troops.

Using lessons learned in Iraq, the Army and industry are working to improve BFT, adding bandwidth to transmit more data on friendly and enemy units and allowing expanded text messaging. A BFT hand-held version that will allow dismounted ground forces to maintain situational awareness is in development.

Now back in Iraq, the 3ID is the first division to reorganize under the Army's new modularity concept. The division has been expanded to include a fourth brigade, transforming into a "modular division." Each brigade is now a self-sustaining brigade combat team that can operate outside the full division. Over the next year, the Army will learn how to improve on its plans to move from a division- to a brigade-based force built, in part, on the 3ID's experiences.

In preparation for my visit, I learned more about the 3ID's illustrious history and the U.S. presidents who have lauded the men and women at Fort Stewart. When President John F. Kennedy visited there in 1962 and spoke to the troops on Donovan Field, he said, "Regardless of how persistent our diplomacy may be in activities stretching all around the globe, in the final analysis, it rests upon the power of the United States, and that power rests upon the will and courage of our citizens, and upon you in this field."

President George W. Bush echoed those words in September 2003 when he came to salute the Army's 3ID for ousting Saddam Hussein's regime in record time. The president said, "You made history. You've made our Nation proud. And you have earned the Presidential Unit Citation." This citation is awarded to units of the Armed Forces for extraordinary heroism in action against an armed enemy on or after Dec. 7, 1941. The unit must display such gallantry, determination and esprit de corps in accomplishing its mission under extremely difficult and hazardous conditions as to set it apart and above other units participating in the same campaign. This, the highest of recognition, was well deserved.

It was clear to me that the 3ID is well trained, well led and well equipped. With their high morale and dedication to duty, I expect they will again do an outstanding job on this tour. Hooah!

Claude M. Bolton Jr.
Army Acquisition Executive

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Partnering for Success — Fueling Transformation

The 2005 Acquisition Senior Leaders and AMC Commanders Conference is scheduled for Aug. 22-25 in Detroit, MI. This invitation-only conference will bring together senior leaders and commanders from the Army Acquisition Corps and the Army Materiel Command (AMC) to discuss the challenges the respective communities face in implementing the Life Cycle Management Commands and the impact of globalization on the U.S. industrial base. For more information, visit our Web site at **http://asc.army.mil**, or contact Betisa Brown, Conference Chairperson, at (703) 805-2441 or **betisa.brown@us.army.mil**.

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By order of the
Secretary of the Army

PETER J. SCHOOMAKER
General
United States Army
Chief of Staff

Official:

SANDRA R. RILEY
Administrative Assistant to
the Secretary of the Army
0508403

3rd Infantry Division (3ID) Tests CSS VSAT Network in Kuwait

Stephen Larsen

After achieving unprecedented success with their Combat Service Support Very Small Aperture Terminal (CSS VSAT) satellite communications network at the National Training Center (NTC), Fort Irwin, CA, the Army's first unit of action, the 3ID, Fort Stewart, GA, tested the network in Kuwait before deploying, once again, to Iraq.

At Camp New York, Kuwait, SFC Nixon Camper, 3ID 3rd FSB, points out the new CSS VSAT sturdier plug connectors and sturdier pin connector. (U.S. Army photo by Stephen Larsen.)

The combination of the CSS VSAT and the Combat Service Support Automated Information Systems Interface (CAISI) — a wireless interface that plugs the system into a local area network (LAN), or to a wide area network — increases readiness by giving CSS Soldiers in the field the ability to electronically transmit supply requisitions and receive near-real-time status reports on their orders 24/7.

The use of CSS VSAT/CAISI — which were fielded to the 3ID by the Product Manager Defense Wide Transmission Systems (PM DWTS), part of the Fort Monmouth, NJ-based Project Manager Defense

> The combination of the CSS VSAT and the CAISI increases readiness by giving CSS Soldiers in the field the ability to electronically transmit supply requisitions and receive near-real-time status reports on their orders 24/7.

Communications and Army Transmission Systems (PM DCATS) — also enhances force protection by greatly reducing the need for Soldiers to convoy detailed logistics orders to other locations or travel to maintenance meetings, which they now can conduct "virtually" via CSS VSAT/CAISI.

As part of a full-combat rehearsal at Camp Beuhring, Kuwait, the 3ID — which was the first coalition unit into Baghdad during the ground war — conducted a "Standard Army Management Information Systems (STAMIS) gunnery" — a test of how well their CSS VSAT network could transmit data from software packages such as Unit Level Logistics System-Ground (ULLS-G), Standard Army Maintenance System

(SAMS), Standard Army Retail Supply System (SARSS) and Property Book and Unit Supply-Enhanced (PBUSE). These STAMIS products were provided by the PM Logistics Information Systems, Fort Lee, VA, which like PM DCATS/PM DWTS, is also part of Program Executive Officer Enterprise Information Systems.

"This is a first-time functional check of the computers and data," remarked 3ID's Combat Service Support Automation Management Officer (CSSAMO) MAJ Angel Nieves. "We're also executing a connectivity check of every station on our network, including the Supply Support Activity — the main parts warehouse and central point for all 3ID logistics commodities in theater," Nieves continued.

On Jan. 19, 2005, the 603rd Aviation Support Battalion became the first 3ID unit to successfully deploy a CSS VSAT into Iraq.

A satellite farm at Camp New York, Kuwait. CSS VSAT satellites are field tested in Kuwait before delivery to logistics units on the ground in Iraq and Afghanistan. (U.S. Army photo by Stephen Larsen.)

PM DWTS Supports Fielding Initiative

The 3ID was supported in deploying their CSS VSAT network into Kuwait and Iraq by a fielding team from PM DWTS. According to MAJ Michael Devine, Assistant PM DWTS-Belvoir, his team's fielding of CSS VSAT/ CAISI to the 3ID ties in with the Army's three-tiered Joint Network Transport Capability-Spiral initiative, which includes the "Connect Army Logisticians" program, the Joint Network Node and the Trojan Special Purpose Integrated Remoted Intelligence Terminal.

"These are all designed to give the Army the ability to communicate reliably in a nonlinear battlespace," Devine explained. "These programs will increase bandwidth available to troops, provide an Internet protocol architecture and give warfighters and their commanders access to the .mil network."

In Kuwait, 3ID's Soldiers were enthusiastic about the capabilities the CSS VSAT network added to their arsenal, such as nearly instant connectivity and the dish ability to autopoint themselves to the correct satellite.

"We can jump to a new location, set this up and be 'hot' (set up and transmitting data) in 20 minutes — even on a bad day," said SFC Nixon Camper, 3ID's 3rd Forward Support Battalion (FSB). "With the autopoint feature, once you turn on antenna power, it does everything on its own. If I can figure out how to use it, it's not that hard to do," Nixon said.

"It [the CSS VSAT] makes our job 100 percent easier," said SGT Scott Sallis, 3ID 3rd FSB. "It's user-friendly. I'm not a computer guru, but I don't have to be with the CSS VSAT."

Improvements Since NTC

Both Camper and SFC Dale Carlsen, a 3ID Maintenance Sergeant, were sold on the CSS VSAT during their training

The 3ID will soon merge their CSS VSAT network with the VSAT network currently being used in SWA by the CFLCC. More than 200,000 transactions per day will pass over the combined CSS VSAT/CFLCC command, control, communications and computers network, accounting for the tracking of all repair parts and maintenance actions in the CFLCC area of responsibility.

rotation exercises at NTC last year. But, the 3ID Soldiers agreed that the PM improved the already-robust system in the time since they used it at NTC. "The PM listened," said Camper. "They came out [to NTC] and listened to what we had to say."

As evidence, Camper pointed out that the new CSS VSAT includes sturdier plug connectors, with screw-on threads, and a sturdier pin connector. Instead of two Global Positioning System (GPS) cables, now there is only one cable, which makes it greatly easier to unreel. Before, one cable usually wound up longer than the other.

"These improvements were all based on comments we had from the NTC," noted Camper, who quickly added that he is impressed that PM DWTS then ran the ball farther down the field with additional improvements, such as mounting the CSS VSAT's GPS unit on the dish.

At Camp Beuhring, Kuwait, MAJ Michael Devine (right), the Assistant PM DWTS Belvoir and Benjamin Pinx (center) of his fielding team adjust the indoor unit of the CSS VSAT as MAJ Angel Nieves, 3ID's CSSAMO oversees 3ID's Standard Army Management Information Systems (STAMIS) gunnery. (U.S. Army photo by Stephen Larsen.)

As part of a full-combat rehearsal at Camp Beuhring, Kuwait, 3ID Soldiers conduct a STAMIS gunnery — a test of how well their CSS VSAT network can transmit data from software packages such as the ULLS-G, SAMS, SARSS and PBUSE. (U.S. Army photo by Stephen Larsen.)

Previously, the GPS unit was part of the CSS VSAT's indoor module, which was usually set up in a building or tent when deployed, making it more difficult to locate the satellite.

Also, the outrigger, which steadies the dish, is now sturdier and user-friendly to set up and move, and it can now be cranked manually.

Other improvements are weep holes in the outrigger's base, which let water drain out. "When it rains here [in Southwest Asia (SWA)], it really rains," said Camper. "Now the water won't collect in the bottom."

> In Kuwait, 3ID's Soldiers were enthusiastic about the capabilities the CSS VSAT network added to their arsenal, such as nearly instant connectivity and the dish ability to autopoint themselves to the correct satellite.

Camper and other 3ID Soldiers were surprised to find that the new CSS VSAT actually has a slightly larger satellite dish — 1.2 meters in diameter, compared to .96 meters for the dish they used at the NTC. But they thought the dish was smaller because it now comes in two pieces that interlock, making it light enough that one Soldier can lift and assemble it.

Additionally, the new CSS VSAT model has a smaller logistics footprint on the battlefield — it fits into four transit cases as opposed to five cases for the prototype model — and weighs 519 pounds versus 609 pounds.

Merging With the CFLCC C4 VSAT Network

The 3ID will soon merge their CSS VSAT network with the VSAT network currently being used in SWA by the Coalition Forces Land Component Command (CFLCC). More than 200,000 transactions per day will pass over the combined CSS VSAT/CFLCC command, control, communications and computers (C4) network, accounting for the tracking of all repair parts and maintenance actions in the CFLCC area of responsibility.

"This is the real-world test," extolled Ronald Saxton, of CFLCC C4 Logistics Automation cell, Camp Arifjan, Kuwait, "to see how well they'll work together in Iraq. As a separate network, the CFLCC's C4 VSAT network has worked well, as has the 3ID's CSS VSAT."

"There have been no hiccups in sending and receiving data or getting status of parts," Saxton continued. "It's like plugging into a LAN here at Camp Arifjan. By having this connectivity, we can get a global view of what parts different units are ordering and track various trends."

Saxton called the CFLCC C4 VSAT network, which was also provided by PM DWTS, "a life-saver" — literally and figuratively. "If Soldiers didn't have the means to order ammo, where do you think they'd be?" Saxton asked. "Units are usually stationed out in the middle of nowhere, and the VSATs give Soldiers the ability to order ammo for their tanks or individual weapons," Saxton continued.

Additionally, having the VSAT network to pass logistics data keeps Soldiers off the road and away from improvised explosive devices or insurgent ambushes.

Contractors Deployed With Network

A team of TAMSCO contractors from Calverton, MD, keeps the CFLCC C4 network up and running. The team was hired by PM DWTS to live and work in Kuwait, Germany, Iraq and Afghanistan — traveling to multiple locations, whenever needed — to maintain the network. The help-desk team, which is based at Camp Arifjan, is led by Jose Ilarraza and includes Jeff Drehobl, Amy Hamilton, Randle Holloway, Ty Jackson, Amy Matotek, Cliff Timpson and Brad Welch.

> The 3ID is once again leading the Army in conducting the reception, staging, onward movement and integration processes needed to transform personnel and materiel arriving into an area of operations into forces capable of meeting operational requirements.

"At the help desk, we monitor all the remote sites in Iraq, and when we can't troubleshoot over the phone, we must travel to the site to fix them," said Ilarraza. "Calls include things like the modem not working, dish not being aligned, heat fried the cable and it's now brittle and has to be replaced, or sometimes a mortar round or shrapnel hit a site," Ilarraza explained.

"I can't say enough about these people," said LTC Earl Noble, PM DWTS, who hired Ilarraza and his team. "They're away from their families for at least a year at a time. Some of them have been shot at and they are subject to car bomb and mortar attacks; but they stay here and do the job for our Soldiers."

"This is a great team and a great organization," said Ilarraza, who was a Soldier for 12 years and a government employee in SWA for 7 months before coming back as a contractor for PM DWTS. "This mission is vital. A great chance to do my part for my country and for the Soldiers and to be a part of a great team of technicians."

The next challenge is to merge the 3ID CSS VSAT network with the CFLCC C4 VSAT network. The 3ID's Soldiers and PM DWTS personnel working the project are confident that this will be successful.

"There are the same issues you face if you're going to hook up a computer in someone else's house, such as fire walls and routing protocols," said CW2

Angel Montero, 3ID CSSAMO technician. "We're used to these types of challenges and we'll get the job done."

Devine has no doubt this operation will be successful and commented that the 3ID is once again leading the Army in conducting the reception, staging, onward movement and integration (RSOI) processes needed to transform personnel and materiel arriving into an area of operations into forces capable of meeting operational requirements.

"MAJ Nieves and CW2 Montero continue to set the standard for Army CSSAMOs by conducting the first ever RSOI STAMIS Gunnery over VSAT from Camp Beuhring," said Devine. "We are currently capturing lessons learned and tactics, techniques and procedures that we'll incorporate into future deployments."

STEPHEN LARSEN is the Public Affairs Officer for the Project Manager Defense Communications and Army Transmission Systems at Fort Monmouth, NJ. He has more than 20 years' experience writing about Army systems. Larsen has a B.A. in American studies from the College of Staten Island of the City University of New York.

PM TRCS Helps Digitize the 3rd Infantry Division's Communications Capabilities

Chris Tourge

In late March and early April 2003, *Operation Iraqi Freedom* began and coalition forces streamed north to Baghdad at a ferocious pace. A pace so swift, calculating and wide that some units became too far dispersed from each other to speak via their decades-old communication equipment. To prevent this problem from recurring, a new technology application was needed, and a Fort Monmouth, NJ,-based unit found a solution.

JNN network sanctuary hub provides connectivity with direct physical connection to the global information grid (GIG) and up to 76-megabyte-per-second data rates from a protected base to up to 16 forward-deployed JNN shelters. (U.S. Army photo.)

Ahead of schedule and under the direction and leadership of Robert F. Golden, Project Manager (PM) Tactical Radio Communications Systems (TRCS), created the Joint Network Node (JNN) and began fielding the equipment to the 3rd Infantry Division (3ID) based at Fort Stewart, GA, in less than 6 months using rapid acquisition procedures.

"We were tasked with designing and creating this product in April 2004, delivering the first JNN by August and completely fielding the 3ID by October," explained Barton H. Halpern, PM TRCS Technical Management Division Chief. "So far we are on schedule and expect to stay that way."

PM TRCS created an internal team with LTC Vincent Amos as "Trail Boss." Although TRCS was the designated lead for this project, success could not have been achieved without strong support from their government team members and product manufacturers, General Dynamics

A JNN 3ID operator monitors Internet and SIPRNET activity on the network. (Photo by Robert Wilson, PM TRCS.)

The commanders are excited about receiving this new broadband communications capability. They do not want to return to the theater of operations with the same problems and limitations they encountered using the older Mobile Subscriber Equipment.

and Data Path International. The government team included Command, Control and Communications Tactical's (C3T's) Special Projects Office members; Communications-Electronics Research, Development and Engineering Center; MITRE and Communications-Electronics Command's Software Engineering Center.

"The commanders are excited about receiving this new broadband communications capability," Amos said. "They do not want to return to the theater of operations with the same problems and limitations they encountered using the older Mobile Subscriber Equipment (MSE)."

Most Army communications gear is aligned with the MSE. "This technology is more than 20 years old. It was conceived for voice transmission and has been adapted for data transmission — but it wasn't designed for it," Halpern remarked. "This was proven during the northward assault on Baghdad when units became separated by great distances. The previous generation of equipment and technology wasn't

A JNN shelter provides Internet connectivity equivalent to that of a small office building to a brigade- or division-size command post. (Photo by Michael Castellana, PM TRCS.)

Normally installed in command posts situated near JNN shelters, data cases provide user access points for Internet-based computers and Voice Over Internet Protocol telephones. (U.S. Army photo.)

designed for the distances they were isolated from one another," Halpern continued.

The JNN suite of equipment will operate "on the halt" and on the "quick halt." A commander will have access to Joint and strategic communications services by using the Defense Information System Network through a Standard Tactical Entry Point site within 30 minutes or less using JNN. JNN is a high-bandwidth Internet Protocol (IP)- based system that uses multiple transmission means including EMF, X-Band, Ku-Band and satellite, and it uses terrestrial line-of-sight radio communications.

JNN also falls in with the Army's Joint Network Transport Capability-Spirals and bridges to the Warfighter Information Network-Tactical Program that is expected to be operational by FY08, as well as the overall Army's transformation to modular units. The addition of JNN will offer more communication options, including greater bandwidth access down to battalion level. With the Army realigning itself

> JNN is a high-bandwidth IP-based system that uses multiple transmission means including EMF, X-Band, Ku-Band and satellite, and it uses terrestrial line-of-sight radio communications.

into units of action/employment, battlefield commanders will have more direct access and control further down the chain of command.

"JNN provides unit commanders three things — better, more sophisticated digital technology, increased bandwidth and Joint task force interoperability," Halpern stated. "Currently and in the past, Army units used, or rather, were limited to using, one communication network to report back to their larger entity. Now, with JNN, battalions will have the capability to communicate via dozens of networks, with higher headquarters and directly with fellow battalions."

"Each node will report to a hub," Halpern continued. "A hub is a larger device capable of transporting the battalion-to-battalion communication. Theoretically, there will be 16 JNNs per hub, and two hubs per division."

As with any new product that must be researched, developed, tested and manufactured in a limited amount of time, getting sufficient funding at the right time was crucial to success. Funding

was crucial to JNN's success — the right amount and type of funding was received in time to properly execute this high-visibility program.

"Although the digital technology was available commercially, we had to have certain parts that were not on contract yet and you can't just go to the General Services Administration and say, 'I'll take two of these, three of those and I need them by this date,'" Halpern reflected. "In addition to ensuring JNN was developed contractually on time and within budget, two critical accomplishments, systems engineering and teamwork created the conditions to make this project a complete success."

"Developing new protocols and configurations is no easy task," Halpern explained. "Going back to the drawing board is never easy. Doing this and doing it successfully with new people meeting one another from various government organizations and private companies is a true testament to the cohesiveness of Team Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (Team C4ISR) and the Army's work ethic toward mission accomplishment," he concluded.

CHRIS TOURGE is a Symbolic Systems Inc. contractor assigned to the Communications-Electronics Life Cycle Management Command Chief Technology Office/Program Executive Office C3T Chief Information Office. He is the Team C4ISR Knowledge Center Content Manager. He has a B.S. in political science from the State University of New York at Albany and is a former Marine Corps Combat Correspondent who graduated from DOD's Defense Information School.

Acquiring Stryker's Software — A Success Story

COL R. David Ogg Jr. and Magid Athnasios

I n October 1999, Army leaders announced their vision for the future, which included an immediate and urgently needed air-transportable brigade combat team (BCT) capable of deployment anywhere on the globe in a combat-ready configuration. This force was deemed essential for providing the strategic responsiveness and full-spectrum versatility demanded by the *National Military Strategy*. Pursuant to the Army Systems Acquisition Review Council, Defense Acquisition Board and Defense Acquisition Executive approvals, the contract for the Stryker Family of Vehicles (SFoV) was awarded in November 2000. This article highlights the software management efforts leading to the successful February 2004 Milestone III decision.

The SFoV, and specifically, the Stryker BCT, fulfill the need for a rapidly deployable and modular force to improve the operational effectiveness of rapid-response, early-entry forces. Stryker systems provide a full range of safe, reliable, supportable and effective systems envisioned by the BCT Organizational and Operational Concept, and support the development, acquisition and program management framework to transform the Army from the Current to Future Force.

The SFoV comprises 10 mission-oriented configurations:

• Mobile Gun System (MGS).
• Infantry Carrier Vehicle (ICV).
• Reconnaissance Vehicle.
• Anti-Tank Guided Missile Vehicle (ATGM).
• Fire Support Vehicle.
• Engineer Squad Vehicle (ESV).
• Command and Control Vehicle (CV).
• Medical Evacuation Vehicle.
• Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV).
• Mortar Carrier Vehicle (MC).

The Stryker is a 19-ton wheeled vehicle optimized for operations within close, complex and urban terrain and can be deployed by C-130 aircraft. It is capable of transporting a 9-man rifle squad and is configured with a remote weapons station (RWS) with universal gun mount supporting a variety of weapons to include the Mark 19 Mod 3 Grenade Machine Gun, M2HB .50cal Machine Gun and M240 7.62mm Machine Gun. The Stryker sports run-flat tires, has 14.5 millimeters of all-around armor protection, gets 5.7 miles per gallon of fuel and has a low acoustic signature. Additionally, the Stryker has a self-recovery winch and many common parts across all variants.

Each variant can be set up in multiple subconfigurations by altering vehicle command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) and mission equipment packages. Each variant has a common wiring and mounting architecture for installing onboard C4ISR equipment. In addition to the C4ISR, there are a number of software systems developed specifically for the SFoV as follows:

Lethality:
• RWS for the ICV, CV, ESV, MC and NBCRV.
• Modified Improved Target Acquisition System for the ATGM only.
• Programmable Interface Controller for the ATGM only.
• Platform System Controller for the ATGM only.

Deployability/Survivability:
• Height Management Unit, all variants.

Mobility:
• Power Pack Interface, all variants.

Sustainability:
• Diagnostic Control Unit, all variants.

Versatility/Agility/Responsiveness:
• Climate Control Unit, all variants.
• Gauge Cluster Unit, all variants.
• Video Display Terminal, all variants.
• Embedded Trainer System for the ICV, CV, ESV, MC, NBCRV and MGS.

Contractor-developed software configuration items include low-level chassis controls, training, maintenance, weapon and soldier/machine interface

> Stryker systems provide a full range of safe, reliable, supportable and effective systems envisioned by the BCT Organizational and Operational Concept, and support the development, acquisition and program management framework to transform the Army from the Current to Future Force.

electronic systems, which have functionally specific user access and limited intravehicular interoperability.

There were several key elements employed for the successful software acquisition and development for the Stryker systems, including contract software requirements, the development process and standards, the acquisition team, an acquisition process focusing on integrated product teams (IPTs), working groups and communications and metrics, which include management and quality indicators.

Contract Software Requirements

The software scope of work addressed mission-critical computer resources and software support, and was mapped to the two main components of Stryker acquisition — production and development. These were aligned, directly implemented and mapped to the System Acquisition Strategy. Eight of the 10 Stryker systems were categorized as production ready, and the MGS and the NBCRV were categorized as ongoing development efforts.

Development Process and Standards

The International Standards Organization (ISO)/Institute of Electrical and Electronics Engineers (IEEE) 12207 software process standard was implemented on the Stryker software effort, along with the requirement for the contractor(s) to be Software Engineering

SGT Bonner, B Co., 1st Battalion, 24th Infantry Regiment (24th Inf. Reg.), 25th Infantry Division (Light) (25th ID(L)) Stryker Brigade Combat Team (SBCT), fires his M203 at a range south of Mosul, Iraq, Jan. 2, 2005. (U.S. Army photo by SGT Jeremiah Johnson, 55th Signal Co. (Combat Camera).)

Institute Software Capability Maturity Level 3 (or equivalent) certified. Early in the program, after start of work, a 2-day training session was held to baseline the contractor and government software proponents on the requirements of the ISO/IEEE 12207 standard. The five primary processes delineated in the ISO/IEEE 12207 standard, (acquisition, supply, development, operation and maintenance) along with the supporting processes, including documentation, configuration management, software quality assurance, verification, validation, joint reviews, audit and problem resolution were documented. In conjunction with the organizational processes, management, infrastructure and process improvement were documented. This was accomplished by applying a process definition assessment instrument to all process elements necessary to structure complete development, maintenance and use operations for software products and services.

> A comprehensive planning effort focused on defining and selecting the appropriate metrics that best suited the two main categories of Stryker software — production-ready (modified/reuse code) and developed software.

The Acquisition Team

Relevant stakeholders were assembled to make up a comprehensive IPT, including program managers; user representatives; software engineers; logisticians; safety, test and evaluation specialists; Defense Contract Management Agency personnel; and contractors and subcontractors. An initial challenge was ensuring that the SFoV integrated all Army Battle Command System components, which made executing an optimum configuration management strategy for all subsystem software a massive effort. IPT members worked together to meticulously track all the subsystems' software versions and any changes made to ensure interoperability.

Beyond the synchronization stipulations outlined in the Army Software Blocking Policy, an Executive Review Panel, chaired by the deputy program executive officers (PEOs) for PEO Command,

Control and Communications Tactical (C3T) and PEO Ground Combat Systems (GCS), aided in facilitating the close coordination required to ensure the configuration status accounting and management essential for successful C4 interoperability. Program Manager (PM) BCT also established Memorandums of Agreement with each program management office in PEO C3T impacting Stryker vehicles.

Metrics

A comprehensive planning effort focused on defining and selecting the appropriate metrics that best suited the two main categories of Stryker software — production-ready (modified/reuse code) and developed software. A defined set of metrics — old but effective *Army Materiel Command Pamphlets 70-13 Management Indicator* and *70-14 Quality Indicators* — were used as the baseline for the software working group (SWG)/IPT to select from. For the production-ready software, the following metrics were used:

• Requirements Definition and Stability
• Software Progress (earned value)
• Computer Resource Utilization
• Trouble Reporting

Bravo Co. Soldiers, 1st Battalion, 24th Inf. Reg., 25th ID(L) SBCT, provide convoy escort to heavy haulers transporting 1ID Bradley Fighting Vehicles and M1A1 Abrams tanks to Mosul, Iraq, Jan. 2, 2005. (U.S. Army photo by SGT Jeremiah Johnson, 55th Sig. Co. (Combat Camera).)

The 25th ID(L) SBCT "Tropic Lightning" Soldiers provide escort duty, Jan. 2, 2005, on a highway south of Mosul, Iraq. (U.S. Army photo by SGT Jeremiah Johnson, 55th Sig. Co. (Combat Camera).)

For developed software, the aforementioned measures were augmented with:

• Test Coverage
• Software Development Manpower

The contractors collected these software measures for each software item and reviewed them monthly at SWG meetings. Overall software schedule and metrics were then summarized and briefed to senior leaders at quarterly Stryker program reviews.

As software continues to become more prevalent in Army weapon systems, there has been a pronounced emphasis (even at the Congressional level via section 804, *FY03 National Defense Authorization Act — Improvement of Software Acquisition Processes*), to implement software improvement programs. The DOD response sometimes defaults to "best practices" existing throughout the community.

The reality is that although there are many best practices, the key is to select and apply the practices that are truly relevant. Relevant practices are those that are based on consideration of the acquisition strategy, program management

> Open continuous communications were achieved through weekly telephone conferences and monthly software reviews, and played a key role in providing insight and feedback to all stakeholders.

and leadership and systems engineering. They simultaneously emphasize management and requirements tracking, and focus on total life-cycle aspects of system development, production, materiel release, deployment and sustainment. Open continuous communications were achieved through weekly telephone conferences and monthly software reviews, and played a key role in providing insight and feedback to all stakeholders.

For the Stryker software acquisition, the team achieved success by exercising relevant practices (standards and measures), along with early PM, PEO and prime contractor senior leaders attention and emphasis on software and its application to the Army's SFoV.

COL R. DAVID OGG JR. was formerly the Project Manager for the Stryker BCT within PEO GCS. Prior to this assignment, he served as Product Manager for the M113 Family of Vehicles. He is currently serving as the Chief, Capabilities Integration Division, at the U.S. Army Training and Doctrine Command's Futures Center, Fort Monroe, VA. He holds B.S. and M.S. degrees in physical education

from Middle Tennessee State University. His military education includes the Materiel Acquisition Management Course, U.S. Army Command and General Staff College, Defense Systems Management College, Program Manager's Course and Industrial College of the Armed Forces. In 2003, he was honored as the Army's Project Manager of the Year for planning, managing and directing the development, testing, production, fielding and sustainment of a full range of systems, including 10 variants of the SFoV. Ogg is an Army Acquisition Corps (AAC) member and is Level III certified in program management.

MAGID ATHNASIOS is the Associate Director for Next Generation Software Engineering, U.S. Army Research, Development and Engineering Command's Tank-Automotive Research, Development and Engineering Center, Warren, MI. He has a B.S. in mechanical engineering from the University of Connecticut and an M.S. in software engineering from Oakland University. He is a graduate of the Defense Systems Management College, Advanced Program Management Course and the School of Engineering and Logistics, Product Production Engineering Training Program in Texarkana, TX. An AAC member, Athnasios is Level III certified in both program management and system planning, research, development and engineering.

Enterprise Architecture as an Essential Tool Supporting Army Transformation

Fernando Mezquita

"There are two ways of spreading light: to be the candle or the mirror that reflects it."
Edith Wharton, 1862-1937

I n July 2004, the Department of the Army published a short guide called the *Army's Way Ahead*. U.S. Army Chief of Staff GEN Peter J. Schoomaker stated in the foreword that "The purpose of this document is to provide the reader with a short guide to the Army's Way Ahead."

Today's battles are frequently fought in urban environments that demand flexibility from vehicles and Soldiers alike. As the battles shift from an open-field combat environment to a more urban terrain, so must the Army transform its equipment from less maneuverable tanks and Bradley Fighting Vehicles (see Page 18) to more mobile Strykers. Enterprise architecture will help manage and control the Army's transformation from the Current to the Future Force. (U.S. Army photo by SGT Jeremiah Johnson, 55th Signal Co. (Combat Camera).)

Our Army is at war and, at the same time, is looking for ways to transform its combat and institutional elements to best meet the needs of our Nation's security and military strategies. The challenge sounds simple — move the Army from the Current to Future Force. Yet this task may be difficult to achieve in an efficient and timely manner. The end result of this transformation will be a more relevant and ready Army with a Joint and expeditionary mindset. The transformed Army organizational structures will become the glue that will enable and hold our new missions and processes — and the people that execute them — together.

This article discusses enterprise architecture's (EA's) role and importance in the ability to successfully manage and support current Army transformation efforts. It will begin with an EA overview, continue with an examination of the Department of Defense Architecture Framework (DoDAF) and then consider how the Army can go about creating an EA using DoDAF. Subsequently, it will consider how EA should be used to support Army transformation efforts. Finally, it will consider how EA can be used to align organizational goals and how business processes can be aligned with information technology (IT).

An EA Overview

EA is about understanding the different elements that make up the enterprise and how those elements interrelate. The term EA refers to a comprehensive

> The term EA refers to a comprehensive description of the key elements and relationships that compose an organization, and defines the enterprise direction and business purpose as well as the nature of the business and its structure, functions and organizations.

description of the key elements and relationships that compose an organization, and defines the enterprise direction and business purpose as well as the nature of the business and its structure, functions and organizations.

EA is not a collection of documents and plans. It is a model of how an organization's EA areas of interest (EAAI) fit together as depicted in the figure on Page 19. The EAAI are lists of:

- Items or data important to the enterprise (what).
- Functions or processes the enterprise performs (how).
- Locations in which the enterprise operates (where).
- People or organizations important to the enterprise (who).
- Events significant to the enterprise (when).
- Enterprise goals and strategies (why).

An enterprise or organization must rely on IT to improve in these EAAI. The EA will be an important tool to define how the enterprise-IT alignment should be achieved.

EA Framework

An EA framework is a comprehensive, logical structure for descriptive representations (i.e., models or design artifacts) of any complex organization. For this reason, an EA framework is helpful for sorting out complex technology and methodology choices and issues that are significant both to general management and to technology management.

An EA framework, therefore, is:

- Simple and easy to understand.
- Comprehensive — it addresses the enterprise in its entirety. Any issues can be mapped against it to understand where they fit within the enterprise as a whole.
- A language — it helps you think about complex concepts and communicate them precisely with few, and nontechnical, words.
- A planning tool — it helps you make better choices. You can position issues in the context of the enterprise and see a total range of alternatives.
- A problem-solving tool — it enables you to work with abstractions to simplify and isolate variables without losing sense of the enterprise's complexity.

DoDAF

There are many different approaches to describing EA elements. DOD organizations are required to be DoDAF-compliant for all architectures developed after Dec. 1, 2003. DOD has established policy and procedures that direct the use of integrated architectures to support Capital Planning and Investments, the Joint Capabilities Integration and Capabilities System and the National Security Systems. In addition, the *Clinger-Cohen Act of 1996* (formerly the *Information Technology Management Reform Act*) mandates that each executive agency's chief information officer is responsible for developing, maintaining and facilitating a sound and integrated IT for the executive agency. More information on DoDAF is located at **http://www.pentagon.gov/nii/doc/**.

DoDAF defines a common approach for DOD architecture description development, presentation and integration. DoDAF enables architecture descriptions to be compared and related across organizational boundaries,

including Joint and multinational boundaries. DoDAF is at the heart of command, control, computers, intelligence, surveillance and reconnaissance, which DOD uses to support the planning, decision making and end execution of integrated systems both at the enterprise level and/or project level. The systems engineering domain and the essential DoDAF elements are tightly coupled and synonymous for building systems that are cost-effective and will meet user requirements.

DoDAF contains 27 architecture products (views) that capture information about the architecture. DoDAF products are robust in capturing the EAAI information and provide a comprehensive analysis of key architectural components by:

- Providing forward and reverse engineering to capture legacy and evolving modernized components in the enterprise.
- Using the captured information to conduct architecture and system studies.
- Providing a greater understanding of key integration challenges being experienced in the enterprise.

The DoDAF has three major views that logically combine to describe an architecture description: the operational view (OV), systems view (SV), and technical standards view (TV). Each view depicts certain architecture attributes. Some attributes bridge two views and provide integrity, coherence and consistency to architecture descriptions.

> DoDAF defines a common approach for DOD architecture description development, presentation and integration. DoDAF enables architecture descriptions to be compared and related across organizational boundaries, including Joint and multinational boundaries.

Each view is composed of architecture data element sets that are depicted via graphic, tabular or textual products. DOD also defined the necessary entities and relationships for architecture data in the Core Architecture Data Model.

While developing the products, one or more references, such as the Joint Technical Architecture and others, may be required to ensure that specific architectures are complete and conform with current policy and formal direction. These references are described in the *DoDAF Deskbook* under Universal Reference Resources.

A DoDAF-compliant architecture is defined as an "integrated architecture" when products and their constituent architecture data elements are developed so that architecture data elements defined in one view are the same (i.e., same names, definitions and values) as architecture data elements referenced in another view. The term "integrated architecture" refers to an architecture description that has integrated operational, systems and technical standards views. There are common reference points linking the OV and the SV, and also linking the SV and the TV.

The OV describes the tasks and activities, operational elements and information exchanges required to accomplish DOD missions. DOD missions include both warfighting missions and business processes. The OV contains graphical and textual products that comprise an identification of the operational nodes and elements, assigned

tasks and activities and information flows required between nodes. It defines the information exchanged, the frequency of exchange, which tasks and activities are supported by the information exchanges and the nature of information exchanges.

The SV is a set of graphical and textual products that describes systems and interconnections providing for, or supporting, DOD functions. DOD functions include both warfighting and business functions. The SV associates system resources to the OV. These system resources support the operational activities and facilitate information exchange among operational nodes.

The TV is the minimal set of rules governing the arrangement, interaction and interdependence of system parts or elements. Its purpose is to ensure that a system satisfies a specified set of operational requirements. The TV provides the technical systems implementation guidelines upon which engineering specifications are based, common building blocks are established and product lines are developed. The TV includes
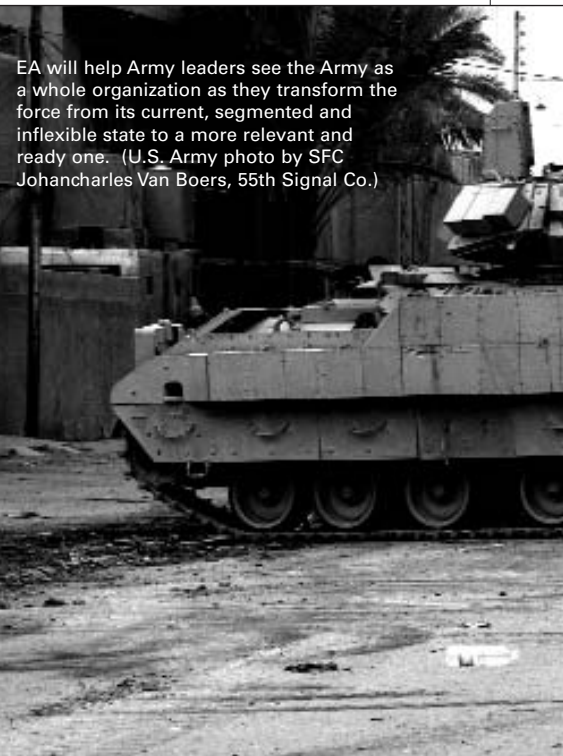
EA will help Army leaders see the Army as a whole organization as they transform the force from its current, segmented and inflexible state to a more relevant and ready one. (U.S. Army photo by SFC Johancharles Van Boers, 55th Signal Co.)

Architecture Information
- Enterprise missions, goals and strategies
- Enterprise business rules
- Tasks, functions and activities
- Information exchanges
- Data
- Applications
- Technology
- Standards
- Policies
- Guidelines

CADM Consistant EA Repository

Decision Support Information

Exported Architecture Information "The Tools"

- Planning, budgeting and resourcing
- Inventory management and control
- Interoperability/compatibility
- Risk assessment
- Strategy-to-task traceability within DOTMLPF

Enterprise Architecture Model

the technical standards, implementation conventions, standards options, rules and criteria organized into profiles that govern systems and system elements for a given architecture.

There are some overarching aspects of architecture that relate to all three views. These overarching aspects are captured in the all-views (AV) products. The AV products provide information pertinent to the entire architecture but do not represent a distinct view of the architecture. AV products set the architecture's scope and context.

The scope includes the subject area and time frame for the architecture. The setting in which the architecture exists comprises the interrelated conditions that compose the context for the architecture. These conditions include doctrine; tactics, techniques and procedures; relevant goals and vision statements; operation concepts; scenarios; and environmental conditions.

DoDAF will define a common approach for EA description, development, presentation and integration for both warfighting operations and Army business processes. DoDAF will also ensure that EA description can be compared and related across Joint and Army organizational and mission area boundaries. DoDAF will also provide a common virtual space for Joint and Army architectures based upon the Army Core Architecture Data Model (CADM) and instantiated in the DOD Architecture Repository System (DARS).

Supporting Army Transformation

An Army EA is a far-reaching concept that comprises vision, principles, business rules, business processes and strategic direction. The Army EA will be an important tool needed to bridge the gap between the Army's Current and Future Forces. EA concepts have been

around since the early 1980s. EA projects are often reduced to nothing more than elaborate IT exercises with little or no effort put into documenting and analyzing the enterprise strategic direction and business processes. Their critical mission of defining and linking business, systems and technology is rarely achieved. It is important to note that EA is not just an IT project. To support this enterprise perspective, the DoDAF will provide project structure for developing a comprehensive EA.

The EA supports the following six major institutional processes:

- Business process reengineering.
- Planning, programming, budgeting and execution.
- Organization development.
- Capability needs determination.
- Research, development and acquisition.
- Operations support.

The EA will provide Army decision makers with information, common terms and concepts, procedures, models and presentation products that can support operational, planning and modernization requirements.

The EA will also provide the Army with a thorough and rigorous methodology for determining strategy-to-task traceability within the doctrine, organization, training, materiel, leadership, personnel and facilities (DOTMLPF) construct as follows:

- Doctrine. Architectures provide a basis for determining whether standard operating procedures are a fit for the required activities or if they require modification in moving from the "as-is" to the "to-be" EA.
- Organization. Through aggregation of the operational nodes identified in the EA, along with geographical, political and real-world constraints,

the correct organizational fit can be determined.

- Training. The correct personnel training required to complete activities identified in the EA can be identified through analysis.
- Materiel. The appropriate equipment required to complete activities in the OV is identified in the SV. It is, therefore, traceable directly to strategy and business rules identified in the OV.
- Leadership. Command relationships, roles and responsibilities with respect to the activities in the OV are identified.
- Personnel. The OV provides a basis for analysis of the correct type and number of personnel required to accomplish the identified activities.
- Facilities. The OV in the context of geographical, political and real-world constraints determines the requirements for facilities.

In addition, the information store in a DARS architecture repository will be available to perform accurate modeling of the existing processes, simulations and investigations

EA will help the Army smoothly realize its transformation to the Future Force. (U.S. Army Soldier Systems Center photo by Sarah Underhill.)

> The TV provides the technical systems implementation guidelines upon which engineering specifications are based, common building blocks are established and product lines are developed.

to enforce efficient processes. It will also be available to change not-so-efficient processes, examine different options and outcomes, determine how things are running and identify time bottlenecks. To fully understand the enterprise, we need to answer the time-honored questions of who, what, when, why and how things are happening.

The analysis facilitated by an EA methodology will provide full strategy-to-task requirements traceability. This methodology can be a key transformation enabler for realizing the decision superiority vision outlined in *Joint Vision 2020*.

The proposed Army EA should be a complete model of the Army enterprise and master plan that acts as an integrating force between Army enterprise planning aspects such as goals, visions, strategies and governance principles. The Army EA will be a tool that helps Army leaders think about the Army as a whole, see relationships, ask questions and identify problems. The Army EA will also capture a wide variety of information, establish relationships among various documents and diagrams and store all the information together in a single data repository.

EA is a tool that provides great benefits when dealing with the complexities and dynamics of the information-age Army that depends heavily on:

- Aligning IT with current and future business goals.
- Transforming business processes that drive strategic and tactical results.
- Reusing solutions across the Army.

- Discovering areas for application consolidation.
- Justifying budgets based on ongoing initiative value assessments.
- Delivering products designed for implementing the EA through the systems.
- Developing life cycles.
- Analyzing, visualizing and making supportable, trackable decisions based on how architectural changes affect the Army.
- Prioritizing IT initiatives, relative costs and business benefits along with clearly displaying decision factors.
- Developing and executing an EA that complies with DoDAF and Office of Management and Budget criteria.

EA will ensure that IT provides measurable business value, better decision-making tools, new operating efficiencies and lower production costs as the Army transitions to the Future Force.

FERNANDO MEZQUITA is an Electronics Engineer with the Information Systems Engineering Command, Fort Huachuca, AZ. He has a B.S. in computer science and engineering from California State University-Long Beach, and is an Army Management Staff College Sustaining Base and Leadership Management Program graduate. He is an Army Acquisition Workforce member who is Level II certified in test and evaluation and Level I certified in both systems engineering and program management. He has served as team lead for the Army Materiel Command (AMC) enterprise architecture project under the guidance of the AMC Chief Information Officer.

Deployable Port Operations Center Provides Total Asset Visibility for SDDC in Kuwait

Stephen Larsen

From December 2002 to the present, in support of *Operations Enduring Freedom* and *Iraqi Freedom*, the U.S. Surface Deployment and Distribution Command (SDDC) has shipped more cargo for the American military than at any time in the past half century.

During that period, the SDDC moved more than 70,000 containers. That's enough materiel — from Bradleys to bullets — to fill more than 1,000 football fields. Laid end to end, the containers would stretch from New York City past Fredericksburg, VA.

Most of that materiel has come into Southwest Asia (SWA) through Ash Shuaiba, a port south of Kuwait City. "We've moved the materiel of eight Army divisions in support of these operations," said COL Tom Harvey, SDDC SWA Commander, who manages the Ash Shuaiba port and accounts for all the military cargo and supplies transiting the port. "Our port operations run 24 hours a day, 7 days a week."

Rock of the Marne Returns to SWA

Currently, there is a constant flurry of activity across the port as cranes and forklifts offload huge ships transporting the Fort Stewart, GA, 3rd Infantry Division's (3ID's) materiel into theater, as the 3ID deploys back into theater after leading the drive to Baghdad and being the

first coalition unit to reach Iraq's capital during the 2003 ground offensive.

Helping SDDC SWA keep track of all that materiel is the Deployable Port Operations Center (DPOC), a suite of information technology (IT) systems contained in an 8- by 20-foot shelter, with satellite connectivity provided via a 2.4-meter Flyaway Triband Satellite Terminal (FTSAT). The DPOC is fielded by the Product Manager Defense Wide Transmission Systems (PM DWTS), part of the Fort Monmouth, NJ-based Project Manager Defense Communications and Army Transmission Systems.

"The DPOC is just what the name suggests," remarked LTC Earl Noble, PM DWTS, as he made a customer service visit to the SDDC staff at Ash Shuaiba. "It's basically a deployable office, providing SDDC personnel with Nonsecure

In addition to the DPOC at Ash Shuaiba, PM DWTS also has DPOCs in the Netherlands and in Corpus Christi, TX. ... PM DWTS has MPOCs in Savannah, GA, Fort Monmouth and Ash Shuaiba.

Internet Protocol Router Network (NIPRNET), Secret Internet Protocol Router Network (SIPRNET), video teleconferencing (VTC), fax and the same IT capabilities they have at their home stations."

These IT capabilities include the Worldwide Port System (WPS), through which the SDDC tracks all common-user surface shipments; the Global Transportation Network, which is the DOD system of record for in-transit visibility; and the Integrated Computerized Deployment System, which, based on information provided by WPS, provides automated stow plans for vessels. Together, these capabilities add up to in-transit visibility and total asset visibility throughout the logistics pipeline.

A Worldwide Network

Corrina Panduri, PM DWTS' project leader for SDDC programs at Fort

Port of Ash Shuaiba, Kuwait. LTC Earl Noble (right), PM DWTS, conducts a customer service visit with Cheryl Trobaugh (center) and SGT Anthony Tolbert, SDDC SWA. To the right is the FTSAT used by DPOC, which provides SDDC SWA the same IT capabilities they have at their home stations. To the left is a Humvee housing the MPOC. (U.S. Army photo by Stephen Larsen.)

Helicopters lined up at the port of Ash Shuaiba await transit to troops in Iraq. (U.S. Army photo by Stephen Larsen.)

Monmouth, said her task is to provide engineering, procurement, integration, testing and fielding products and services to support SDDC's mission of being the U.S. military's single port manager at worldwide locations.

"Because SDDC has such a real-time mission — for instance, SDDC's 599th Transportation Group was recently designated by the U.S. Pacific Command as the single port manager to offload critical supplies supporting tsunami relief efforts in Thailand — my challenge is to try to stay on top of requirements that can evolve on a daily basis," Panduri explained.

One way Panduri does this, she said, is by managing a worldwide DPOC program so she can quickly react to changing requirements. In addition to the DPOC

> The SDDC SWA personnel at Ash Shuaiba rate the capabilities provided to them by the DPOC and MPOC very high. ... "It gives a 24-hour communications capability to us. We couldn't do our mission without it."

at Ash Shuaiba, PM DWTS also has DPOCs in the Netherlands and in Corpus Christi, TX. To support smaller-scale, shorter-duration port operations, PM DWTS has provided a lean-and-mean version of the DPOC integrated into vehicles called the Mobile Port Operation Center (MPOC). PM DWTS has MPOCs in Savannah, GA, Fort Monmouth and Ash Shuaiba. Plus, to provide "eyes and ears" on the ground and someone the customers can "reach out and touch" for quick service, PM DWTS' liaison officer, Paul Schillreff, is stationed in Kuwait.

SGT Anthony Tolbert, a reservist serving with SDDC SWA, demonstrated the MPOC at Ash Shuaiba, neatly integrated in shelters on the rear of two Humvees. "The MPOC in-

cludes a 10-kilowatt generator/environmental control unit, an attachable framed tent and a very small aperture terminal for satellite connectivity," described Tolbert. "Whenever we need it, we pull these out, and we can run a port right from these two vehicles."
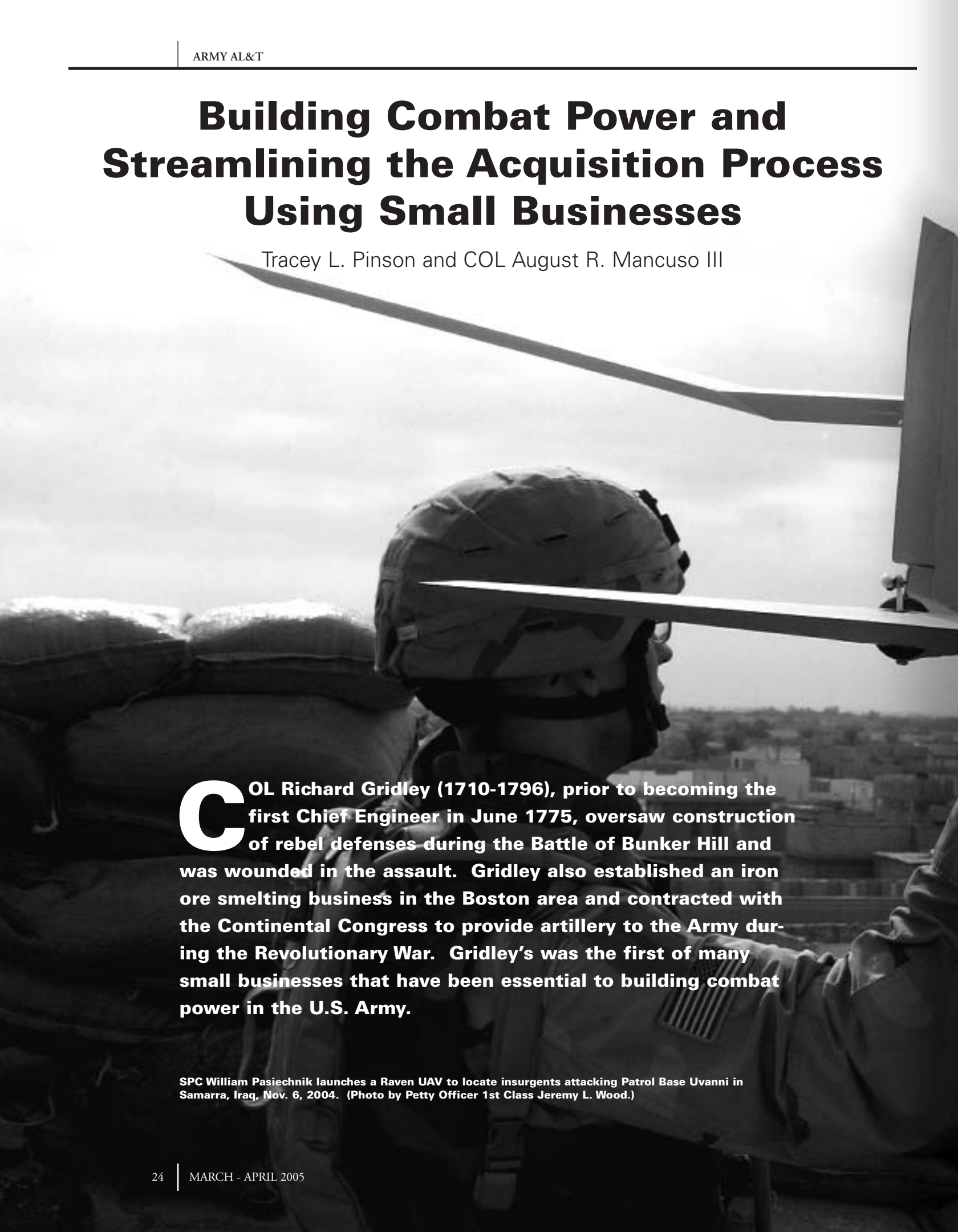
The SDDC SWA personnel at Ash Shuaiba rate the capabilities provided to them by the DPOC and MPOC very high. "It's our lifeline," remarked Cheryl Trobaugh, SDDC SWA Operations. "It gives a 24-hour communications capability to us. We couldn't do our mission without it," she concluded.

STEPHEN LARSEN is the Public Affairs Officer for the Project Manager Defense Communications and Army Transmission Systems at Fort Monmouth, NJ. He has more than 20 years' experience writing about Army systems. Larsen has a B.A. in American studies from the College of Staten Island of the City University of New York.

Building Combat Power and Streamlining the Acquisition Process Using Small Businesses

Tracey L. Pinson and COL August R. Mancuso III

COL Richard Gridley (1710-1796), prior to becoming the first Chief Engineer in June 1775, oversaw construction of rebel defenses during the Battle of Bunker Hill and was wounded in the assault. Gridley also established an iron ore smelting business in the Boston area and contracted with the Continental Congress to provide artillery to the Army during the Revolutionary War. Gridley's was the first of many small businesses that have been essential to building combat power in the U.S. Army.

SPC William Pasiechnik launches a Raven UAV to locate insurgents attacking Patrol Base Uvanni in Samarra, Iraq, Nov. 6, 2004. (Photo by Petty Officer 1st Class Jeremy L. Wood.)

Today, 28 percent of all Army U.S.-contracted dollars are awarded to small businesses. The Army research, development, test and evaluation dollars awarded to small businesses equate to 19.3 percent of all research and development dollars expended. Small businesses provide the most revolutionary changes in technology used on the battlefield today and they represent the best value to the Army in providing services to the Soldier — from human resource management to the Rapid Fielding Initiative (RFI). This article demonstrates by example and technique how to make the best use of small businesses and small business programs to enhance combat power in both support and direct combat missions.

In Iraq, a large part of the mission to transport, collect and demilitarize captured enemy ammunition (CEA) is being performed by small businesses. The contracts are worth more than $1.2 billion, and small businesses have successfully performed more than 50 percent of the work to date. They provide transportation from cache to collection site and from collection site to demolition site, as well as collecting, storing, securing, inventorying and managing approximately 200 tons per day per site. The program safely disposes approximately 100 tons per day per site. Small businesses are also providing life support, security, equipment, vehicles and labor to support CEA processing.

In Iraq, the Defense Ammunition Center identified a need for a new device

to sort and inspect 5.56mm, 7.62mm, 9mm, .45- and .50-caliber ammo. Using a Small Business Innovation Research (SBIR) Program Phase II contract awarded at the U.S. Army Armament Research, Development and Engineering Center, Picatinny Arsenal, NJ, a small business developed the Projectile Identification System (PIDS), which sorts the ammunition at 12,500 rounds per hour. PIDS is in Camp Arifjan, Kuwait, today.

In Afghanistan, Special Operations Forces needed a simple-to-use, relatively inexpensive unmanned aerial vehicle (UAV). This UAV was developed by a small business using the Advanced Concept Technology Demonstration (ACTD) Program conducted by the U.S. Army, U.S. Special Operations Command and Natick Laboratory. The hand-launched Raven put UAV capabilities into the hands of Special Operations Forces teams. The Raven is also being used in Iraq.

These are just a few examples of combat and combat support capabilities that small businesses provide quickly. In addition to the programs already identified (SBIR and ACTD), there are many other programs, some specifically for small businesses, that you can use to get to a solution for your mission need without the customary bureaucratic procedures inherent in the normal contracting and program management processes.

If you are a program manager (PM), you already know that your program is

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"taxed" to provide funding for the SBIR Program. This program is designed to provide Army laboratories and research, development and engineering centers with a means to leverage the support of small high-technology companies to meet the Army's critical needs. A key metric to assist PMs in determining if their program is making the maximum use of the SBIR Program should be SBIR contract dollars supporting their program divided by dollars taxed for SBIR. The labs and centers develop topics, recommend funding proposals and execute projects. You will need to work closely with them.

To learn how to improve SBIR support for your program, visit the U.S. Army Research Office-Washington's Army SBIR Program Web site (**http://www.aro.army.mil/arowash/rt/sbir/sbir.htm**). You may also contact the SBIR Program staff who will provide personal assistance in helping your program get its money's worth. For the Army Corps of Engineers, go to **http://www.hq.usace.army.mil/hqsb/index.htm** and click on **Program Management**.

But SBIR is not the only way to get promising technology to the troops quickly. Section 8(a) of the *Small Business Act (15 U.S.C. 637(a))* established a program that authorizes the Small Business Administration (SBA) to enter into all types of contracts with other agencies and subcontract the work to small business firms eligible for program participation. These contractors are referred to as "8(a) contractors." Because DOD has negotiated a Memorandum of Agreement with the SBA, DOD agencies can contract directly with 8(a) contractors. Contracts may be awarded to an eligible 8(a) firm on either a sole-source or competitive basis. What this means to

Small businesses continue to provide cutting-edge technology and evolutionary manufacturing process innovations for the Army. (U.S. Army photo.)

you as an acquisition manager is that if you have a requirement that is $3 million or under, you have great flexibility to find (**http://dsbs.sba.gov/pro-net/dsp_dsbs.cfm**) and select one of these small businesses to assist your program. You can develop a continuing relationship with that business through project completion even if it requires several years to complete. Your command's small business specialist will support you by working with the SBA to find potential 8(a) contractors if you don't already have one in mind, and will assist you to make maximum use of the program to accomplish your mission.

Yet another small business tool available, especially for those 8(a) contractors who have graduated from the program, is the Army's Mentor Protégé Program (go to **http://www.sellingtoarmy.com/program_default.asp?ID=22**). With this program, which the Army's Small and Disadvantaged Business Utilization (SADBU) Office funds and manages, your graduated 8(a) contractor might be able to continue working your requirement and train a successor by being a mentor to a protégé 8(a) contractor. You can also use this program to encourage a large business to enlist the support of a small business with a promising technology, but which may require technical assistance to develop further expertise.

Working with industry to form teams is a powerful tool to solve complex and difficult program

> Working with service-disabled veterans is a patriotic thing and a wise choice. Service Disabled Veteran Owned Small Businesses (SDVOSB) possess a wealth of DOD experience and bring dedication and a genuine caring for Soldiers.

problems. Especially in the manufacturing arena, small businesses and teams of small businesses can be used to create competition to escape sole-source situations with large businesses. Small businesses can indeed handle very large programs up to and including $1 billion or more.

In July 2003, the PM Maneuver Ammunition Systems (MAS) met with the U.S. Army Materiel Command Associate Director for Small Business, the Small Business Specialist for the Army Field Support Command (AFSC) and the DA SADBU Executive Officer, to map out a strategy for consolidating the more than 30 contracts used to produce the Army's 40mm ammunition requirements. This consolidation was necessary because obligation rates for the more than 30 contracts were inadequate and the PM was losing money each year. Training ammunition production had been slowed because of protests among the small businesses competing for the work. In short, the contract structure became unmanageable.
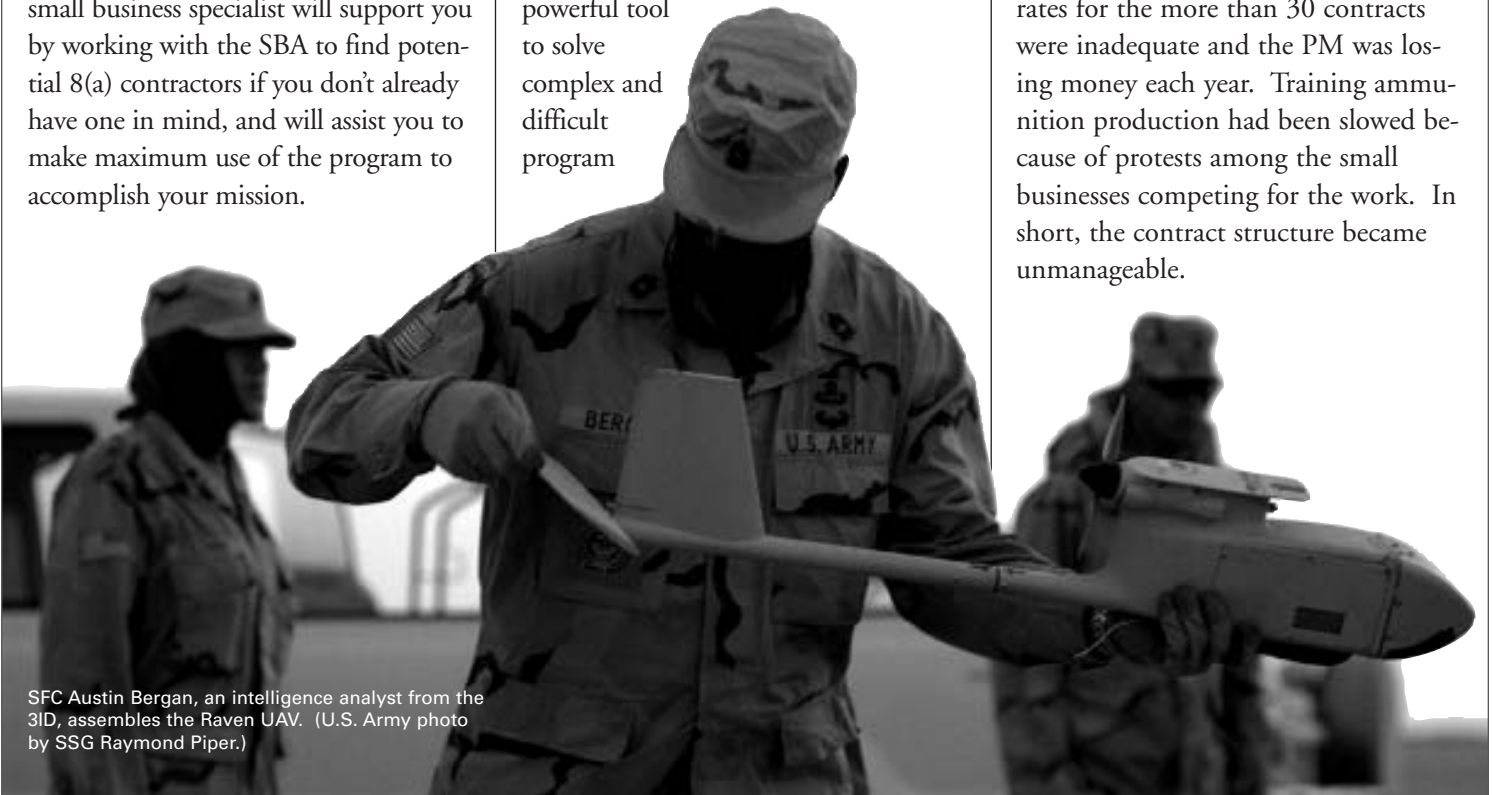
SFC Austin Bergan, an intelligence analyst from the 3ID, assembles the Raven UAV. (U.S. Army photo by SSG Raymond Piper.)
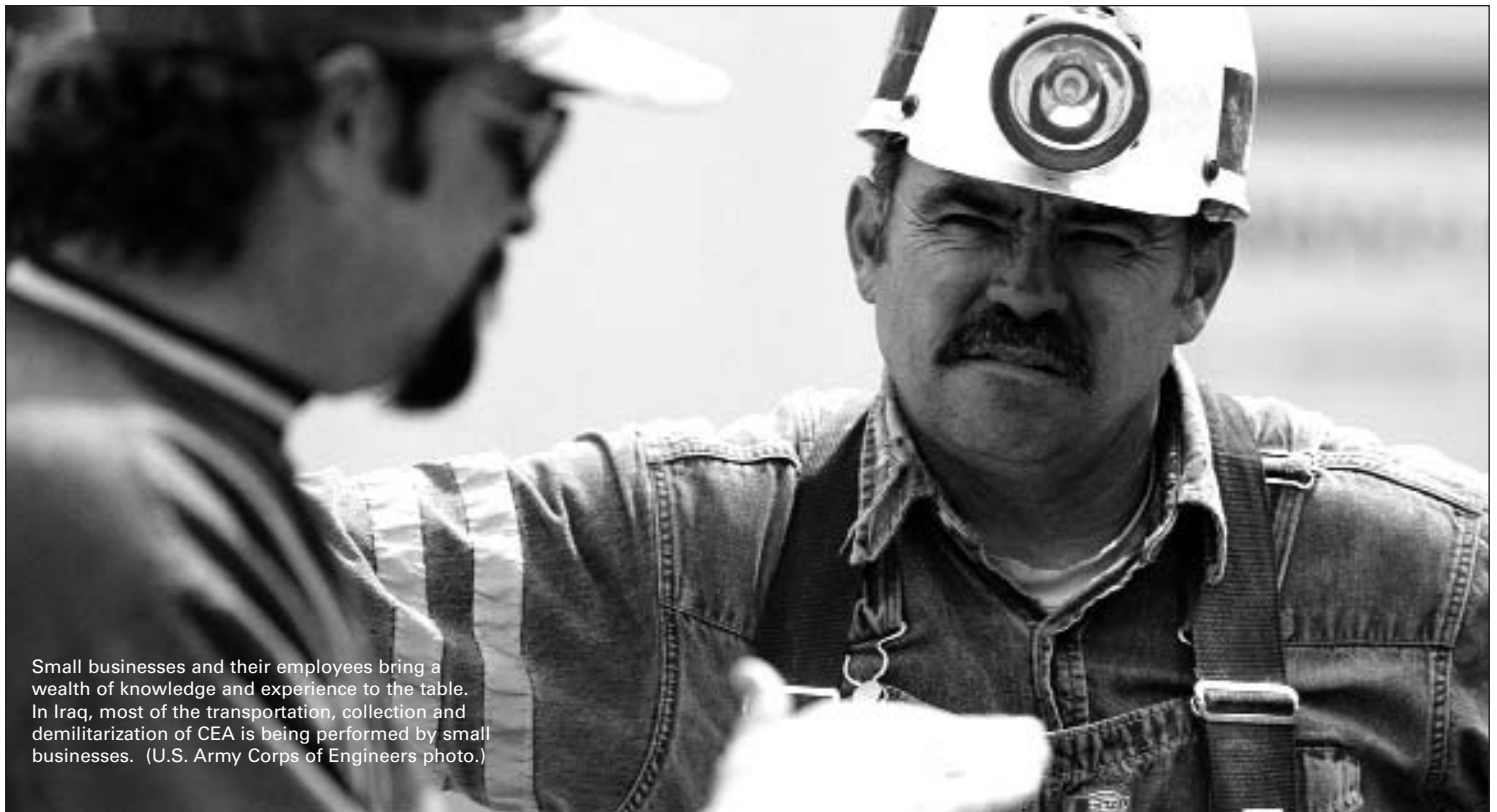
Small businesses and their employees bring a wealth of knowledge and experience to the table. In Iraq, most of the transportation, collection and demilitarization of CEA is being performed by small businesses. (U.S. Army Corps of Engineers photo.)

The PM MAS and the AFSC Small Business Office agreed to work with industry and SBA to create a solution that would streamline the contracts while ensuring that small businesses would be the prime integrators. The final approved acquisition strategy is a small business set-aside with multiple awards for the family of six 40mm cartridges (systems buy) and a competitive 8(a) solicitation with multiple awards for the M918 and M385 projectile assemblies. The systems contractors will be responsible for delivering all six cartridges. Total estimated cost for these six cartridges is more than $1 billion for the base year, plus 4 option years.

Working with service-disabled veterans is a patriotic thing and a wise choice. Service Disabled Veteran Owned Small Businesses (SDVOSB) possess a wealth of DOD experience and bring dedication and a genuine caring for Soldiers. Contracting officers have the authority to conduct SDVOSB set-asides. Earlier we mentioned that small businesses are providing human resource management services and are part of the RFI. Both services are, in fact, being provided in part by SDVOSBs. The choice is clear. You can work with a larger business run by a "professional manager" who may not have any personal experience or understanding of the unique needs of Soldiers defending our Nation, or you can work with an SDVOSB that is run by a veteran who will apply personal expertise gained from prior military service and is someone who understands what Soldiers need and is committed to providing that support.

The way to maximize your combat power and provide superior service support to our warfighters is by making maximum use of small business programs to reduce acquisition leadtime. This is best accomplished by involving your small business specialist early in the process while you are still considering an acquisition strategy. Make sure that you and your contracting folks do thorough market research. Small business specialists are valuable resources and are appointed to assist you and the contracting personnel to develop a small business solution for your requirements. It's not just the right thing to do, it's the smart thing to do.

TRACEY L. PINSON is the SADBU Director. She has a B.S. in political science from Howard University and an LL.D. from Georgetown University Law Center. She is a Maryland Bar Association and National Contract Management Association member, is Level III certified in contracting and is an Army Acquisition Corps (AAC) member.

COL AUGUST R. MANCUSO III is the Senior Military Assistant and Executive Officer to the Director, SADBU. He has a B.A. in political science from Texas A&M University, an M.S. in contract and acquisition management from the Florida Institute of Technology and is an Army Senior Service College Program University of Texas-Austin graduate. He is Level III certified in contracting and program management and is an AAC member.

Army and Industry Supply Improved Tactical Headsets to Troops in Iraq

Stephen Larsen

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

The ITH (inset) protects Soldiers' hearing and allows them to communicate in the high-noise environment of the M1114 up-armored Humvees and other LTVs being used by the Army in Iraq. (Photo courtesy of Bose Corp.)

MAJ Ron Claiborne, Assistant Product Manager Vehicular Intercommunication Systems (APM VIS), receives e-mails or phone calls almost every day from Soldiers requesting more ITHs. The VIS Office is part of Program Management Office Defense Communications and Army Transmission Systems (PM DCATS). According to Claiborne, the Soldiers are asking for headsets to use in convoys in Iraq.

The Army is struggling to acquire sufficient quantities of the ITHs, which are being manufactured by Bose Corp. under a subcontract with Northrop Grumman Corp. The challenge is that the ITH is a revolutionary new design that is being rushed into production to satisfy the Army's needs in Iraq.

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

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

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

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

> Our goal is to get production and fielding up to between 500 and 700 ITHs per week by early 2005.

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

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

Feedback From Soldiers in Iraq

Claiborne said that the ITH will be replacing nearly 15,000 "emergency-issue" Interim Headsets (IHs) and older models currently in use. The 1st Cavalry Division Soldiers deployed to Iraq have had mixed feelings about the emergency-issue IH.

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

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

"It's too bulky under the Kevlar helmet," said 1LT John Shaeffer. SSG Dawn Hodges agreed, but added, "The two times we did use it, it worked well."

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

Blair told how the headset allowed his unit to maintain communications when their convoy was ambushed. "The second time we were on a convoy, coming back from Taji, we were ambushed from above and behind with armor piercing bullets, and we were able to communicate throughout the firefight," said Blair.

Claiborne said that the ITH will go a long way toward solving the IH's shortcomings. "The emergency-issue IH doesn't provide any hearing protection from the noise in the M1114 Humvee," said Claiborne. "The Army's goal is to replace every IH with the new ITH to provide soldiers adequate safety and protective equipment and to reduce hearing-loss medical claims."

Also, the new ITH can be put on or removed quickly without requiring Soldiers to remove their helmets. "This is an absolute requirement for soldiers who might have to quickly dismount from their Humvees for combat or security operations," said Claiborne.

He cautions, though, that whether Soldiers have the IH or the ITH, they must ensure their helmet is adjusted

for a correct fit before putting on the headset. "For either headset to fit properly and provide the most comfort and functionality, the helmet's headband and all of the support straps must be adjusted properly for a correct fit," Cliaborne said.

Claiborne discussed the feedback from MAJ Matt Paige, Project Leader for the M1114 Up-Armored Humvee, who was on temporary duty in Iraq.

"Paige said that every Soldier he spoke to who had the ITH had only positive things to say," said Claiborne. "The Soldiers told him the ITH is very comfortable and does a great job canceling out background noise and allowing them to communicate. One M1114 crew told him they were wearing the ITH when a tank was operating

> The ITH provides hearing protection through both active and passive noise-reduction technologies and enables Soldiers to communicate in the high-noise environment typical of the M1114 up-armored Humvee.

nearby. The M1114 driver was able to keep in constant contact with the gunner through the headset and the headset canceled out almost all of the tank's noise. Prior to getting the ITH, the driver or vehicle commander wouldn't have been able to communicate with the gunner in a safe manner because of the tank turbine engine noise levels."

West Point Study

The ITH's active noise reduction technology effectiveness was supported by a study completed in December 2004 by U.S. Military Academy Engineering Psychology Department Cadets.

Cadets Edward Klein and Jon Wertz, under the leadership of research coordinator MAJ Dan Smith, studied the

effect of noise cancellation on sound localization, comparing use of the IH with the ITH. Their study subjects were 21 undergraduate cadets, ranging in age from 18 to 22 years.

In a sound chamber, Klein and Wertz set up eight speakers in a 5-foot diameter ring, placed at ear level every 45 degrees. They played the sound of 95-dB Humvee noise, and tested each subject's ability to localize the sound of AK-47 gunfire.

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

"Because the IH has only one ear cup, Soldiers must use an ear plug in the left ear, which they often don't do in a 'real-world' convoy, both because it is uncomfortable for extended periods and because it effectively mutes hearing in that ear," Klein said.
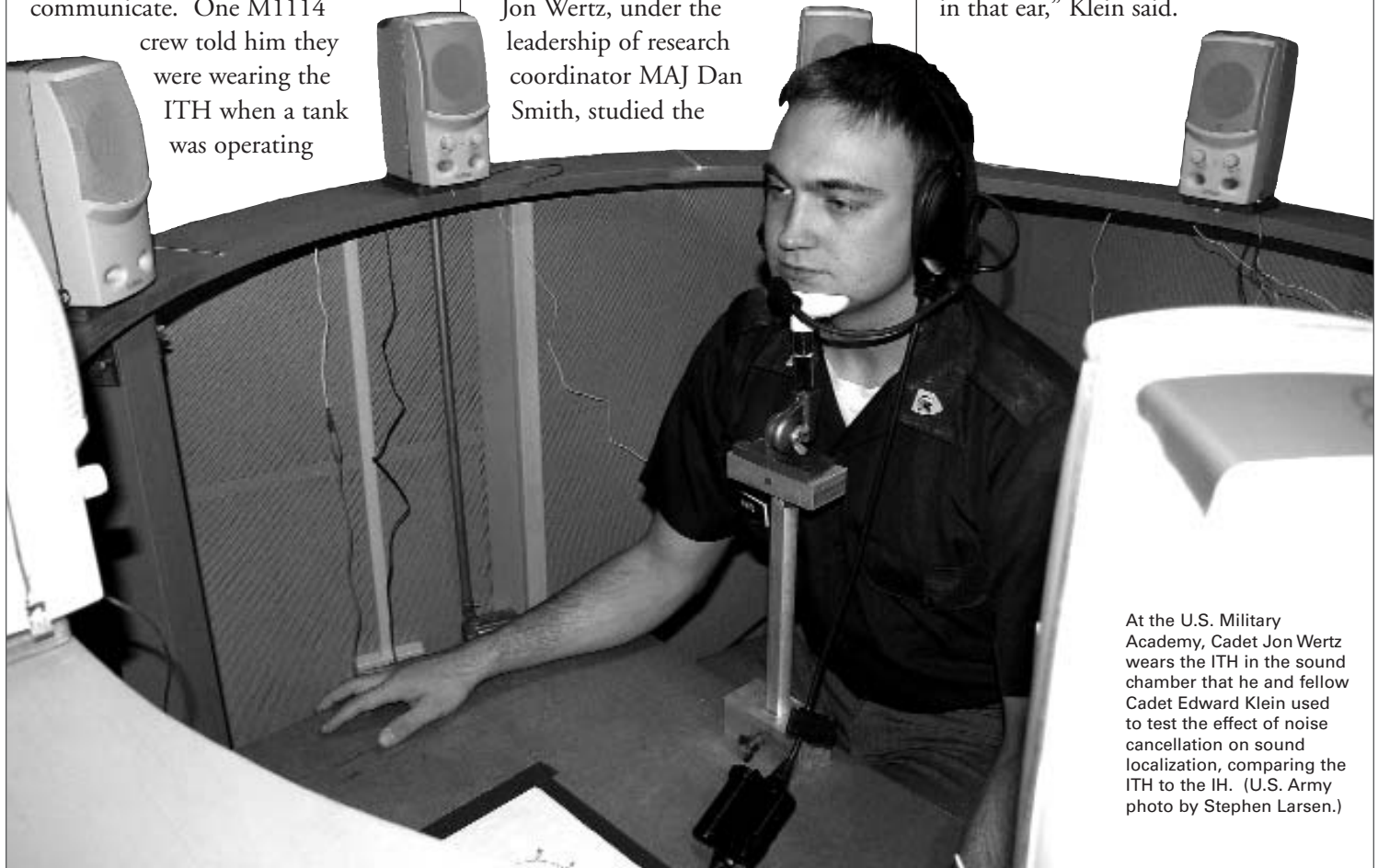
At the U.S. Military Academy, Cadet Jon Wertz wears the ITH in the sound chamber that he and fellow Cadet Edward Klein used to test the effect of noise cancellation on sound localization, comparing the ITH to the IH. (U.S. Army photo by Stephen Larsen.)

The ITH has been rushed into production to satisfy the Army's numerous requirements in Iraq. (Photo courtesy of Bose Corp.)

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

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

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

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

So how do all the Soldiers and units out there clamoring for the ITH get it for their up-armored Humvees?

"The LTV PM who's fielding Humvees has the bumper and serial numbers of each M1114 that has the IH and will replace it with the ITH as soon as we can get sufficient quantities," said Claiborne.

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

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

For information about ITH or VIS availability or technical characteristics, contact Claiborne at (732) 532-5415 or **Ronald.Claiborne@us.army.mil**.

STEPHEN LARSEN is the Public Affairs Officer for the Project Manager Defense Communications and Army Transmission Systems at Fort Monmouth, NJ. He has more than 20 years' experience writing about Army systems. Larsen has a B.A. in American studies from the College of Staten Island of the City University of New York.

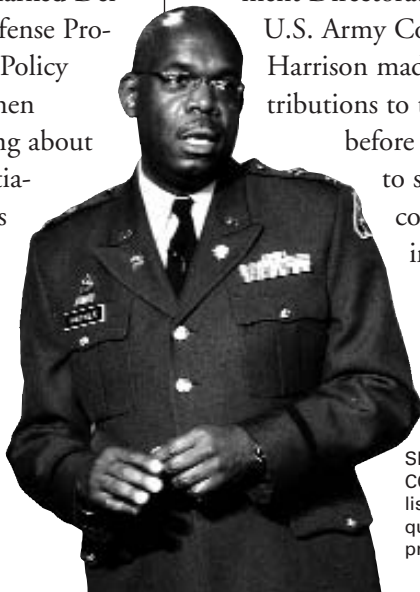# SPS/Army Assert Presence at Major DOD E-Business Conference

Kristen Noel

Transformation was the focus of the E-Business/SPS Joint Users' Conference Nov. 15-19, 2004, Houston, TX, and the spotlight was on the Standard Procurement System (SPS). This large DOD electronic business conference brought together more than 800 acquisition professionals from across the military services and several DOD agencies. SPS will become the standard contract writing system for all of DOD and is currently used by 13 Army contracting commands. The system is also deployed in the Navy, Air Force, Marine Corps and 13 other defense agencies, totaling more than 22,000 users.

Deidre A. Lee, Director of Defense Procurement and Acquisition Policy, leads the crowd in a round of applause during her keynote speech at the E-Business/SPS Joint User's Conference.

SPS is the only departmentwide business system recognized by DOD to date, and leads the charge for DOD's transformation to more streamlined, efficient processes within its acquisition landscape.

"I'm very proud of the SPS folks — they are the pioneers," remarked Deidre A. Lee, Director of Defense Procurement and Acquisition Policy (DPAP). "They step up when everybody else is still talking about how to accomplish the initiatives set under the Business Management Modernization Program. The rest of the procurement world is now saying, 'SPS is practical. When we include it in our business arrangements, we get a boost in performance.'"

The Army hosted breakout sessions on eight subjects at the conference and represented half of the attendees, according to conference officials. "People have a lot of questions, and you need a large turnout to tackle them," said COL Theodore Harrison, then Director, Business Systems Management Directorate, Headquarters, U.S. Army Contracting Agency. Harrison made substantial contributions to the SPS Program before being reassigned to support critical contracting activities in Iraq.

The Army also stood out during the showcasing

SPS Program Manager COL Jacob Haynes listens to a user's question during his program overview.

of the Battle Ready Contingency Contracting System (BRCCS), another key topic at the E-Business/SPS Joint Users' Conference. BRCCS is a mobile version of SPS created for contracting on the front lines, where information technology infrastructure can be limited or unavailable.

Currently, BRCCS is used solely by U.S. Army contingency contracting officers and has proven effective in supporting humanitarian missions around the globe. COL Victoria Diego-Allard, Commander, U.S. Army Contracting Command, Europe, explained that, "Until 2002, we still had manual Excel spreadsheets to capture our transactions in the field. We had to hand enter the data back at the base, and some transactions never made it out of the filing cabinets," she stated. "But we used BRCCS for a total of 48 deployments in FY04."

Director Deidre A. Lee (second from left) and DPAP Deputy Director, Electronic Business Mark Krzysko (far right) with U.S. Army contingency contracting officers in front of the BRCCS display. The BRCCS display was an eye-catcher in the exhibit area with screen shots of the software and rugged computers.

The conference offered more than 50 breakout sessions under nine learning tracks, two of which were hosted by the Army. Attendees used these sessions to explore specific elements of SPS and other related acquisition systems. Conference highlights included:

• **Federal Procurement Data System-Next Generation (FPDS-NG).** SPS will be the first DOD system to interface with this project, which is mandated by the *President's Management Agenda*, promulgated through the Office of Management and Budget. "That's great news for SPS users, who need only hit a button and create an action report that dumps directly into FPDS-NG," explained Lisa Romney, Procurement Analyst, DPAP, EB Office, which reports to Michael W. Wynne, Acting Under Secretary of Defense for Acquisition, Technology and Logistics.

COL Victoria Diego-Allard, Commander of the U.S. Army Contracting Command, Europe, traveled from Germany to Houston, TX, to share her command's success using BRCCS.

Currently, BRCCS is used solely by U.S. Army contingency contracting officers and has proven effective in supporting humanitarian missions around the globe.

People stop by our booth for a demonstration and respond, 'That's it?' Yep!" Romney continued. "In the near future there will be no more *DD350 [Individual Contracting Action Reports]*, no more *DD1057 [Monthly Summaries of Contracting Actions]* and no more summary reporting. This is real, on-the-ground change, and contracting officers are the smartest and most dynamic people, so they can handle it," she concluded.

The full deployment schedule for the FPDS-NG machine-to-machine interface is being defined. Several items still need to be addressed by the General Services Administration, the program manager for FPDS-NG, before an efficient DOD rollout can begin. Users can find the latest information from their Component FPDS-NG Migration Team representative.

• **Wide Area Work Flow (WAWF).** "WAWF takes DOD's invoicing, receipt and acceptance system off paper and onto the Web," said Elizabeth Wilkinson, WAWF Program Manager. "The 21,748 active vendors involved support WAWF because it allows them to submit invoices through three paths. Likewise, 72,537 active users among the military services see this tool reducing

their interest penalties by increasing timely payments," she continued. "They're also taking full advantage of the vendor discounts via this route, and decreasing document error."

• **Army Contracting Business Intelligence System (ACBIS).** Attendees at the breakout session for this Web-based business intelligence system enjoyed the depth of Armywide procurement information they can access by tapping into ACBIS' standard reports and ad hoc queries. Best of all, ACBIS uses extractors to update Procurement Desktop-Defense information every evening and load it into the system, so accuracy is the only requirement it expects from SPS users — a goal already on their radar screens.

"Our system is setting the tone and pace for the entire acquisition domain," noted COL Jacob Haynes, SPS Program Manager. "This conference isn't about educating senior leaders anymore. It's time to show how our users at the desktops have stepped up to the plate and continue to shine."
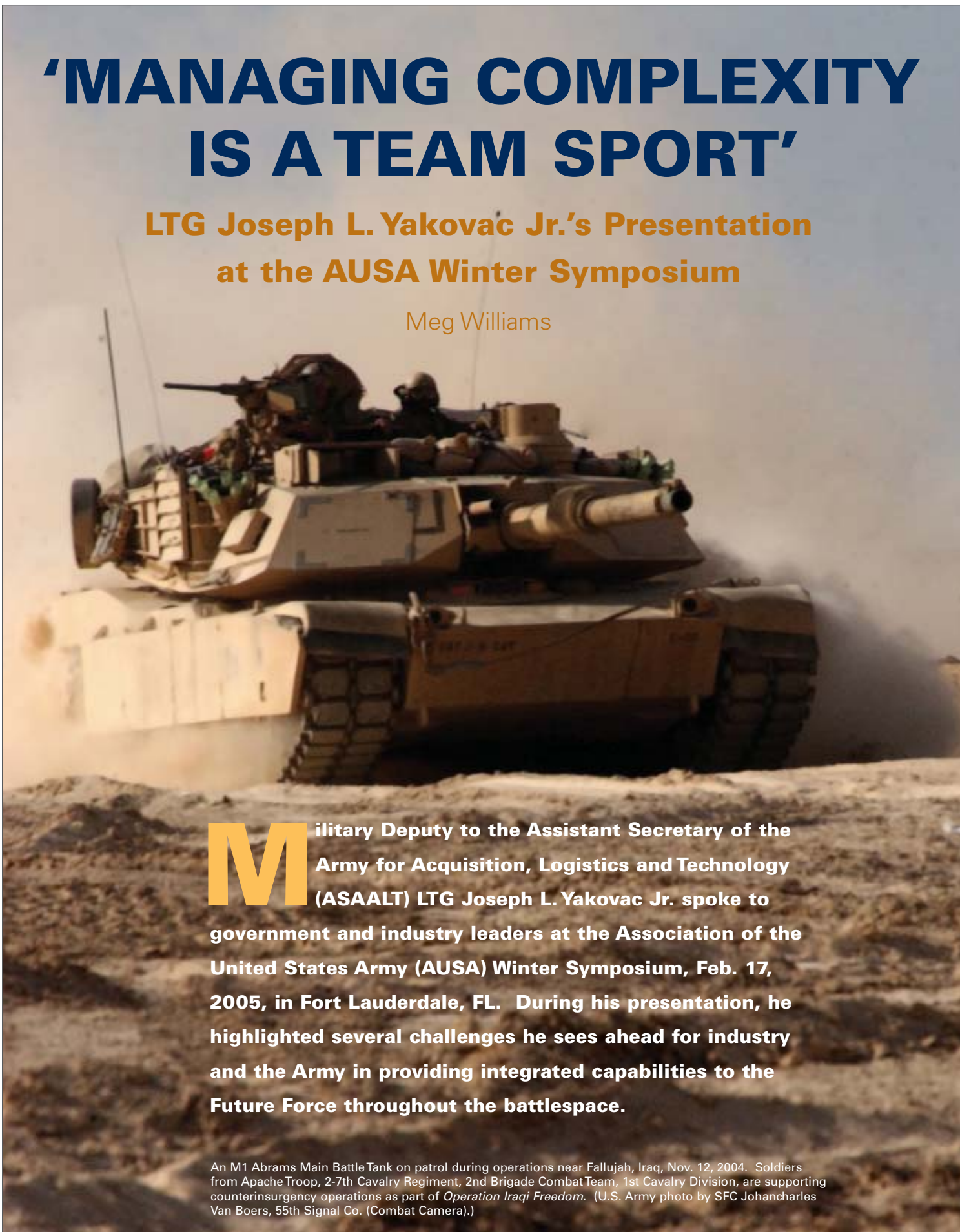
DPAP Deputy Director of Electronic Business Mark Krzysko, who co-hosted the conference with Haynes, agreed wholeheartedly. "Warfighters must be ready at every moment in case they need to move forward. The contracting community, too, must be dynamic and accountable," Krzysko concluded.

KRISTEN NOEL is an account executive for CorpComm, a woman-owned, small business specializing in government communications. She provides communications support to the SPS Joint Program Management Office and is the managing editor of the Program's award-winning newsletter, *The SPS Connection*. She has a B.A. in professional writing from Virginia Polytechnic Institute and State University.

'MANAGING COMPLEXITY IS A TEAM SPORT'

LTG Joseph L. Yakovac Jr.'s Presentation at the AUSA Winter Symposium

Meg Williams

Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) LTG Joseph L. Yakovac Jr. spoke to government and industry leaders at the Association of the United States Army (AUSA) Winter Symposium, Feb. 17, 2005, in Fort Lauderdale, FL. During his presentation, he highlighted several challenges he sees ahead for industry and the Army in providing integrated capabilities to the Future Force throughout the battlespace.

An M1 Abrams Main Battle Tank on patrol during operations near Fallujah, Iraq, Nov. 12, 2004. Soldiers from Apache Troop, 2-7th Cavalry Regiment, 2nd Brigade Combat Team, 1st Cavalry Division, are supporting counterinsurgency operations as part of *Operation Iraqi Freedom*. (U.S. Army photo by SFC Johancharles Van Boers, 55th Signal Co. (Combat Camera).)

"It's about managing complexity," Yakovac said. "It's a true team sport. We cannot do it like we've done in the past."

Yakovac remarked that Future Force capabilities are thought of as being inherent to only a sector of what acquisition does. Four years ago, deployability, lethality, agility, versatility, survivability and sustainability applied to manned ground vehicles. Today, those capabilities must also apply to trucks and every other thing the Army puts a Soldier in. "We have to do better in the future and totally integrate those capabilities within the battlespace," Yakovac explained. "Nothing anymore is an island unto itself based on a single requirements document. It now needs to be integrated from the beginning and translated into contractual arrangements and programs that deal with how we're going to provide that complexity."

As an example of the old way of doing business, Yakovac mentioned that tanks were built based on a requirements document that focused solely on what a tank was meant to do. "There was very little in that requirements document that talked about other things that a tank interfaced with," Yakovac said.

"I would suggest that its biggest interface was to provide size, weight and power to a radio that was 'push to talk.' Now, the components within that tank and what we want them to do inherent to a tank are very complex. But it was inherent to that platform."

"When a tank was tested, it was tested as a singular item and introduced into the force via technology transfer programs [TTPs]," Yakovac continued. "It wasn't introduced during the design phase. And that's no longer the way the Army can think about what it needs to provide for the future battlespace."

The future battlespace will no longer be about a single entity. It will be about how capability trades can be made within the battlespace — within the systems-of-systems — to develop Future Combat Systems (FCS). "If we don't

> The future battlespace will no longer be about a single entity. It will be about how capability trades can be made within the battlespace — within the systems-of-systems — to develop Future Combat Systems. If we don't take the approach upfront in the design of the entire battlespace, the piece parts won't plug in. … This approach takes you outside of your comfort zone when you think about how you have to design, test, field and fight it.

take the approach upfront in the design of the entire battlespace, the piece parts won't plug in," Yakovac warned.

"They may be magnificent — as the tank is — but they will not provide what the Futures Center has asked the acquisition community that I represent to provide them. So that's the challenge. This approach takes you outside your comfort zone when you think about how you have to design, test, field and fight it."

"No longer can I go to a Futures Center QFR [quarterly final review] and talk about single entities," Yakovac continued. "We talk about how all this fits and how we're going to make trades among this complex environment to provide an overarching, best capability, affordable approach. Those who are working on FCS have to think differently. As a community, we have to work together differently, both the PEOs [program executive officers] who work for me and Mr. Claude M. Bolton Jr. [ASAALT], as well as the industries we interface with, to be able to provide this capability. I can't wait and provide it via TTPs. It won't work. I have to design it in from the beginning. I have to interface piece parts earlier than I ever interfaced piece parts before, so I now have to share information earlier in programs between contractors that at one time may never have shared information."

A Bradley-mounted Integrated Army Active Protection System. (U.S. Army TARDEC photo.)

Yakovac alluded to how the PEO community has been redesigned to work together. "No PEO works for itself," he said. "When meetings are held to discuss what's being developed for the future, there will be anywhere from 4 to 12 program managers represented. Our industry partners must realize the complexity of what the Army is trying to do."

"Everything depends upon something else in the battlespace of the future," Yakovac exclaimed. "And if it doesn't work, we fail. A good example

> No PEO works for itself. When meetings are held to discuss what's being developed for the future, there will be anywhere from 4 to 12 program managers represented. Our industry partners must realize the complexity of what the Army is trying to do.

of that is the survivability of manned ground vehicles. That magnificent tank was pitted against another enemy tank and we designed it to withstand a blow. Today we're saying that same survivability can be lessened to some extent, and that's a hard pill to swallow, by integrating other layers of survivability, one being information dominance."

"If you do get into a gunfight, maybe rather than rolled homogeneous armor, I now introduce something called an Active Protection System (APS).

JTRS Cluster 1 Airborne Radio

JTRS Cluster 1 Ground Radio

(Photos courtesy of Rockwell Collins.)

Think about the APS in terms of the complexity of the integration. I'm now asking somebody to rely on a bullet hitting a bullet or rely on the fact that maybe they don't have to hit it, but keep it from going in the direction it was fired."

Yakovac suggested that with these new capabilities come new questions. In today's environment, what are the rules of engagement? If the APS deflects a bullet, it could kill an innocent civilian. "We then have a major problem," warned Yakovac. "It's not as simple, when you think about survivability, to just say, 'it's inherent.' It's no longer a simple task. So as we design the survivability of manned ground vehicles and look at it holistically, we have to determine if we're ready and if we can

account for all of the other problems and issues that go into thinking of more than just the inherent."

"We can build inherent," he went on. "We know how to do that. But that doesn't give me that annex that says supportability, sustainability and transportability. We've got to get to them in a different way. Those are a few examples of the complexity that we're wrestling with today and all of you, as supporters of the Army, have to think differently about these issues as well."

> The JTRS program as it was developed was basically, to me, an unachievable goal because it was looked on as being a radio replacement program. If we had unlimited resources it would be wonderful if I could design something better and go to a battalion and have them download their radios of record today and give them JTRS radios in exchange. But that is an inefficient way to use our resources.

Q and A for Yakovac

Q: JTRS [Joint Tactical Radio System] appears to be failing. What are your thoughts on JTRS?

Yakovac (Y3): I don't think it is. I think what's failing is the strategy that we had. And I'm passionate about this, so this is a good question to ask me. This is again about complexity. The JTRS program as it was developed was basically, to me, an unachievable goal because it was looked on as being a radio replacement program. If we had unlimited resources it would be wonderful if I could design something better and go to a battalion and have them download their radios of record today and give them JTRS radios in exchange. But that is an inefficient way to use our resources. However, that radio replacement philosophy is what I believe has caused this program's problems. What we really want from JTRS in the near term is to enhance networking, not replace legacy radios. You want to introduce it with a focus on the live band networking waveform not just replacing the Single Channel Ground and Airborne Radio System for the sake of replacing it. What we have done in the last couple of months, in concert with the Office of the Secretary of Defense, is to slow the program to devise a holistic migration strategy for what we want from JTRS over time. It's an affordability issue too, even if we could do it. We cannot afford to throw away
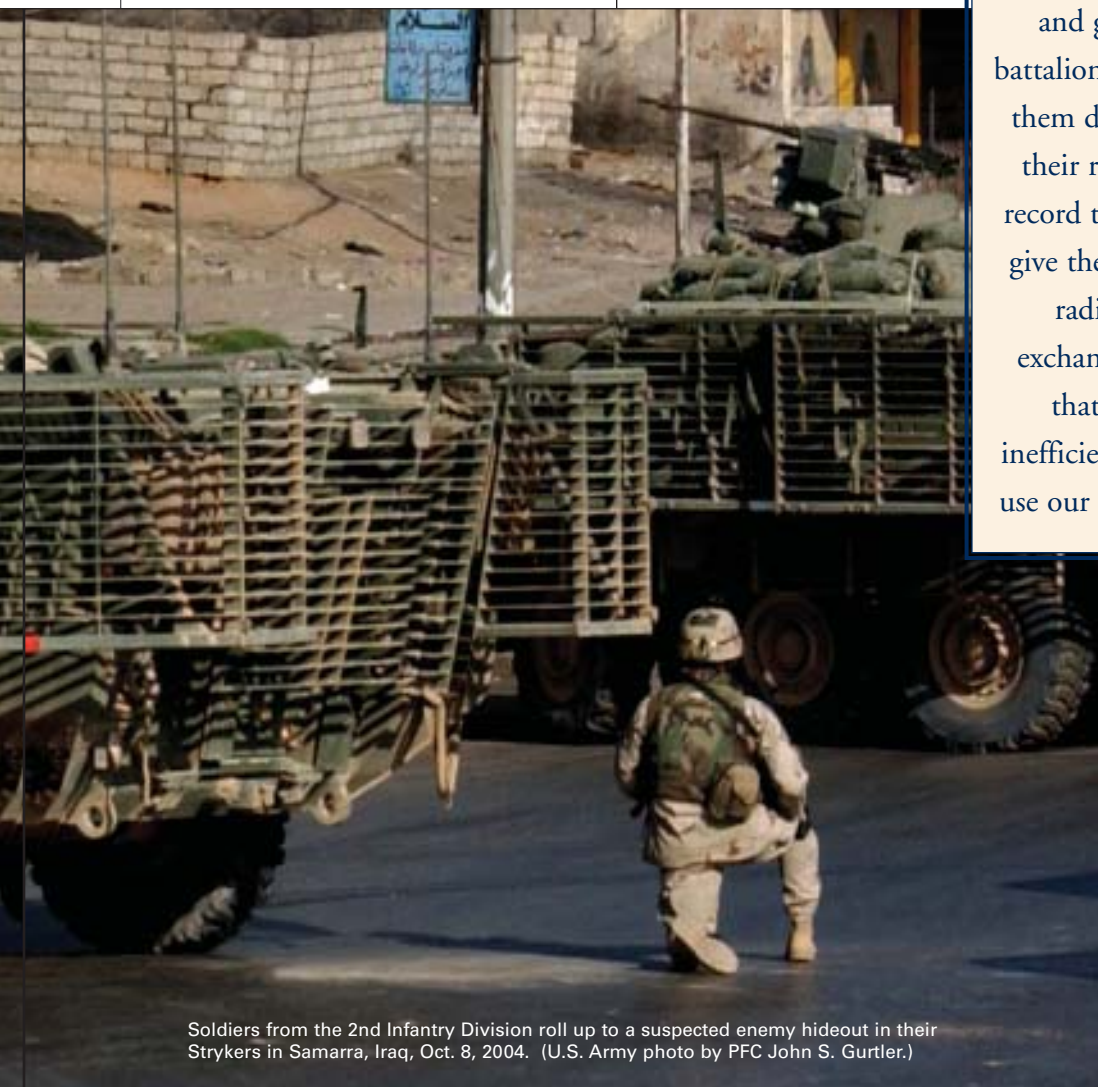
Soldiers from the 2nd Infantry Division roll up to a suspected enemy hideout in their Strykers in Samarra, Iraq, Oct. 8, 2004. (U.S. Army photo by PFC John S. Gurtler.)

good stuff. We've got too many other programs that we need to prioritize.

Q: How can we build systems that we can export to our foreign partners without extensive rebuild?

Y3: This is topical. On CNN this morning they talked about industrial espionage. They focused on the amount of capability that has been taken from our industrial sector and turned into weapons or capabilities that are now sold by certain countries on the open market that replicate us. So my answer to this question is, as we become more technologically advanced and the capabilities of our weapons systems begin to give us a significant capability that's above our potential adversaries, I just think we have to continue to go through the tough process of determining what technology we want to transfer and make sure we make the right call before we let it go. And I think that's a process we will continue to scrutinize as we continue to have a gap between what we can provide our Soldiers and what we want potential adversaries to have access to. It's a tough, tough balance because we would like to augment what we do with

foreign military sales. But I think the more complex you get, the tougher this becomes. People a lot smarter than me can go into the bowels of some type of technology and determine what the gold nugget is that we need to protect and if we can replace that gold nugget with a copper nugget and still give them a capability that they'll buy. That's where we are today and I don't think it's going to change.

Q: Please talk about COTS.

Y3: I hate the words "off the shelf." There are three levels, if you look at our description of commercial-off-the-shelf. One is truly locked down somewhere — you have the requirement in your hand and you tell us "paint it green and I'll take

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it; don't do a thing to it." I don't know if ever in my career I managed a program where we did that.

We had a 4,000-pound forklift that took us 3 years to develop because we had to make a troop interface. So it wasn't commercial. It was the type of COTS we normally do. We take an off-the-shelf design or product and modify it. The question is if the modification is so great that it's no longer considered "off the shelf" then you detract from the reason you want to buy off the shelf. Because if you can leverage the commercial sector, it's cheaper. But we have a tendency not to do that.

The area where I think there is potential is communications and electronics. As a consumer, if you want to

U.S. Army TSV-1X Spearhead docks at the Port of Djibouti, Africa. (U.S. Army photo by SSG Shannon Kluge, 835th Signal Co., Camp Lemonier, Djibouti.)

The Joint Venture (HSV-X1) (inset) pulls Special Boat Team 12's Naval Special Warfare Rigid Inflatable Boat from the water following amphibious operations in the U.S. Central Command's area of responsibility. (U.S. Navy photograph by PH2(AW) Michael J. Pusnik Jr. (Fleet Combat Camera Group).)

buy a digital camera, you walk into a store and you make a choice. If, 6 months later, a new gizmo comes out, you walk back into the store and you pick it out. That's a wonderful commercial model and it makes this economy churn. We don't have the ability to do that today with the way we do business and the way we get funded. And so, in that sector specifically, we have an opportunity to truly embrace COTS. However, we have to come up with a model by which we can do what you do as a consumer. That's going to take some additional trust and confidence in our ability to go down and pick off the shelf. The requirements and the users are going to have to say, "absolutely that is what we'll use today." But then we must have the capability to say, after 2 years and the technology is upgraded, I want to spend another dollar and I'm going to throw that original piece away.

We in the Army don't throw things away. We have trucks that are quite old because we can't afford to throw things away. COTS is not historically what we've done — true off the shelf. We have done modifications from 10 percent to 75 percent and we declare it's COTS. But it isn't. It doesn't give us what we really want COTS to do. I see an opportunity in the commercial world to leverage communications and electronics in a much better way. But we must have the

whole process, not just the acquisition part of it. Other pieces must change, such as enabling legislation to give us the flexibility we need to do it. It's a major challenge as far as I can tell. That doesn't mean we shouldn't find a way to leverage the explosion in capabilities that's coming in communications and electronics.

Q: Please talk about space.

Y3: I think we have to define our requirements; it goes to Joint interdependency. We must be Joint interdependent. We have to influence the requirements to drive what is up in space so that we can tap into it once it's there and understand it.

Here's what I worry about in terms of affordability. Those of you who went to Vietnam in 1970, we outfitted you with your basic gear, uniform, rifles and boots for $2,000. Putting you back in the field today costs us $25,000. Put additional gear on you, night sites, communications gear, etc., you're going to have a $100,000 man. And my contention is, eventually a million dollar man. Multiply that by our operations requirement of 840,000 soldiers and you have a huge affordability issue as we go into the future. I put nothing in the field that's cheaper than what I'm taking out. Nothing. Therefore, the challenge will continue to be, if the Nation wants this Army to be capable of full-spectrum operations

and all the other things that we know we can provide, our dollar requirements will continue to grow.

We can mitigate them, however, and the Army is the lead on this with Joint interdependency. I don't want to own it. I don't want to pay a penny to be part of it. I just want to take everything I can from it. I have to influence design and influence the requirements that are out there so that when I go to interface with it I have that capability. It's not a turf issue. We have to decide that we need to be interdependent upon our sister services. The only way we're going to afford it is to be the lead on this.
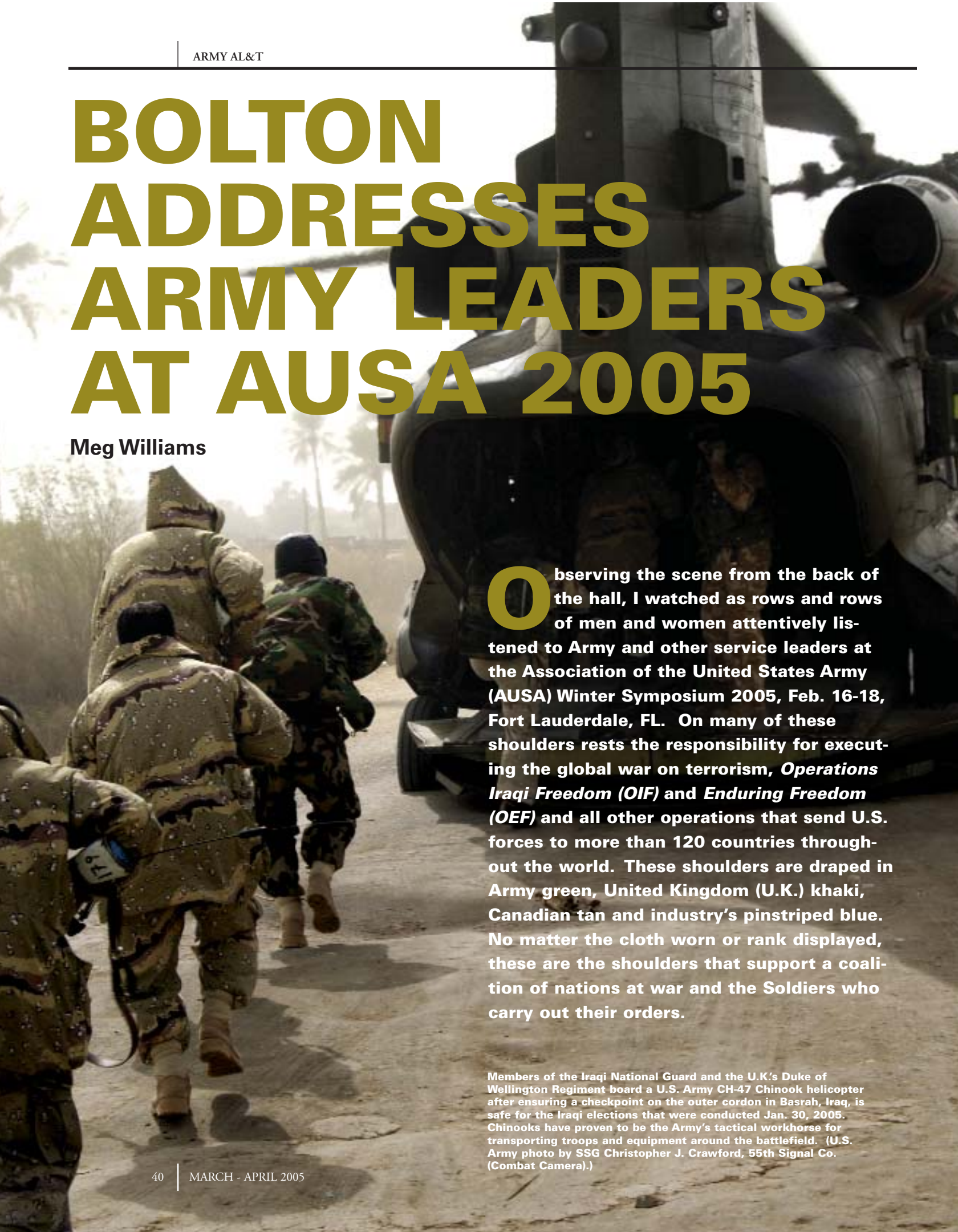
One example is that the Navy and the Army have requirements and dollars for high-speed vessels. We asked the Navy to share the development costs and that's what happened. There are other programs that are beginning to evolve the same way. Some people say if you don't own it, you can't influence it. That's old thinking. We need to grow a set of leaders who look across the battlespace and say, we cannot do it any way except interdependently if we're all going to be able to continue to improve our capabilities across the battlespace.

Space is something I want to influence and I want to use, but I don't want to put a penny into it because it takes away from where I need the dollars, which is on the ground supporting Soldiers.

MEG WILLIAMS is Web Editor for *Army AL&T* Magazine and provides contract support to the U.S. Army Acquisition Support Center through BRTRC's Technology Marketing Group. She has a B.A. in English from the University of Michigan and an M.S. in marketing communications from Johns Hopkins University.

> I see an opportunity in the commercial world to leverage communications and electronics in a much better way. But we must have the whole process, not just the acquisition part of it. Other pieces must change — some enabling legislation to give us the flexibility we need to do it. It's a major challenge as far as I can tell. That doesn't mean we shouldn't find a way to leverage the explosion in capabilities that's coming in communications and electronics.

BOLTON ADDRESSES ARMY LEADERS AT AUSA 2005

Meg Williams

Observing the scene from the back of the hall, I watched as rows and rows of men and women attentively listened to Army and other service leaders at the Association of the United States Army (AUSA) Winter Symposium 2005, Feb. 16-18, Fort Lauderdale, FL. On many of these shoulders rests the responsibility for executing the global war on terrorism, *Operations Iraqi Freedom (OIF)* and *Enduring Freedom (OEF)* and all other operations that send U.S. forces to more than 120 countries throughout the world. These shoulders are draped in Army green, United Kingdom (U.K.) khaki, Canadian tan and industry's pinstriped blue. No matter the cloth worn or rank displayed, these are the shoulders that support a coalition of nations at war and the Soldiers who carry out their orders.

Members of the Iraqi National Guard and the U.K.'s Duke of Wellington Regiment board a U.S. Army CH-47 Chinook helicopter after ensuring a checkpoint on the outer cordon in Basrah, Iraq, is safe for the Iraqi elections that were conducted Jan. 30, 2005. Chinooks have proven to be the Army's tactical workhorse for transporting troops and equipment around the battlefield. (U.S. Army photo by SSG Christopher J. Crawford, 55th Signal Co. (Combat Camera).)

On the symposium's first day, dedicated to talks about science and technology enablers for a Joint and Expeditionary Army, Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) Claude M. Bolton Jr., exhorted listeners to use the massive computing power between their ears to help Soldiers. He started his speech with his trademark piece of trivia, comparing the 4-pound human brain with its computational power of 10^{16} cycles per second using 15 watts of power to the 100,000-pound supercomputer, "BlueGene/L," used at Lawrence Livermore National Laboratory, University of California, Livermore, CA. Blue-Gene/L requires 2 megawatts to perform at a computational power of 10^{15} cycles per second. "Use your 15 watts wisely," advised Bolton, whose words were often quoted during the remainder of the symposium.

Technological Accomplishments

Bolton pointed out a litany of past technological accomplishments that helped the Allies win World War II — Higgins Boats, Bulldozers, Deuce and a Halfs, Jeeps, B-17s, Bazookas and C-47 Gooneybirds. He explained how they each helped sustain and protect U.S. and Allied forces, and then he turned to today's technological successes.
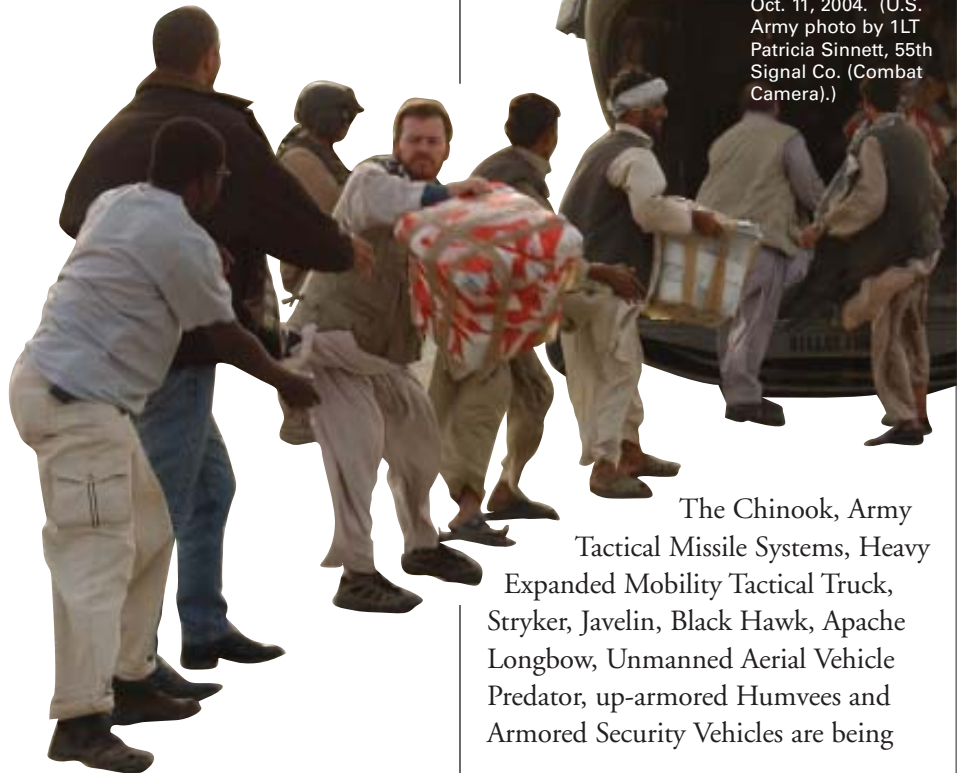
U.S. Soldiers, local Afghans and United Nations consultants unload ballots from Afghanistan's first presidential election from a 14th Aviation Regiment Chinook Helicopter at Bagram Air Field, Afghanistan, Oct. 11, 2004. (U.S. Army photo by 1LT Patricia Sinnett, 55th Signal Co. (Combat Camera).)

The Chinook, Army Tactical Missile Systems, Heavy Expanded Mobility Tactical Truck, Stryker, Javelin, Black Hawk, Apache Longbow, Unmanned Aerial Vehicle Predator, up-armored Humvees and Armored Security Vehicles are being

A Soldier from Company A, 1st Battalion, 24th Infantry Regiment, 1st Brigade, 25th Infantry Division (Stryker Brigade Combat Team), watches for insurgents while Soldiers in a Stryker roll down a road in eastern Mosul, Iraq, toward a newly discovered enemy weapons cache Feb. 7, 2005. (U.S. Army photo by SGT Jeremiah Johnson.)

used today and are tremendous success stories in their own rights. What's fascinating, Bolton said, is that the Stryker vehicle should have taken 10-15 years to produce. However, the vehicle and the brigade — the people — were put together in less than 4 years because of those 15 watts.

Bolton recently visited Fort Stewart, GA, speaking to the 3rd Infantry Division before they deployed back to Iraq for a second tour. He spoke to Soldiers who had been to Iraq for the first push. Three Soldiers in particular praised their new equipment, including new Advanced Combat Helmets, sights, elbow pads, knee pads and Interceptor Body Armor (IBA) vests — all examples of equipment made

> "People are central to everything we do," Bolton continued. "Institutions don't transform, people do. Platforms and organizations do not defend a nation, people do. Units do not train, they do not stand ready, they do not grow and develop leaders, they do not sacrifice and they do not take risk on behalf of a nation, people do."

possible by Program Executive Office Soldier's Rapid Fielding Initiative.

"They were very pleased with what they had," Bolton said. "We're making sure that every Soldier has this equipment."

IBA vests have been an important part of force protection. Three years ago, Bolton told his audience, there was a Soldier at AUSA who had served in Afghanistan and been hit by an AK-47 above his heart twice. "I was able to talk to him, his wife and his children because the SAPI [small arms protective insert] plate that he was holding had saved his life," Bolton explained. "This vest has saved many

lives. Someone thought about building that plate, producing that plate and giving that plate to the Soldier. They used their 15 watts worth of brain power to make that happen."

Bolton said he had spoken to the contractors responsible for building the SAPI plates and helping the Army surge production on the plates to provide force protection for the troops. "When we went into the war, we were producing 1,200 sets per month with about one and a half contractors," Bolton enumerated. "When the threat changed and the requirement went up, we asked industry for help. We went from 1,200 to 25,000 sets per month using 8 contractors, and we'll continue this pace until we have more than 840,000 sets of plates."

Keeping with the force protection theme, Bolton said that in October 2003, the Army considered its organic capabilities to produce up-armored Humvees. At that time, the Army was producing around 30 vehicles a month and the Army's entire inventory of up-armored Humvees was roughly 500 with half of those in the area of responsibility (AOR). Production

An Armored Security Vehicle assigned to the 527th Military Police Co. Geissen, Germany, maintains security in downtown Baghdad, May 19, 2003. (U.S. Army photo by SPC Daniel T. Dark, 55th Signal Co. (Combat Camera).)

Soldiers from the 2nd Infantry Division prepare to load an AGM-114 Hellfire missile onto an AH-64D Apache Longbow attack helicopter at Kunsan Air Base, South Korea. (DOD photo.)

done a superb job in meeting technological needs," said Bolton. "From enabling us to put the commander and ambassador in Iraq in a position to do the things they've been doing to allowing the Iraqi people to hold their election and put a Constitution together. You've done fantastic work spiraling the current technologies and getting the job done."

Future Challenges

While the Army's first priority is to meet Soldiers' needs today, Bolton asked his listeners to think about the future. "Someday, the shooting will stop," he said. "There's a tendency in our country and others, that when the shooting stops, things get very tight in terms of resources — people and money."

"History tells me, sooner or later we'll have to fight the next battle in the war on terrorism," Bolton continued. "I don't know where, I don't know when, I don't know who that will be. In the interim, how do we reduce our customers' (Soldiers') wait time? The wait time starts when the Soldier says, 'I want it' and lasts until the time the Soldier says 'I've got it.'"

capabilities have increased to our current capability of 450 per month — with plans to surge to 550 kits per month.

"Yesterday, GEN George W. Casey Jr., Commanding General of Multi-National Forces – Iraq, said no Soldier was to leave a protected compound without an armored vehicle," Bolton remarked. "That's because we've got more than 8,200 fully up-armored Humvees, 13,000 sets of kits on vehicles and 32,400 armored vehicles of all types in the AOR."

Also in October 2003, the Army requested add-on armor kits, so an old design was brushed up and within 10 days the first kits arrived in Balad. "To remind folks on the resource side, we received that request in October and I didn't get official money for that until December. A lot of my program managers were very 'happy' that I took money from them to take care of this effort," Bolton deadpanned.

Bolton mentioned a few of the Rapid Equipping Force's (REF's) well-known

successes, which he calls "tactical successes," since *OEF* began, including the well cam, language translators and the PackBot robot.

"All of you in the Army, along with our partners in defense and industry, have

A Sailor aboard the frigate USS Gary signals a U.S. Army UH-60A Black Hawk pilot to hover during a deck landing qualification off the coast of Chinhae, South Korea. The helicopter and crew are with the 52nd Aviation Regiment, 2nd Infantry Division. (DOD photo.)

A U.S. Soldier and civilian up-armor a vehicle in Kuwait. More than 6,000 factory-produced up-armored Humvees are in the U.S. Central Command area of operations, said BG Jeffrey Sorenson, Deputy for Acquisition and Systems Management. Of the other Humvees there, roughly 80 percent—or about 10,500—have been armored. The Army has surged production to 550 up-armored kits per month. (DOD photo.)

Bolton challenged everyone to think about the people who take care of Soldiers' needs, write requirements and take care of resources, acquisition, development, testing, fielding, distributing and training. "How can the Army reduce the time from request to delivery?" he asked. As for industry, the question becomes one of shortening the time to surge production. How does industry collapse weeks, months and years of planning and production to days, maybe weeks, and enact those plans to be ready the next time the Army deploys?

Funding constraints when the shooting stops become another challenge facing the Army. Bolton urged Army leaders not to be reluctant to take their case to Congress when the Army needs relief from current laws such as the *1933 Buy American Act*, which protects U.S. companies from foreign competition.

Bolton urged those present to think about what vulnerability a smart enemy will try to exploit in the future and work to devote resources to shoring up those vulnerabilities. "Use what's between your ears — your God-given talents — and those 15 watts to make that happen," he said.

"As we say in the Army, people are central to everything we do," he continued. "Institutions don't transform, people do. Platforms and organizations do not defend a nation, people do. Units do not train, they do not stand ready, they do not grow and develop leaders, they do not sacrifice and they do not take risk on behalf of a nation, people do.

"I don't know where we'll be 5 or 10 years from now in terms of fighting the war on terrorism but history tells me that victory will depend very heavily on technology, on our adaptability and on how we use what's between our ears to outdo another set of human beings who are trying to use their 15 watts to defeat us," he concluded.

Q and A for Bolton

Q: Talk to us about the budget and, especially, supplementals.
Bolton: U.S. Army Vice Chief of Staff GEN Richard A. Cody mentioned earlier that the core Army budget for FY06 is $98.6 billion, and the Army's portion of the $84 billion supplemental

appropriations request sent to Congress Feb. 14 for operations in Afghanistan and Iraq is $57.7 billion. If you look across the supplemental pie in terms of modularity, what we need is about $5-plus billion per year, with or without the war going on. As the Vice indicated, we're doing the modularity and we're going to continue doing that. The 3rd Infantry Division just went back to Iraq as a modular force. We're going to continue to do that in the Army because it's the right thing to do. It does require resources. We think we have it laid out in the supplemental budget to do that. We have asked the Office of the Secretary of Defense [OSD], the president and members of Congress that when the hostilities stop, we'd like to have 2 more years of supplementals before we put modularity in the core budget. We need to change the Army.

Q: Please comment on the need for sustainment of the research and development funding for FY 07-10 level of dollars and percent of budget.
Bolton: At OSD we like to keep that around 3 percent. Then there's a food fight — is that 3 percent real growth or 3 percent compounded over the years? We've tried to flatline that. We've fallen off a little bit because we're fighting a war and other things. We're leveraging technology from the other services and industry. For the Army, we're doing it very well. We're also trying to leverage industry. To give you an idea, about a week ago at Arizona State University in Tempe, AZ, we cut the ribbon on our flexible display operation out there. It's a collaboration between that university, industry and the Army to build flat panel displays. We're literally taking plastic, instead of glass, and making displays. We've been at this for about a year, we've got the facility, the equipment and

SPC Ruben Labarga, 82nd Engineer Battalion, fires a Javelin Anti-Armor missile at insurgent vehicles during *Operation Al Fajr* (New Dawn) in Fallujah, Iraq, Nov. 11, 2004. Javelin is one of many successful technologies helping Soldiers in *OIF*. (U.S. Army photo by SPC Brandi Marshall, 55th Signal Co. (Combat Camera).)

the staff. That 5-year program is now 2 years ahead of schedule after the first year. I expect a lot of things out of that, not only for the Army, but also for industry and that's where we start leveraging budgets.

Q: What are you most proud of on the acquisition side of your job, not including the Rapid Fielding Initiative?
Bolton: The people. I'm very, very pleased with the people I have working in the acquisition, logistics and technology (AL&T) field. They are world-class people. Without them, we couldn't do the things that we do. Whether it's the REF, rapid fielding, rapid equipping, Future Combat Systems, the Stryker, spirals — those folks are a godsend in more ways than one. When the Berlin Wall went down, I had 137,000 people in the acquisition workforce; I have 47,000 today. And the workload has gone up. I'm the smallest force of all the services just in terms of acquisition workforce on the military side. I've got 1,400 military types, my colleagues in the Navy have 4,000, my colleagues in the Air Force have 8,000 on the uniformed side. And I don't say that to browbeat anybody.

I am very, very pleased with this force putting together what we're doing on Life Cycle Management Commands — no one else is doing that. My office symbol is AL&T — no one else in DOD has that symbol, so from a policy level, you can track that and really put it in perspective. Great people. And great people like Joe Yakovac [Military Deputy to the ASAALT] and Dean Popps [Principal Deputy, ASAALT] who work diligently to keep me out of trouble — I can't ask for more.

MEG WILLIAMS is Web Editor for *Army AL&T* Magazine and provides contract support to the U.S. Army Acquisition Support Center through BRTRC's Technology Marketing Group. She has a B.A. in English from the University of Michigan and an M.S. in marketing communications from Johns Hopkins University.

Building Core Capabilities Through Acquisition, Logistics and Technology (ALT) Enterprise Integration

MAJ Joy N. Kollhoff

The Army acquisition community must change the way it projects ALT support to the operational force to better meet the demands of a modular Joint and Expeditionary Army. The risk of operating in an ad hoc fashion to cover all requirements has become too great, and the operating tempo requires that the workforce deliberately plan ALT capabilities, manage critical resources and synchronize the ALT functions to best support combatant commanders' and Soldiers' requirements in the field.

Sailors maneuver supplies across the USS Kitty Hawk's (CV63) flight deck during a vertical replenishment operation March 12, 2005. Replenishment at sea involves on/offloading fuel and stores while ships are underway. Currently operating in the 7th Fleet area of responsibility, Kitty Hawk demonstrates power projection to support Joint and Expeditionary operations as the world's only forward-deployed aircraft carrier. (U.S. Navy photo by PH3 Jason T. Poplin, USS Kitty Hawk.)

To this end, Army Chief of Staff (CSA) GEN Peter J. Schoomaker and Army Vice Chief of Staff GEN Richard A. Cody issued specific guidance as follows:

- Create a modular brigade-based Army that is more responsive to regional combatant commanders' needs, better employs Joint capabilities, facilitates force packaging and rapid deployment and fights as self-contained units in nonlinear, noncontiguous battlespaces.
- Develop an Army structure that is responsive to the needs of a Joint and Expeditionary campaign-quality Army.
- Eliminate redundancy and streamline support by reducing unnecessary layers.
- Design a capability that leverages emerging technologies, links support to supported organizations and the Army to Joint organizations — from CONUS to areas of responsibility (AORs) and within an AOR.
- Develop a transition plan for the ALT contingency contracting concept of support (CoS) that effectively "turns off the pipe" of 51Cs to

Battlefield tactical resupply and equipment sustainment will continue to be a challenge for a modular Joint and Expeditionary Army. (U.S. Army photo.)

brigade combat teams, support and sustainment brigades.
- Develop an ALT single node to the warfighter to line sustainment up with January 2005 modularity decisions and stand up with the first Army Unit of Employment(y) (UEy) — "put flesh on bones."
- Create central coordination for the Rapid Equipping Force (REF) and plug in for Asymmetric Warfare Regiment.

The ALT Concept of Support and Organizational Design represent a profound shift in the way the Army takes its capabilities and supporting functions to war. Instead of multiple stovepipes for ALT, the Army will now have one single node — under the regional Theater Sustainment Command's (TSC's) operational control — to orchestrate, plan and execute ALT capabilities as depicted in Figure 1. The concept includes two Table of

Figure 1. Theater Sustainment Command

Design Criteria

- **Provide end-to-end capability for supporting Army, Joint, interagency and multimedia forces**
- **Plan, control and synchronize Combat Service Support for the UEy or Joint force commander**
- **Provide single logistics C2 element in theater and proponent for distribution, supply and maintenance services and life support**
- **Provide regionally focused – multifunctional and functional headquarters – worldwide capable**
- **AMC-AFSB, SDDC, DLA, DCMA, USACE, contractors and other agencies participation is integrated as part of the sustainment mission**
- **Coordinate inter- and conduct intra-theater logistics**
- **Capable of fielding three deployable command posts (DCPs)**
- **Provide critical logistics C2 – deploy, employ, redeploy – simultaneously – full spectrum operations**

Fin Mgt Ctr - Financial Management Center
HRSC - Human Resources Support Center
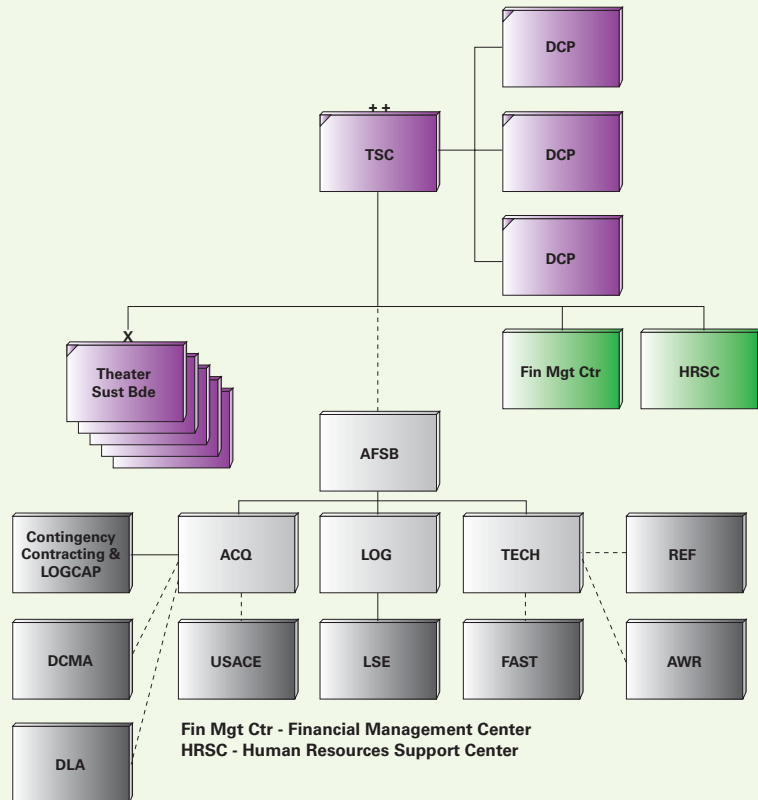
Organization and Equipment (TO&E) ALT structures: the Acquisition Field Support Brigade (AFSB), as depicted in Figure 2, and the contingency contracting capability. These structures are made part of the U.S. Army Materiel Command's (AMC's) Army Field Support Command (AFSC).

Fully modular, tailorable and scalable to meet the full range of operations, the AFSB is a fully Joint-capable force multiplier for the senior logistician in theater and, ultimately, the supported theater combatant commander. There is to be one AFSB per UEy/TSC, placing a single face for ALT in every region of the world.

The AFSB's main features and benefits include:

- A single face to the warfighter for all ALT functions captured in one ALT capability.
- Common command and control (C2) for ALT functions formed under the ALT capability.
- Synchronization, visibility and accountability of ALT functions under common battle picture.
- Synchronization with overall logistics on the battlefield.

- Synergy among contracting functions in theater.
- Multicomponent solutions.
- Visibility and accountability of U.S. contractors on the battlefield.
- Expansion of the existing AMC-Forward and Logistics Support Element (LSE) missions to fully realize the intended integration of ALT functions on behalf of the combatant commander.

Defining New ALT Capabilities

In February 2004, Army Acquisition Executive Claude M. Bolton Jr. and Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) LTG Joseph L. Yakovac Jr. released the Army Acquisition Corps (AAC) White Paper *The Future Force Acquisition Corps*, which promulgates the vision of an AAC that is organized to be a strategic, operational and tactical force multiplier for combatant commanders. The acquisition community chartered its own transformation campaign and formed a leading coalition called the AAC Transformation Team. The team's strategic goal was to align the AAC with the Army Campaign Plan. Three strategic

objectives were identified in the AAC Transformation Campaign launched by Yakovac in April 2004:

- Build an Army ALT core capability, in concert with our strategic partners.
- Grow flexible and well-rounded leaders prepared to lead any organization, agency or team within the ALT enterprise.
- Build, maintain and sustain an expert, relevant and ready workforce.

Right on the heels of launching the AAC Transformation Campaign, the Army released initial modularity decisions that included contingency contracting elements for the AAC. Yakovac immediately formalized a community team to engage and be part of this massive Army reset. Most important to this initiative was creating a capability that included both Army core functions and strategic partner functions. From this concept, the Future Force Acquisition Corps (FFAC) Design Team was born.

The AAC, which until this time had operated only as a supporting functional area, had no schoolhouse or combat developers. The team was

Figure 2. Acquisition Field Support Brigade
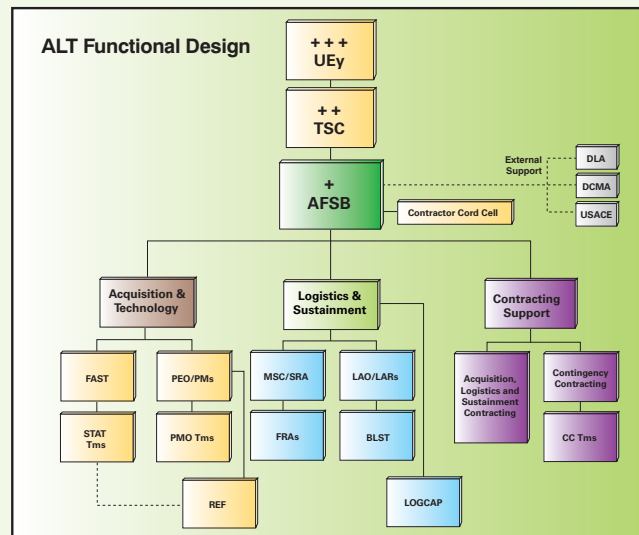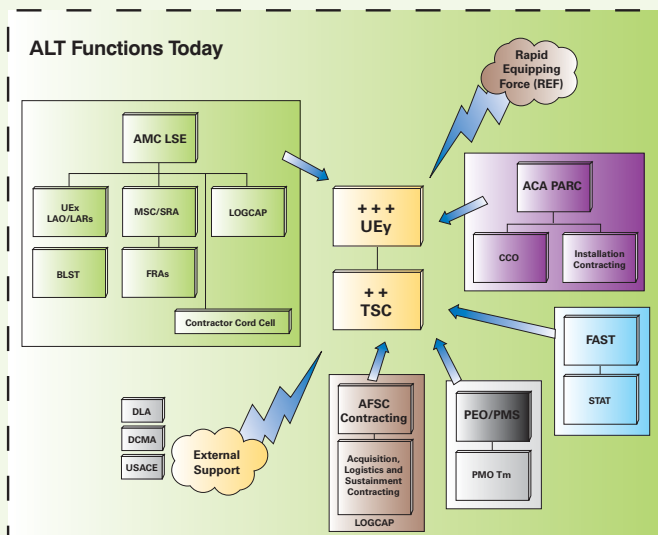
built from subject matter experts from across the AAC community and its strategic partners, including: AMC, U.S. Army Corps of Engineers (USACE), Defense Logistics Agency (DLA), Defense Contract Management Agency (DCMA), Army Test and Evaluation Command, G-1, G-4, G-6, G-8, U.S. Army Acquisition Support Center (ASC), Army Contracting Agency, program executive offices and ASAALT. The team was required to engage with Task Force (TF) Modularity only 2 weeks after standing up. An initial CoS and design was constructed and approved by senior acquisition leaders to engage. Yakovac directed that "if it is better than what we have today, then engage. Get us to the table."

Engage we did. U.S. Army South Commander/Principal Assistant Responsible for Contracting COL Anthony Bell, 18th Airborne Corps Contracting Commander LTC Robert Schumitz and DCMA Huntsville Commander COL Gary Bliss carried the seed of a concept to TF Modularity.

The FFAC Design Team continued to engage every modularity event hosted by TF Modularity and TF Logistics over the summer 2004.

Integrating Concepts From Across the ALT Community

By late July 2004, the team had uncovered many ALT community modularity concepts working in parallel, and it became evident that the community should link arms and integrate ALT functions into one CoS and organizational design. The FFAC Design Team's charter was revised and the team was renamed the ALT Enterprise Design Team, under dual signature of senior sponsors LTG Richard A. Hack, AMC Deputy Commanding General for Operations and Readiness, and Yakovac. It was the first team of its kind fielded by ASAALT and AMC. The charter committed to building concepts of support and organizational design that would present a "single face to the warfighter" under common C2. The ASAALT/

Right on the heels of launching the AAC Transformation Campaign, the Army released initial modularity decisions that included contingency contracting elements for the AAC.

AMC community integrated process team, which included all strategic partners as well, began fleshing out the CoS.

Meanwhile, our work to integrate our initial concept with the Combined Arms Support Command (CASCOM) TSC CoS became fully enforced. MG Ann Dunwoody, CASCOM Commander, accepted the ALT CoS within the TSC CoS and, in late September 2004, Schoomaker saw the ALT big box under development on the Army modularity charts. The CSA immediately challenged our collective community to put flesh on bones to the concept, putting a 60-day window on the effort to line the CoS and organizational design with Army modularity and Army Campaign Plan timelines. The primary goal was to align the ALT capability with the first Army UEy forecasted for 2005.

TF ALT — Historic Integrated AMC/ASAALT Full-Time Design Effort

Yakovac and Hack chartered a full-time task force to flesh out the concept and build the new ALT capability. TF ALT, an offshoot of the ALT Enterprise Design Team, stood up Nov. 1, 2004, with Gregory Kee, AMC Deputy G-3 Futures, and COL Genaro J. Dellarocco, ASC Director, as its official co-leads. The Defense Acquisition University (DAU) graciously and seamlessly set up a think tank on the DAU campus at Fort Belvoir, VA. TF ALT spent long hours over the following 6 weeks putting together a full Force Design Update (FDU) package. An FDU consists of
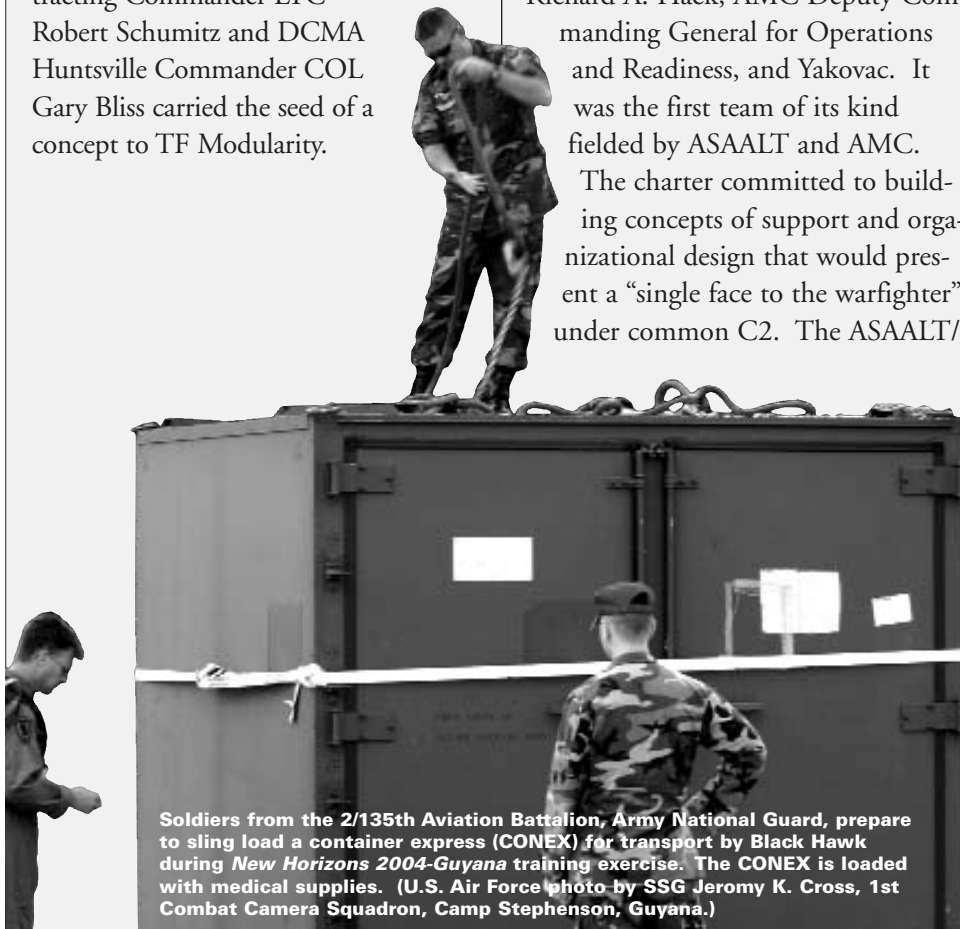
Soldiers from the 2/135th Aviation Battalion, Army National Guard, prepare to sling load a container express (CONEX) for transport by Black Hawk during *New Horizons 2004-Guyana* training exercise. The CONEX is loaded with medical supplies. (U.S. Air Force photo by SSG Jeromy K. Cross, 1st Combat Camera Squadron, Camp Stephenson, Guyana.)

a detailed operational and organizational CoS and organizational design, design briefings, unit reference sheets, horse blankets (summary snapshots) and backup analysis. At the conclusion of the team's efforts, a 300-plus page report was submitted to the U.S. Army Training and Doctrine Command's (TRADOC's) Combined Arms Center at Fort Leavenworth, KS.

As part of the ALT CoS and organizational design handoff to CASCOM, in a shared correspondence dated Dec. 10, 2004, Hack and Yakovac stated that the report's "contents represent a profound shift of our community, taking it from the generating force to the operational force. This offers a modular and expeditionary concept for ALT in support of the full range of military operations. The ALT concept of support and organizational design has our full backing and commitment, as do the

> The next few years will be dedicated to building the ALT capability and securing its strategic, operational and tactical links with the rest of Army and Joint capabilities in support of winning our Nation's battles.

Current and Future Force development tasks to make this a reality."

Dunwoody accepted proponency sponsorship of the new ALT Capability CoS and Organizational Design, stating in her transmittal letter to TRADOC dated Dec. 10, 2004, "the significance of where this proposal takes the full end-to-end logistics enterprise is profound. The generating force proposes an operational spear that shall project ALT force multipliers in support of our Nation's battles in a modular and expeditionary fashion. The proposal to take this operational ALT spear into the TO&E realm has my full backing and support as AMC becomes part of the operational force."

On Dec. 10, 2004, Bolton and GEN Benjamin S. Griffin, AMC Commanding General, officially approved the new operational concept for the Army ALT capability.

Now that the ALT CoS and Organizational Design are launched in the Army field staffing process, there is still much to do. The next few years will be dedicated to building the ALT capability and securing its strategic, operational and tactical links with the rest of Army and Joint capabilities in support of winning our Nation's battles. What started out as an idea of something we should do has become, through community vetting, discussion and true reinvention and cooperation, a modular and expeditionary capability that guarantees our Soldiers are supported with the best materiel, systems and service solutions at the right time and place, ensuring our dominance in every situation along the full spectrum of operations.

Parachute rigger SPC Charles An, 524th Logistics Task Force, packs an A-22 Container Delivery System bundle filled with humanitarian supplies for airdrop into remote forward operating areas in Afghanistan Feb. 20, 2005. (U.S. Air Force photo by TSGT Scott T. Sturkol.)

MAJ JOY N. KOLLHOFF is the TF ALT G-3 Project Lead for AAC Transformation, and serves as a proponency officer assigned to ASC, Fort Belvoir, VA. She holds a B.A. in English from Old Dominion University and an M.S. in business management from the Florida Institute of Technology. She is also a graduate of the U.S. Army Command and General Staff College. Kollhoff is an AAC member who is Level III certified in contracting. She is currently pursuing Level III certification in program management.

24th Army Science Conference Features Transformational S&T for the Current and Future Force

Dr. John A. Parmentola and Gene B. Wiehagen

The theme for the 24th Army Science Conference (ASC), *Transformational Science and Technology for the Current and Future Force*, highlighted the critical role of science and technology (S&T) in enabling Army transformation and helping to win the global war on terrorism. Held Nov. 29-Dec. 2, 2004, in Orlando, FL, the conference brought S&T professionals from industry, academia, the Army and other government organizations together to discuss the latest developments and emerging technologies and their impact on the Current and Future Force. This year's event was the first to accept papers and presentations from allied and coalition partners. More than 1,600 people from 30 different nations attended the conference.

LTG Joseph L. Yakovac Jr., Military Deputy/Director, Army Acquisition Corps, Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology, emphasizes a point in his keynote address on Light Combat System Survivability. All photos accompanying this article are by Larry Shank, Army Research Laboratory.

Professor Neil A. Gershenfeld (Director, Center for Bits and Atoms, Massachusetts Institute of Technology) emphasizes points during his presentation on his new approach to deriving communication protocols for complex networks.

Seventy-five individual booths and numerous current warfighting systems covering the full spectrum of Army capabilities were on display. Through these displays, visitors were able to experience transformation via demonstrations from Force Protection, Logistics, Training and Simulation and Commander Centric Warfare programs. Products of these programs — such as medical innovations, Humvee armor kits and the Stryker Battle Command on the Move prototype — are making a significant difference for our Soldiers in Iraq. High-performance computing, immersive technology, nanotechnology and biotechnology initiatives were also displayed.

Keynote Speakers

A conference highlight was Acting Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) Michael W. Wynne's keynote address, which described DOD's goals for

AT&L — acquisition excellence with integrity; an integrated and efficient logistics program; systems integration and engineering for mission success; achieving technology dominance; rationalization of resources; a strengthening of our industrial base; and the creation of a motivated and agile workforce. Wynne cautioned that "we must work together and create true interoperability among our own services and with our coalition partners as well … the single most vital warfighting technology for our military transformation is a true Joint battlespace management architecture."

Army Vice Chief of Staff GEN Richard A. Cody stressed that the Army's overarching goal is to remain relevant and ready across the range of military operations. He further reminded us that Soldiers remain the centerpiece of our units, and that they are the most effective, flexible and adaptable asset we possess — the Army's best sensor, the face of the United States overseas and a reflection of our Army Values. Conference host and Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) Claude M. Bolton Jr. described how the S&T and acquisition communities are spiraling capabilities directly from the technology base to the Current Force to put available technologies and capabilities into Soldiers' hands now. He stated that "by

Professor Lui Pao Chuen, Chief Defence Scientist, Singapore Ministry of Defence, emphasizes the need to recruit and retain the best and brightest technologists for the future.

2014 … the better part of the Army [will] have at least some portion of what the Future Combat Systems (FCS) will have and one entire Unit of Action will have all the technology." Dean Popps, Principal Deputy ASAALT, provided an update on rebuilding and construction activities in Iraq, from where he had recently returned.

Other Presentations

Mike Markin, Officer of the Order of the British Empire and United Kingdom (U.K.) Ministry of Defence S&T Director, provided an international perspective for conference attendees. He discussed the contributions of S&T to the current operations in Iraq and Afghanistan, the U.K.'s migration to a "network-enabled capability" and his desire to achieve transformation and coalition interoperability through international research and technology alliances.

Jim Albaugh, President and Chief Executive Officer (CEO), Boeing Integrated Defense Systems, noted that the "capability requirements desired by leaders from Alexander to Patton have not changed and are still the objectives of technological improvements. These requirements are superior speed and mobility, situational awareness, integrated command and control." He stated that the FCS program has already transformed the way industry meets warfighters' needs and pointed out that the Lead Systems Integrator concept is a style that focuses on

LTC Chessley Atchison demonstrates the Chitosan dressing to LTG Claude V. Christianson, Deputy Chief of Staff, G-4, U.S. Army, and Jill H. Smith, Director of the Weapons and Materials Research Directorate, U.S. Army Research Laboratory.

optimization at the systems level versus the platform level, and demands the best industry solutions and innovations from around the world.

The first day's speeches concluded with Deputy Assistant Secretary of the Army for Research and Technology/Chief Scientist Dr. Thomas H. Killion's presentation on creating future S&T for Soldiers and Kurzweil Technologies Inc. founder and CEO Ray Kurzweil's extraordinary vision of the future out to 2050, which he sees being dominated by paradigm shifts resulting from developments in genetics, nanotechnology and robotics. He predicted that the human brain would be reverse engineered by 2029 and that silicon-based computing would reach levels equivalent to all human brains on the planet by 2050.

Second Day's Events

The second day focused on Network Centric Warfare and the enabling technologies. Edward M. Siomacco, Director of Technology, Office of the Army Chief Information Officer, G-6, opened the day addressing the need for streamlined network-enabled modular organizations linked to Home Station Operations Centers to minimize forward footprints. These organizations would be capable of commanding or supporting Joint and multinational, as well as Army, forces. He explained how today's Web has changed the way we do business but that information is difficult to find, stovepiped, perishable and hard to transform into actionable knowledge. A Semantic Web that is intelligent, interoperable and has enduring information would improve data discovery and enable enterprise integration, network-centric warfare and much more advanced knowledge management. He also presented a vision for LandWarNet, described as the Army's contribution to the Global Information Grid, that enables integrated

Nobel laureate Dr. Alan J. Heeger, University of California, Santa Barbara, speaks on risk and innovation in science.

applications, services and network transport across the warfighting and operational support domains.

A panel discussion on commander-centric warfare followed Siomacco's presentation. Panel chair BG Phillip Coker, U.S. Army Training and Doctrine Command (TRADOC) Futures Center, stated that the goal of commander-centric warfare is to provide a common vision of the commander's intent, assured communications under all conditions, a robust information network to ensure the transport of critical information, the ability to conduct operations at all levels and enhanced situational awareness that leads to actionable situational understanding.

The next panel focused on network science and emphasized the criticality

of internetted command, control, communications, computers, intelligence, surveillance and reconnaissance to FCS. The panel recommended that the Army substantially increase research aimed at integrating control, computer science, communications and networking, and move toward enterprise-level systems while exploring more high-risk, long-range applications of control to areas such as nanotechnology, quantum mechanics, electromagnetics, biology and environmental science. They also recommended investing in new approaches to education and outreach for the dissemination of control concepts and tools to nontraditional audiences.

Lui Pao Chuen, Chief Defence Scientist, Singapore Ministry of Defence, was the luncheon speaker. He emphasized the need to prepare both warriors and engineers for the future force and described Singapore's strategy for attracting and retaining the best and brightest college graduates for military and civil service. He articulated a thought-provoking simile to characterize future network-centric warfighting: Rather than think of a brigade as a symphony orchestra with a conductor

CPT Ben Johnson, TARDEC, operates the crew automation testbed for BG(P) Roger Nadeau, Commanding General, U.S. Army Research, Development and Engineering Command, and BG Peter Holt, Department of National Defence Canada. This is a joint U.S.-Canada collaborative experiment looking at interoperability issues.

Dr. Thomas H. Killion, Deputy Assistant Secretary for Research and Technology/Chief Scientist, gains appreciation for the rapid prototype updates for Stryker Battle Command on the Move from John Schmitz.

to lead it, think of a brigade as a small jazz combo that rapidly improvises and adjusts in real time to battlefield situations.

Third Day's Events

LTG Joseph Yakovac Jr., ASAALT Military Deputy and Army Acquisition Corps Director, started the third day by addressing the challenges in achieving survivability for light-combat systems and how this requires a radical change in our approach to survivability. He focused on the enormous complexity of FCS and the need to integrate the numerous component parts from the Army's diverse materiel development community to fulfill FCS requirements. He also emphasized that the Army isn't currently configured to do this in a consistent and efficient manner.

A force protection panel discussed current research aimed at preventing or mitigating hostile actions against Army personnel, resources, facilities and critical information. COL Brian Lukey, Army Medical Research and Materiel Command, emphasized that solutions to problems must not increase health risks, not even long-term risks, and their goal is to consider the Soldier's health throughout the entire cycle from recruitment through retirement.

A logistics panel provided an overview of the complex logistics operations that support *Operation Iraqi Freedom*, including lessons learned. What the logisticians need from the S&T community are new technologies that provide better visibility of requirements and a common view of the battlefield, enable rapid and precise responses, reduce consumption, increase force protection and improve maintainability.

Luncheon speaker COL(P) Mark Graham, Deputy Commanding General, U.S. Army Field Artillery Center and Assistant Commandant, U.S. Army Field Artillery School, Fort Sill, OK, spoke of the Institute of Creative Technologies' (ICT's) Joint Fires and Effects Training System prototype. He emphasized the important role this state-of-the-art mixed reality environment — which incorporates virtual humans, gaming technology and adaptive opponents — plays in the future training of Soldiers.

Graham's speech set the tone for the training and simulation panel, which focused on the need for a virtual environment that supports training, planning and mission rehearsals. The virtual environment would make Soldiers feel like they were in combat situations, and would include an asymmetric combat environment. Teammate and adversary human behavior representation, adequate fidelity/immersion of subjects, rapid terrain/scenario generation and the ability of intelligent tutoring systems to make dynamic assessments and provide automated feedback and remediation are significant challenges in making such a tool truly effective and useful.

Final Day's Events

On the conference's final day, Neil Gershenfeld, Director of the Center for Bits and Atoms, Massachusetts Institute of Technology, gave a presentation on a new approach to deriving communication protocols for complex networks. He discussed his laboratory's studies on fundamental mechanisms for manipulating information and how he and his colleagues integrate these ideas into everyday objects such as furniture and automobile safety systems. He showed how they collaborate with partners to apply the same techniques in systems as disparate as a computerized cello for Yo-Yo Ma and a wireless radio network for nomadic Arctic herders to track reindeer.

Two panels addressing miniaturization and complexity followed Gershenfeld's presentation. The miniaturization panel provided evidence pointing to the end of Moore's Law — the observation that data density doubles every 18 months — within the next 15 years and discussed the implications to Army systems that depend on superior computers. Post-Moore's Law technologies include molecular electronics, biologically inspired computing and quantum computing. The presentation's key points were that processor ubiquity is the basis of the digitized battlefield, and technologies based on processing superiority must be questioned if everyone has the same processors. Furthermore, we have to use our resources more smartly and efficiently while recognizing threats to information security.

The complexity panel addressed questions regarding the science of complexity

and how it might eventually replace the separate disciplines of biology, chemistry, economics, physics and sociology. They cited previous statements from other panels and keynoters as examples of complexity. These included modularity; the Semantic Web; a large number of interconnected network systems; highly constrained, uncertain, large-scale, nonlinear, multiscale networks; and the lack of mathematical formalism, particularly for wireless networks.

The speaker for the awards luncheon was Dr. Alan Heeger, Nobel laureate, University of California at Santa Barbara. He gave an entertaining and personal talk on risk and innovation in science, describing how winning the Nobel Prize in Chemistry has affected his life and influenced both his and his colleagues' work. He cautioned that doing good science requires both good taste and good judgment in evaluating risk versus reward. This perfectly prefaced the 2003 and 2004 Research and Development Achievement Awards, in which more than 200 winners were recognized for their Army S&T work at the 24th ASC Awards Banquet.

Best Paper Awards

Killion presented the 24th ASC Best Paper Awards to the authors of 15 outstanding technical papers, selected for original subject matter, logical organization, clarity and conciseness, technical merit and significance to the Army.

Scientific peers deemed three papers as representing the highest quality research presented at the conference. Authors of two of these papers received bronze medallions, while the authors of the paper judged the overall best in Army research received the Paul A. Siple Memorial Award.

The winners of the 24th ASC Paul A. Siple Memorial Award were Laszio J. Kecskes, Brian T. Edwards and Robert H. Woodman from the Weapons and Materials Technology Directorate, U.S. Army Research Laboratory (ARL), Aberdeen Proving Ground, MD, for their paper titled *Hafnium-Based Bulk Metallic Glasses for Kinetic Energy Penetrators*.

The first bronze medallion was awarded to Dr. Gordon R. Johnson, Dr. Stephen R. Beissel, Dr. Charles A. Gerlach, Dr. Robert A. Stryk, Dr. Andrew A. Johnson and Timothy J. Holmquist, Network Computing Services Inc., for their paper *Advanced Computations for Ballistics Impact Problems*.

The second bronze medallion went to Dr. Richard K. Gordon, Dr. Julian R. Haigh, Dr. Gregory E. Garcia, Dr. Shawn R. Feaster, Dr. Bhupendra P. Doctor from the Walter Reed Army Institute of Research; COL Michael A. Riel from the Uniformed Services University Health Services; CPT Lee J. Lefkowitz from the U.S. Army Center for Health Promotion and Preventative Medicine; Dr. David E. Lenz from the U.S. Army Medical Research Institute of Chemical Defense; Dr. Paul S. Aisen from Georgetown University; and Dr. Wilson Smart from Kumetrix Inc., for their paper titled *Whole Blood Robotic Cholinesterase Assay for Organophosphate Exposure — Testing Soldiers, First Responders, and Civilians in the Field and Laboratory*.

The other 12 papers selected were:

Dr. Heesung Kwon and Dr. Nasser Nasrabadi, ARL, for their paper *Kernel-Based Anomaly Detection in Hyperspectral Imagery*.

Jeff Hoppe, Daniel Duvak and George Palafox, U.S. Army Communications-Electronics Command Research, Development and Engineering Center, for their paper *Antenna Optimization Study on Stryker Vehicle Using FDTD Techniques*.

Dr. Kevin Massey, Dr. Jim McMichael, Tyler Warnock and Frank Hay, Georgia Institute of Technology, for their paper *Design and Wind Tunnel Testing of Guidance Pins for Supersonic Projectiles*.

Dr. Nicolas Vandapel and Martial Hebert, Carnegie Mellon University, for their paper *Finding Organized Structures in 3-D LADAR Data*.

Edward F. O'Neil, Toney Cummins, Bartley Durst, Pamela Kinnebrew, R. Nicholas Boone and Ricardo Torres for their paper *Development of Very-high-strength and High Performance Concrete Materials for Improvement of Barriers Against Blast and Projective Penetration*.

Dr. Peter Shih, John Tasdemir and Dr. Walter Bryzik, U.S. Army Tank-Automotive Research, Development and Engineering Center, for their paper *Determination of Laminar Flame Speed*

Weston Moyers from the U.S. Army Communications-Electronics Research, Development and Engineering Center Command and Control Directorate (left) explains the principle behind the hand-held generator to Dean G. Popps, Principal Deputy ASAALT.

Dom Pickard from the DOD Combat Feeding Directorate explains the operation of the Field-Feeding and Advanced Sustainment Technology Food Service equipment to LTG Claude V. Christianson, Deputy Chief of Staff, G-4.

of Diesel Fuel for Use in a Turbulent Flame Spread Premixed Combustion Model.

Jarrell Pair, Dr. Anton Treskunov and Dr. William Swarthout, University of Southern California's ICT, for their paper *The Flatworld Simulation Control Architecture (FSCA): A Framework for Scalable Immersive Visualization Systems.*

Dr. Gary Kamimori, Dagny Johnson, COL Gregory Belenky, Walter Reed Army Institute of Technology; and Dr. Tom McLellan and Doug Bell, Defence Research and Development, Canada, for their paper *Caffeinated Gum Maintains Vigilance, Marksmanship, and PVT Performance During a 55 Hour Field Trial.*

Dr. Rasha Hammamieh and Dr. Marti Jett, Walter Reed Army Institute of Research, for their paper *Global Gene Expression Analysis to Unambiguously Identify Host Gene Responses Characteristic of Exposure to Biothreat Agents.*

Dr. Arjan Giaya, Apoorva Shah, Dr. Bryan Koene and Erin McLaughlin, Triton Systems Inc.; and Kristian Donahue and Jean Hampel, U.S. Army Natick Soldier Center, for their paper *Nanocomposite Barrier Fabric for Chemical and Biological Agent Resistant Tent.*

Dr. Weimin Zhou, Dr. Steven Weiss and Dr. Christian Fazi, ARL, for their paper *Developing RF-Photonics Components for the Army's Future Combat Systems.*

Dr. J. Michael Cathcart, Dr. Robert D. Bock and Richard Campbell, Georgia Institute of Technology, for their paper *Analysis of Soil and Environmental Processes on Hyperspectral Infrared Signature of Landmines.*

Dr. John A. Parmentola, the 24th ASC Master of Ceremonies, concluded the event by quoting well-known medical doctor and researcher, Dr. Lewis Thomas: "We need reminding, now more then ever, that the capacity of medicine to deal with infectious disease was not a lucky fluke, nor was it something that happened simply as a result of the passage of time. It was the direct outcome of many years of hard work, done by imaginative and skilled scientists, none of whom had the faintest idea that penicillin and streptomycin lay somewhere in the decades ahead. It was basic science of a very high order, storing up a great mass of interesting knowledge for its own sake, creating, so to speak, a bank of information, ready for drawing on when the time for intelligent use arrived."

Remarks from conference attendees indicated an overwhelming consensus that the 24th ASC was the best ever. It enabled the Army to showcase major research, technologies and systems relevant to the Current and Future Force and its efforts to win the global war on terrorism. In addition to including our international and coalition partners, this year's conference also included several Junior Science and Humanities Symposium winners, who presented their papers in appropriate technical sessions, and recognized a group of eCybermission students in the opening ceremonies. It is hoped that exposing

CAPT Angus Rupert, MC, USN, (left), explains the Tactical Situation Awareness System to Dean G. Popps, Principal Deputy Assistant Secretary of the Army for Acquisition, Logistics and Technology.

these young adults to the Army's needs and technical challenges will motivate them to continue their pursuits in science, mathematics and engineering.

The venue, luncheons, banquets and entertainment provided by the U.S. Army Field Band, 389th Army Band, Army Chorale and the Army Old Guard were all outstanding. The special efforts of the Army's S&T community and the support provided by the Army Materiel Command, ARL, Army Research Institute, TRADOC, Army Special Operations Command, Army Corps of Engineers, MRMC and Army Space and Missile Defense Command were essential in making this an extraordinary event.

DR. JOHN A. PARMENTOLA is OASAALT Director, Research and Laboratory Management. He has a B.S. degree in physics from the Polytechnic Institute of Brooklyn and a Ph.D. in physics from the Massachusetts Institute of Technology.

GENE B. WIEHAGEN is the Associate Director for Technology and International Programs at U.S. Army Research, Development and Engineering Command Simulation and Training Technology Center. He has a B.S. degree in engineering from Pennsylvania State University and served as Program Manager for the 24th ASC.

Dr. John A. Parmentola, OASAALT Research and Laboratory Management Director (far left); Dr. Robin Keesee, Research, Development and Engineering Command Deputy to the Commander (second from left); and Dr. Thomas H. Killion, Deputy Assistant Secretary of the Army for Research and Technology and Army Chief Scientist (far right), congratulate CPT Gregory Hetzel of TARDEC, who accepted for the ARL-TARDEC team the Research and Development Achievement Award for outstanding achievement on the Humvee Armor Survivability Kit.

2003 and 2004 Army Research and Development Achievement Awards

Dr. John A. Parmentola and Dr. Sharon D. Ardison

The Army Research and Development Achievement (RDA) Award recognizes outstanding scientific and engineering achievement and technical leadership throughout the Army's commands; laboratories; and research, development and engineering centers. Annually, each Army major command (MACOM) nominates individuals or small teams that have conducted innovative and outstanding research and development. The evaluation panel is chaired by the Director of Research and Laboratory Management, Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (OASAALT), and consists of leading experts in the Army science and technology community.

RDA Awards

The 2003 and 2004 RDA Awards were presented by Dr. Thomas H. Killion, Deputy Assistant Secretary of the Army for Research and Technology and Army Chief Scientist, at the 24th Army Science Conference held Nov. 29-Dec 2, 2004, in Orlando, FL. The 2003 and 2004 awards recognized 205 DA scientists and engineers for their outstanding scientific, technical and leadership accomplishments in calendar years 2002 and 2003.

Award recipients distinguished themselves through their proven scientific and technical excellence. Their individual outstanding contributions will improve the Army's capabilities and enhance U.S. national defense and welfare. Their hard work and dedication bring great credit to themselves, their organizations and the U.S. Army.

Winners of the 2003 RDA Awards listed under the Army MACOM, major subordinate command or other activity where they are employed follow:

U.S. Army Research, Development and Engineering Command
Army Research Laboratory
Dr. William R. Anderson
Peter T. Bartkowski
Dr. Paul R. Berning
Dr. William J. Bruchey
Kestutis G. Chesonis
Dr. Deryn Chu
Paul J. Conroy
Dr. John D. Demaree
Francis (Pete) Fisher
Bernard J. Guidos Jr.
Jennifer J. Hare
Karen R. Heavey
Luis Hernandez
Dr. James K. Hirvonen
Dr. Melissa V. Holland
Dr. Rongzhong Jiang
Michael J. Keele
Dr. Thomas W. Kottke
Charles S. Leveritt
Dr. Michael J. McQuaid
Dr. Martin S. Miller
Richard M. Mudd
Dr. James F. Newill
Dr. Michael J. Nusca
Dr. Jeffrey A. Read
Dr. Betsy M. Rice
Dr. Jubaraj Sahu

Christian Schlesiger
Stephen J. Schraml
Richard L. Summers
Dr. George M. Thomson
Dr. Clare Voss
Charles W. Walker Jr.
Dr. Paul Weinacht

Armament Research, Development and Engineering Center
Dr. Ernest L. Baker
Thomas Bradley
Gary Chen
Gartung Cheng
Richard Fong
Dr. Brian Edward Fuchs
Mark R. Gelak
Gerard I. Gillen
Dr. Vladimir Gold
Michael R. Hespos
Thinh Q. Hoang
Dr. Eric Kathe
Philip J. Magnotti
Vincent R. Matrisciano
Neha Mehta
William Ng
Steven M. Nicolich
John B. Niles
Leonardo Pascale
William J. Poulos
Charles H. Robinson
Jae I. Shim
Jacob K. Struck
Steven W. Tang
LaMar J. Thompson
Robert H. Wood
Curtis L. Wright

Aviation and Missile Research, Development and Engineering Center
Sherrie J. Burgett
Randal F. Cannon
Wayne C. Garner
Dr. Tracy D. Hudson
Gregory L. Johnson
Darin L. Kielsmeier
Dr. Paul B. Ruffin
Markus B. Segewitz
George W. Snyder
Robert L. Wade

Communications-Electronics Research, Development and Engineering Center
Dr. Dallas N. Barr
Dr. J. David Benson
Michael W. Grenn
Alan D. Hays
Vernon King

H. Timothy Mikulski
Miranda A. Miller
John O'Connor
John J. O'Neill
Dr. Bradley W. Schilling
Andrew J. Stoltz Jr.
Dr. C. Ward Trussell
Jay N. Vizgaitis

Edgewood Chemical Biological Center
Dr. Peter Emanuel

Natick Soldier Center
Dr. Phillip W. Gibson
Brian R. Kimball
Dr. Heidi L. Schreuder-Gibson
Diane M. Steeves

U.S. Army Communications-Electronics Command
Software Engineering Center
Kenneth B. Capolongo
Carol A. Wortman

U.S. Army Corps of Engineers
Engineer Research and Development Center
William C. Fryer
Vincent F. Hock
Dr. Larry N. Lynch
Dr. Philip G. Malone
Dr. Charles P. Marsh
Michael K. McInerney
Sean W. Morefield
Jeff F. Powell
Bryan A. Register
Dr. Charles A. Weiss Jr.
Jeffrey L. Williamson

U.S. Army Medical Research and Materiel Command
Medical Research Institute of Chemical Defense
Dr. Ernest H. Braue Jr.
Bryce F. Doxzon
Dr. John S. Graham
Horace L. Lumpkin

Medical Research Institute of Infectious Diseases
Dr. Mary Kate Hart
Dr. Michael Parker
Dr. William Pratt
Dr. Douglas Reed

Deputy Chief of Staff, G-1
Army Research Institute
Dr. Paula J. Durlach
Dr. Carl W. Lickteig
Dr. James W. Lussier
William R. Sanders

Winners of the 2004 RDA Awards listed under the Army MACOM, major subordinate command or other activity where they are employed follow:

U.S. Army Research, Development and Engineering Command
Army Research Laboratory
Dr. Keith Aliberti
Peter T. Bartkowski
Dr. Mark L. Bundy
Jerry A. Clarke
Dr. John F. Dammann Jr.
Thomas F. Erline
James M. Garner
Mark M. Giza
David J. Gonski
David J. Grove
David C. Hackbarth
David B. Hillis
MAJ Gregory A. Holifield
Dr. Robert E. Jensen
Robert P. Kaste
Michael J. Keele
Troy D. Kelley
Dr. Scott Kerick
Brian T. Mays
Dr. Steven H. McKnight
Dr. Raju Namburu
Dr. John Noble
Dr. Michael J. Nusca
Brian C. Redman
Christian G. Reiff
William C. Ruff
John W. Runyeon
MAJ Daniel S. Rusin
Dr. Brian M. Sadler
Michael V. Scanlon
David R. Scribner
Debbie Simon
Barry L. Stann
Stephen Tenney
Dr. Tung-Duong Tran-Luu
Dr. Ramakrishna Valisetty
David W. Webb
Patrick W. Wiley
Michael J. Zoltoski

Armament Research, Development and Engineering Center
Dr. Ernest L. Baker

Wendy Balas
Dr. Christos Capellos
Dr. Donald E. Carlucci
Gary Chen
Arthur S. Daniels
Edward J. Hyland
Joseph Kurowsky
Dr. Andrew G. Littlefield
Keith Luhmann
Gerald Marek
Anthony Martuccio
Mark Motyka
Steven M. Nicolich
Vincent J. Olmstead
Henry T. Rand Jr.
Victor Sun
Jason Travaille
Edward Troiano
John H. Underwood
Gregory N. Vigilante
Tan H. Vuong

Aviation and Missile Research, Development and Engineering Center
Dr. Paul R. Ashley
Dr. William M. Diffey
Mark G. Temmen

Communications-Electronics Research, Development and Engineering Center
Steven Bishop
Kyle R. Bryant
Mark Cumo
Khoa V. Dang
Michael W. Grenn
Peter Gugino
Peter Howard
Eddie Jacobs
Dr. John A. Kosinski
Jeffery Leach
Dr. Roy T. Littleton
Dr. Chul H. Oh
Dr. Bradley W. Schilling
Brian W. Thomas
Jay N. Vizgaitis
Richard H. Vollmerhausen
Qiu Ting (Kristine) Yang

Edgewood Chemical Biological Center
Vipim K. Rastogi

Natick Soldier Center
Bruce C. Bonaceto
Dr. Christopher J. Doona
Florence E. Feeherry
Deirdre Townes

Tank Automotive Research, Development and Engineering Center
Charles Acir
Michael John Clauson
CPT Gregory T. Hetzel
Michael J. Manceor

U.S. Army Corps of Engineers
Engineer Research and Development Center
Dr. Donald Albert
Dr. D. Keith Wilson

U.S. Army Medical Research and Materiel Command
Aeromedical Research Laboratory
Dr. Nabih M. Alem

Center for Environmental Health Research
Dr. William H. van der Schalie
Tommy R. Shedd
Mark W. Widder

U.S. Army Test and Evaluation Center Command
Aberdeen Test Center
Paul J. Durkin
Terry W. Marrs

U.S. Army Training and Doctrine Command
Directorate of Training, Doctrine and Combat Development
Albert H. Pomey

U.S. Army Intelligence and Security Command
National Ground Intelligence Center
Werner R. Gstattenbauer

DR. JOHN A. PARMENTOLA is OASAALT Director of Research and Laboratory Management. He has a B.S. degree in physics from the Polytechnic Institute of Brooklyn, and a Ph.D. in physics from the Massachusetts Institute of Technology.

DR. SHARON D. ARDISON is a Research Psychologist with the U.S. Army Research Institute for the Behavioral and Social Sciences. She has a B.S. in nursing as well as an M.A. and a Ph.D. in applied sociology from The Catholic University of America.

From the Acquisition Support Center Director

ASC

At the 2005 Army Acquisition Workforce Conference (AAWC), held Feb. 28–Mar. 3 in Orlando, FL, one of the most important initiatives discussed involves a paradigm shift in the way we, as acquisition workforce leaders and supervisory personnel, do business. Revitalizing rating supervisors is one of Military Deputy (MILDEP) to the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) and Director for Acquisition Career Management LTG Joseph L. Yakovac's personnel focus areas as part of Army transformation.

Maxine Maples, Regional Director for the Southern and Western Region, led a standing-room-only AAWC workshop that provided a forum to gather feedback for Claude M. Bolton Jr., the ASAALT/Army Acquisition Executive, and the MILDEP on two Army Acquisition Corps Transformation Campaign initiatives. The first initiative is called the "Supervisory Outreach Program," the second is the "Civilian Leadership Development Program." After Maples gave an overview of each initiative, those present developed recommendations, a strategy and resource plan and timelines to be presented to the MILDEP. The recommendations were then briefed to the senior sponsor and senior process leader for AAC Transformation (Yakovac and me, respectively) for approval. All approved initiatives were then presented to AAWC general session attendees. They are also posted to the Acquisition Support Center's Web site and will be revisited at the 2005 Acquisition Senior Leaders and AMC Commanders Conference, Aug. 22-25, in Detroit, MI.

Before we examine the proposed initiatives, let's look at how we currently do business. Each Regional Customer Support Office (RCSO) is led by a regional director and staffed with acquisition career managers (ACMs). ACMs facilitate the career management process and serve as objective sources for workforce members. They are currently consumed by administrative functions of Acquisition Career Record Brief updates and the Individual Development Plan (IDP) process. ACMs focus on individual workforce members, but we are now shifting their focus to the workforce's 7,000 rating supervisors.

Let's examine the first change initiative. How do you coach and mentor your team? What tools do you use? The focus of the Supervisory Outreach Program is to revitalize rating supervisors in their new role as the frontline change agents in managing their acquisition workforce. This involves:

- Establishing strategic partnerships between the RCSOs and supervisors.
- Providing supervisors with the necessary tools and information to manage their workforce.
- Exploring rating supervisors' existing career management tools and communication media and how these tools are used.

An important part of every supervisor's job is continuing to develop the people who work under his or her direction to ensure a productive workforce and creating an ongoing ability to meet changing job requirements. As supervisors develop employees' IDPs, they should also consider the organization's strategic goals. Then they can evaluate what current and future skills are needed and conduct an objective assessment of the strengths and developmental needs of their staffs. Supervisors need to identify high-potential employees and expose them to experiential growth opportunities that are more challenging.

It's tempting for us to leave successful people where they are so we don't lose them. But we must keep in mind that we are doing more than just getting the job done well. We are building leaders, and that takes extra effort and time — including providing an environment to accomplish their IDP goals.

Supervisors — as leaders and change agents — have a responsibility to provide career counseling to help employees develop to their highest potential. It's our supervisors' responsibility, as change agents, to motivate and encourage their employees to take advantage of all opportunities, including continuing education, developmental training and experiential assignments, that will increase personal and organizational productivity and aid individual career progression.

A recent study featured in *Public Personnel Management* compared the impact of training alone to a combination of training and coaching. Training alone increased productivity by 22.4 percent. However, training combined with coaching increased productivity by 80 percent — a significant performance outcome.

The AAWC workshop also discussed the Civilian Leadership Development Program. Likewise, this initiative directly relates to rating supervisors. Goals related to this initiative include:

• Developing a Civilian Leader Development Program at every level.

• Establishing sequential leadership development.

• Providing leadership-training opportunities at every level on the civilian career path.

• Using National Security Personnel System flexibility to re-cruit and retain quality leaders.

• Developing a Leadership Certificate model with the Defense Acquisition University.

• Designating an in-house Web site with shared training folders for supervisors.

To create a meaningful dialogue throughout our workforce, I encourage comments from interested parties on these proposed changes. Please send your comments to Maxine Maples at **Maxine.Maples@us.army.mil**. Thanks in advance for your timely support of these forthcoming change initiatives.

COL Genaro J. Dellarocco
Director, U.S. Army
Acquisition Support Center

Acquisition Certifications

Army Acquisition Workforce personnel requesting certification in any acquisition career fields should ensure that all requirements are met in accordance with the most recent Defense Acquisition University (DAU) Catalog and the Acquisition Support Center's (ASC's) Policy and Procedures, which are available at **http://asc.army.mil**. To ensure your request and Acquisition Career Record Brief (ACRB) are up-to-date, visit **http://www.dau.mil/info/policies**. Go to the catalog section, then go to Appendix B and follow the checklist requirements for the career field in which you are requesting certification. DAU's Certification Checklist and ASC's Policy and Procedures change periodically and DAU catalogs are printed annually. Please note that a copy of your most current résumé should accompany your request. If you are applying for system engineering or test and evaluation certification, you must also submit a copy of your transcripts. Additionally, for contracting and purchasing certification, electives are now required. All ACRB and certification questions should be directed to your acquisition career manager prior to submission. Finally, course(s)

completion does not automatically certify an individual. Certification must be requested and all requirements must be met. For more information on certification procedures, please contact Herman Gaines Jr. at (703) 704-0123 or e-mail **herman.gainesjr@us.army.mil**.

Congratulations to AABC's Recent Course Graduates

The fast-paced 8-week Army Acquisition Basic Course (AABC) 05-001 ended Dec. 3, 2004, with 30 students successfully completing it. The distinguished graduate was MAJ Christopher M. Ford. On Dec. 17, 2004, 19 students graduated from AABC 05-701. The distinguished graduate was CPT Lannes C. Williamson II.

These graduate-level courses provide a broad spectrum of knowledge pertaining to the materiel acquisition process. They cover regulatory policies and objectives that shape the acquisition process and the implementation of these policies and objectives by the U.S. Army. Functional areas presented include project management, contracting, test and evaluation, acquisition logistics and information technology. Course graduates are eligible for a wide range of acquisition workforce positions.

AABC is presented by the Army Logistics Management College, and the course proponent is the Army's Director of Acquisition Career Management.

AABC is being evaluated for graduate credit and was recently awarded equivalency with 10 existing DAU courses.

Congratulations to the following AABC 05-001 graduates:

Baker, CPT Michael A.	Kim, LCDR Sang Hun
Bretney, CPT David O.	(Korea)
Burden, Charles E.	Lawson-Singleton, LTC Eva M.
Cline, CPT Kevin R.	Lee, Hyeong (Korea)
Ford, MAJ Christopher M.	Lee, LCDR Ogkyo (Korea)
Fuller, MSG Robert A.	McDowell, CPT David H.
Garner, CPT Benjamin C.	Metz, MAJ Christopher E.
Harrington, Chris C.	Navarro, MAJ Michael S.
Henderson, MAJ Roger G.	Pridgeon, MAJ James A.
Jones, MAJ Ernest C.	Redfield, MAJ James A.
Jones, Ralph C.	Ringbloom, CPT Kirk M.
Keeton, MAJ Chester L.	Rios, CPT Steven D.

Saulsbery, MAJ Lisa L.
Schneider, MAJ Maria D.
Slone, SGM Lonnie C.
Walmsley, CPT Andrew D.

Williams, CPT O'Neal A.
Woodbury, CPT Janelle C.
Woodbury, CPT Harvey L.

Congratulations to the following AABC 05-701 graduates:

Burnette, Erica N.
Cockrill, MAJ Jack G.
Duffy, Cathal
Foote, Jennifer A.
Hayward, CPT Preston J.
Hogan, Celeste M.
Kidd, Wanda L.
Lundy, SFC Glenn A.
Mansfield, CPT Bryon L.

Mickelson, Timothy A.
Petitjean, MSG Constance D.
Porter, Robert C.
Readus, Marsha H.
Vega, MAJ Michael A.
Webb, David C.
West, Floyd L.
White, MAJ Sheila
Williamson, CPT Lannes C. II

Additional information about AABC may be found at:
http://www.almc.army.mil/hsv/index.asp.

Congratulations to CECOM's Latest Darden School Graduates

The U.S. Army Communications-Electronics Command's (CECOM's) Carmel Costa, Ken Macfarlane and Bob Tiedeman have successfully completed "The Commercial Business Environment – A Primer for Department of Defense Managers." This course, presented by the University of Virginia's Darden Graduate School of Business Administration, Charlottesville, VA, showcases the world of commercial businesses. The course was conducted Nov. 29-Dec. 10, 2004, and additional group activities were held Saturday and Sunday.

The course included instruction, discussion and debate on topics such as economics, business-government relations, decision and risk analysis, business modeling, domestic and global culture, accounting, international finance, marketing, supply chain management, strategic alliances/partnerships and sustainable competitive advantage. The course concluded with a session on ethics, organizational behavior and balancing professional career and personal life.

Army contracting personnel from throughout the acquisition workforce attended the class including DA Headquarters procurement analysts, U.S. Army Aviation and Missile Command contract specialists, U.S. Army Corps of Engineers contracting

officers from Italy and Korea, contracting officers from various U.S. Army Contracting Agency districts and CECOM representatives.

Participation in this high-caliber, thought-provoking program is highly recommended for acquisition professionals who need analytical tools to deal with the Army's industrial base partners. Eighty Continuous Learning Points are awarded upon course completion.

News Briefs

Coalition Military Network Supports Operations Against Insurgents

Stephen Larsen

Just in time to support coalition operations to clear insurgents out of Fallujah, Iraq, and other hotbeds, the U.S. Army completed and fielded the Coalition Military Network (CMN), a new Internet Protocol (IP)-based, network-centric satellite communications system.

CMN provides bandwidth-on-demand services, with high-quality voice capabilities and secure broadband data communications for the Coalition's Multinational Division (MND), which includes U.S., British, Polish, Ukrainian, Korean and Filipino forces.

CMN implementation is part of the Kuwait-Iraq C4 (command, control, communications and computers) Commercialization (KICC) Program, through which the Army is providing enduring communications infrastructure for U.S. and coalition forces.

According to LTC Joseph Schafer, KICC Program Army Project Manager, CMN provides remote coalition bases in Iraq services including secure and nonsecure voice, Nonsecure Internet Protocol Router Network and the Combined Enterprise Regional Information Exchange System, a coalition secret data network.

"CMN extends the Global Information Grid (GIG) to the coalition's remote sites in Iraq," said Schafer. "Our vision is

to strike a balance between the need to deliberately build the GIG at the major base camps and to quickly extend the GIG to more temporary locations."

John Hildreth, KICC's Project Leader for CMN, said the network gives coalition users at remote sites access to the same quality of communications as at larger, more established locations.

"CMN allows for command and control communications between on-the-ground forces and headquarters," said Hildreth, "and gives the sites a data and fax capability that didn't exist before."

TDMA/DAMA Provide Warfighters Bandwidth on Demand
Ron Mikeworth, a CMN Project Coordinator, said "CMN reduces satellite usage by dynamically expanding and contracting bandwidth, based on the user's instantaneous needs, using bandwidth-on-demand technologies such as multifrequency Time Division Multiple Access (TDMA)/Demand Assigned Multiple Access (DAMA)."

"This allows the system to expand and reduce the bandwidth used, based on actual, instantaneous requirements, rather than paying for the wider bandwidth all the time when users only need it part of the time," said Mikeworth — which could reduce satellite-leasing requirements by up to 60 percent. "The only way to determine exact savings would be to do extensive traffic studies," said Mikeworth.

At CMN's hub in Baghdad, the Army can keep its fingers on the pulse of the entire CMN, said Jason Blanke, a contractor for DataPath, who helps to keep the hub up and running. "We can monitor, maintain, troubleshoot and turn the 20 remote terminals in the network off and on," said Blanke.

For voice communications, CMN employs a full-mesh topology. "Think of the network as a wheel," Blanke said, "with chords across the wheel connected to every other node. Each node in the CMN network can talk directly with every other node going through the satellite, but without having to go through the hub."

Blanke pointed out that CMN's voice network uses only a single satellite hop, reducing satellite delay by 50 percent. "This means significant improvements in voice quality and secure call reliability for coalition users," Blanke said.

Contractors who installed the CMN with Polish Soldiers stand outside the Coalition's MND headquarters in Iraq: Stephen Arthur of DataPath (top row, center); James Fischer of Lockheed Martin (top row, right); Tom Fercz of Signal Solutions (bottom row, left); and Raymund Manaois of Lockheed Martin (bottom row, center). The CMN provides bandwidth-on-demand services, with high-quality voice capabilities and secure broadband data communications for the MND, which includes U.S., British, Polish, Ukrainian, Korean and Filipino forces. (Photo by Pete Cryan.)

CMN provides hub-spoke local area network (LAN) to wide area network (WAN) access. "For data, all the nodes in CMN are connected to the hub, like spokes in a wheel, through the satellite," Mikeworth commented. "This allows every node in CMN that may be associated with a LAN to connect to another LAN outside the network through the hub and its connections in the WAN."

"Because they used Very Small Aperture Terminals for the 20 remote nodes," Hildreth said, "they were able to achieve economies. This means users don't physically need as large a system for the same capabilities as would be required for a dedicated amount of bandwidth. This allows the system to be moved in a much quicker and less costly manner than larger, dedicated bandwidth systems with the same capability. CMN systems, as configured, are not mobile. However, they can be deinstalled and moved to a new location and reinstalled relatively easily."

Jason Blanke of DataPath prepares the pedestal for antenna installation for CMN's hub in Baghdad. (Photo by Pete Cryan.)
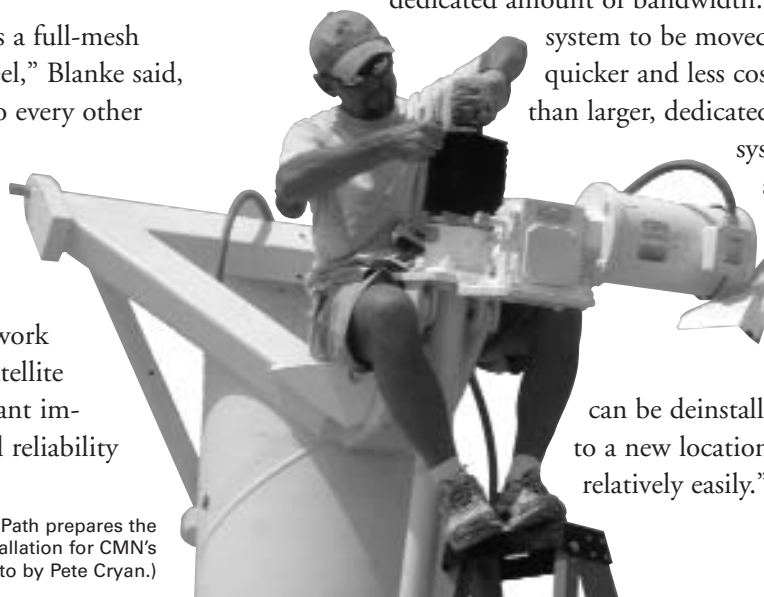
Technicians stand by as the crane lowers the antenna toward the pedestal of CMN's hub in Baghdad. (Photo by Pete Cryan.)

But when you're in Iraq, the words "relatively easily" are well, relative. Ralph Meacham, the KICC Program's Deputy for Advanced Planning, pointed out that the installation team often slept in equipment-shipping containers. "The containers served as a combination shipping trailer, communications and operational trailer and interim crew quarters facility," Meacham said. "We found that at about half our sites the containers ended up being the temporary sleeping quarters for the contract operators until housing became available."

Building the GIG in a War Zone
Mikeworth told how the installation team members — including technicians from the prime CMN contractor, Lockheed Martin, and subcontractors from DataPath and ViaSat — faced dangers as they traveled by truck in convoys through hostile territory to complete installations at remote sites.

"One time, we were delayed because a bridge we were going to cross had been blown up," Mikeworth remarked. "The team ended up being delayed for 2 more days until it was 'safe' to convoy."

To get the equipment to another site, a 10-ton bucket truck was required to lift the antenna onto a rooftop, so the bucket truck became part of the convoy, along with up-armored Humvee gunships.

"Without the assistance of the Soldiers who helped us transport the equipment to sites, our work in Iraq would have been extremely more difficult," Mikeworth noted. He thanked the 711th Signal Battalion, Alabama National

Guard, specifically LT Matt Kelly; the 111th Signal Battalion, South Carolina National Guard, specifically LT Monica McGrath and SGT Robin Goode; and the 3rd Signal Brigade, specifically CPT Clair Crowe-Chaze.

"It was really amazing watching a large bucket truck traveling at convoy speed (about 70 to 80 kilometers per hour) and pulling the required maneuvers as it went under the overpasses in the Red Zone of Baghdad," Mikeworth concluded.

These dangers and challenges set the work of the KICC Program apart from other project management efforts.

"Combat operations continue, insurgency has driven up costs and troop strength has increased rather than decreased," noted Schafer. "But despite it all, we're leveraging IP-based technology — we're fielding comms to meet the requirements of the Transformational Communications Architecture — and we're doing it in a war zone. CMN represents a tremendous capability for GIG extension in the area of responsibility."

Stephen Larsen is the Public Affairs Officer for the Project Manager Defense Communications and Army Transmission Systems at Fort Monmouth, NJ.

Fort Carson First to Up-Armor Vehicles at Installation

PFC Clint Stein

When the 3rd Armored Cavalry Regiment (ACR) deploys to the Middle East this spring, its Soldiers will take some added protection and confidence with them.

Nearly 600 3rd ACR vehicles are being up-armored at Fort Carson, CO, for the regiment's second deployment to the Middle East in support of the global war on terrorism.

Although there have been recent inquiries about up-armored vehicle production, the up-armoring project at Fort Carson was already in effect before SPC Thomas Wilson of the Tennessee National Guard questioned Secretary of Defense Donald Rumsfeld about extra armor during a town hall meeting at Camp Buehring, Kuwait, Dec. 8, 2004.

"The plan for up-armoring the 3rd ACR vehicles was underway at least a week before Rumsfeld made his comments," said Ted Schneider, Fort Carson Logistics Director. "This was a part of the Pentagon's $4.1 billion plan to up-armor military vehicles.

"It was easy to get the vehicles in production once the contract was approved. We had civilian contractors engaged in regenerating equipment from the regiment's previous tour. We just had to reorganize for the up-armoring project," Schneider continued.

Other Army vehicles have received the added armor in other parts of the world, but Fort Carson is the first military installation in the United States to up-armor vehicles.

"The 3rd ACR is next on the billet to deploy, so it was a high priority to get those vehicles finished before its departure," Schneider said. "We hope to do the same thing for the 3rd Brigade Combat Team before it deploys."

The up-armoring production started Dec. 13, 2004, and has been going full speed ever since. The Directorate of Logistics, the U.S. Army Tank-automotive and Armaments Command (TACOM) and civilian contractors contributed to the Fort Carson up-armoring project.

"We have a crew of 110 to 112 people working 6 days a week, 12 hours a day on this project," Mike Hall, up-armoring Maintenance Manager said. Hall said he hated making crews work such long hours, but circumstances warranted it. "The guys here know how important this is to the Soldiers, so they don't mind the overtime," Hall added.

The amount of effort being put into the project is keeping production on schedule to meet the deadline. "It takes about 56 hours to up-armor a Humvee and a little longer than that to complete a Family of Medium Tactical Vehicles (FMTVs) truck," Hall said. "That's pretty impressive considering all the work that has to be done to each vehicle."

Each vehicle is stripped of its original material and replaced with an armor kit. The TACOM-supplied kits weigh between 1,200 and 5,000 pounds depending on the vehicle type. The armor is made from tempered steel and is low in carbon content, making it stronger and more shatter resistant. The 3-inch thick ballistic windshield and side windows are bulletproof. "I would feel completely safe driving one of these vehicles through small-arms fire," Hall stated.

Although most of the work is outer replacements, there is more to it than that. "Inner changes have to be made, including new suspensions and rewiring. Because of the added armor weight, the original suspension is replaced with newer and stronger leaf springs," he added. Also, an air conditioner is wired and installed into every vehicle. "Besides the armor, this is the next best thing on the vehicle," Hall said. "It helps control the heat inside the vehicle and boosts Soldier morale."

Many 3rd ACR Soldiers have visited the maintenance shop to see some of the finished vehicles. "They feel secure knowing they'll be better protected," Schneider said.

"In addition to the added armor, the best type of protection comes from the Soldiers themselves," stated LTC Richard O'Connor, 3rd ACR, Headquarters and Headquarters Troop Support Commander. "Training gives them the confidence to do what they need to do more safely. The 3rd ACR has done a lot of training to prepare for deployment and the armor adds confidence to what they have learned," O'Connor said.

By January 2005, 396 Humvees, 156 FMTVs and 40 Heavy Equipment Mobile Transports were finished and ready to ship overseas. "That is a little more than 50 percent of the regiment's support vehicles. The rest will be finished in Kuwait," Schneider said.

PFC Clint Stein serves with the Fort Carson Public Affairs Office.

Soldier Battle Lab Testing Future Force

SPC Nikki St. Amant

Fort Benning, GA, agencies began experimenting with new Army force structures Jan. 31, 2005, as part of the transition to the Future Combat Systems (FCS).

Subject matter experts from Fort Knox, KY, and Fort Sill, OK, are participating in the experiments at Fort Benning's Soldier Battle Lab (SBL). "Fort Benning's role in the experiment is to ensure the Army's focus on the Soldier is maintained as structure and missions change," said LTC Everett Johnson, SBL Analysis Division Chief.

"The new units of action and employment will incorporate new technologies, communication needs and capabilities as

well as battle-staff requirements. The effectiveness and impact of higher-level changes have to be analyzed all the way down to individual Soldiers," Johnson remarked.

The Army's new way of doing business will let information flow laterally, in real time, through all echelons instead of up and down the chain of command. By using cutting-edge technologies, the new force structure will rapidly communicate and plan and execute missions with the most accurate information at their fingertips.

That information will come from unmanned aerial vehicles, satellites and instantaneous intelligence and situational reports from squad and company elements on the ground.

The first phase of this year's experiment is focusing on virtual scenarios. Picture it as an online game where all users are looking at a map and watching elements move and react to different scenarios. Company commanders are looking at the same screen as division-level commanders and can discuss tactics and receive guidance as quickly as they can type or speak over a secure connection. Platoon leaders, squad leaders and support elements are included in the information network and can adjust fire accordingly.

The next phase will incorporate more involved testing, with actual armed Soldiers moving through a virtual mission environment.

"All this stuff we are doing will be documented in FCS tasks, which future units will have to perform," said Tollie Strode, an FCS Doctrine Analyst with the Fort Benning Directorate of Combat Developments (DCD). "The Infantry Center and School will incorporate those tasks into the FCS manuals, which are equivalent to our current field manuals."

The 1-year-long experiment, dubbed "Omnifusion," is one phase of testing designed to help establish a fully operational FCS unit by 2014.

Testing last year focused on the brigade-size unit of action and this year's focus is the division-level unit of employment.

Fort Benning is one element of the total experimental force, which encompasses almost every major Army command. Fort Knox is taking the lead. At Fort Benning, SBL works hand in hand with the DCD and the Combined Arms and Tactics Directorate. The 29th Infantry Regiment's Experimental Force Company is providing Soldiers as test subjects, along with experts from Fort Sill and Fort Knox.

The depth of this phase of experimentation will progress until it culminates in fall 2005. Experiment staff will collect data on mission effectiveness and lethality and get feedback from the test subjects. DCD will then analyze that information and incorporate its findings into new requirement documents.

Every year, the system will be refined, fine-tuned and tested in a constant drive toward the 2014 goal. "This is a huge undertaking," said CPT Clint Cox, one of the test participants. "I wouldn't want to be anywhere else. These Soldiers have a lot to give with their combat experience. They are helping shape the FCS Soldier."

SPC Nikki St. Amant writes for The Bayonet newspaper at Fort Benning.

Okinawa Communications Reliability Improves Upgraded Power Shed Equipment

Tim Kennedy

Warfighters on Okinawa, Japan, which was battered by 13 typhoons last year, are one step closer to getting an uninterrupted power supply. On Dec. 15, 2004, the island's new power generation equipment passed acceptance tests at the Caterpillar Integrated Switchgear Organization (ISO) plant in Alpharetta, GA.

The power generation equipment — including quiet, fuel-efficient, 1,000-kilowatt generators; microprocessor-based engine controls; touch screen monitors; embedded diagnostics; and multiple layers of redundancy — was subjected to 18 rigorous tests, including real-world failure scenarios ranging from a single utility failure to shifting the system from a utility grid during an emergency.

"Having a reliable power supply is especially critical in today's security environment, where force protection missions rely on an uninterrupted flow of electricity," said Alex Meno, Project Manager with the 58th Signal Battalion, Fort Buckner, Okinawa, where the new power generation equipment will be housed.

"Fort Buckner is one of the most critical facilities in the Pacific Theater," said Meno, pointing out that the facility supports ongoing missions in Iraq, Afghanistan, Uzbekistan and Kuwait, as well as the 30,000-member joint community on

U.S. Army NETCOM/9th ASC Engineer Randy White (left) and Army Product Manager Defense Wide Transmission Systems (PM DWTS) Product Leader Jorge Blanco witness the successful acceptance testing of new power generation equipment for Okinawa, Japan, at the Caterpillar ISO plant in Alpharetta, GA, on Dec. 15, 2004. (Photo by Tim Kennedy.)

Okinawa. "Our mission is to enable soldiers in foxholes anywhere in the world to communicate with their home stations."

According to Jorge Blanco, Product Leader with the Army's Product Manager Defense Wide Transmission Systems (PM DWTS) — part of the Fort Monmouth-based Project Manager Defense Communications and Army Transmission Systems — a true distributed processing system is being delivered to Fort Buckner.

"This means there is no single point of failure that can bring down the entire system," Blanco explained, adding that PM DWTS' goal was to provide power generation equipment incorporating technology that was both up-to-date and mature. Toward that end, the Army required that the solution employ technology that had been proven for at least 3 years, versus emerging, bleeding-edge technology.

"Given the critical missions supported by the 58th Signal Battalion," Blanco continued, "we needed to have 99.99 percent reliability, and equipment that would only require 5 to 6 minutes of downtime a year for maintenance."

Randy White, the Project's Lead Engineer with the U.S. Army Network Enterprise Technology Command/9th Army Signal Command (NETCOM/9th ASC), which provided $7.6 million of the $9 million required for the project, said he is looking forward to the new system's reliability.

"We knew it was time for a new system after we had to ship a 500-pound, refrigerator-sized circuit breaker to California for repairs twice within a few months," said White, pointing

out that the old system was 40 years old and had been previously upgraded piecemeal because of funding problems.

As an engineer, White is impressed by the system's touch screen monitors, which give the operator the ability to "drill down" and virtually view any component.

"These touch screen monitors graphically mimic many of the functions that a power plant operator might encounter with a traditional system," said White. "For example, an engine control switch on the monitor looks, feels and acts like the engine control switches on a traditional system. This will eliminate confusion that might contribute to operator error and will also reduce training time."

Another function of the touch screen monitor is a virtual "enunciator screen," which mimics enunciator lights that indicate an alarm or fault in traditional generator parallel switching gear.

Eaton/Powerware of Raleigh, NC, the prime contractor for the effort, is designing, installing and integrating the system, with ISO providing the generators, transformers and control, distribution and load-switching equipment.

Representatives from the 58th Signal Battalion, PM DWTS, NETCOM/9th ASC, the Okinawa DPW, Eaton/Powerware and the ISO put the power generation equipment for Okinawa through one of 18 rigorous acceptance tests. (Photo by Tim Kennedy.)

"What is good about this project is that we have all parts of the Army working together," said Jim Leander, Okinawa Department of Public Works (DPW) Chief, "including the customer, DPW and the various elements up and down the channel. I appreciate the efforts and cooperation from everybody in bringing in our contracting partners to make this happen."

Leander said the next step is to complete the installation before August — the beginning of Okinawa's annual typhoon season — because, as the entire team points out, warfighters deployed around the world depend on the communications supported by Fort Buckner's power shed.

Jim Leander, Chief of the Okinawa DPW, tests the power generation equipment's touch screen monitors, which give the operator the ability to "drill down" and virtually view any component. (Photo by Tim Kennedy.)

"As a public works person, I'm responsible for bringing power to the receptacle in the wall," said Leander. "But when my sons are in Afghanistan or back in Iraq, this upgraded facility will make them better operators. When they need to communicate on a system supported by us, they really don't care what I do to provide power. They just want it to stay on."

Tim Kennedy is President, Strategy Policy Group, an Arlington, VA-based strategic communications company.

ALTESS News

Advanced Collaborative Environment

Ailene Anderson

There has been a lot of discussion on what an Advanced Collaborative Environment (ACE) is. The dictionary defines "collaborate" as "to work together, especially in a joint intellectual effort." Information technology (IT) is a tool employed to facilitate collaboration. IT allows people and processes at all levels to work together in a joint intellectual effort. This is represented in the acquisition framework triad: Planning, Programming, Budget and Execution; Defense Acquisition System; and Joint Capabilities Integration and Development System.

Imagine working in an environment with access to end items, artifacts, supportive links aligning daily operations and interaction and directly supporting strategic goals and financial objectives for your organization, DOD and the Army.

A technical organizational system-of-systems, ACE integrates people, processes and technology. Its mission is to implement an enterprise business solution for acquisition life-cycle management that facilitates collaboration, intellectual knowledge sharing and process improvement while reducing business costs.

Technical personnel view ACE as commercial-off-the-shelf products for e-mail, Web conferencing, workflow management, standard document templates, Web services, systems federation and artifact visibility. Others see it as a cross-application integration and a way to eliminate legacy systems.

The acquisition community is transforming from a program/project-centric focus to a "system-of-systems" platform. ACE will help the acquisition community become more technologically organized and cost-effective.

Ailene Anderson is the Acquisition, Logistics and Technology Enterprise Systems and Services Assistant Project Manager for ACE, Fort Belvoir, VA.

Master Acquisition User Interface

Raymond S. Soroka

Project Master Acquisition User Interface (MAUI) is an initial step by Product Manager Acquisition, Logistics and Technology Enterprise Systems and Services (ALTESS) to transition the Acquisition Information Management (AIM) system into a network-centric and data-focused environment. AIM comprises various applications that provide information and reporting services to the program manager (PM), program executive office (PEO) and HQDA communities. MAUI, combined with an integrated universal output and reporting system, would alleviate user workloads, diminish duplicative data entry, enhance program information management and simplify the reporting process.

MAUI's intent is to consolidate multiple application input views within AIM into a single integrated interface. AIM's end-state will be program- and data-centric as opposed to application-centric. The unified interface will serve primarily to capture input from the user and also, where feasible, to receive and integrate data directly from the authoritative source. Adherence to desired end-state objectives and architectures will be strictly enforced.

MAUI's goal is to be a network-centric enterprise system conforming to DOD and Army regulations, standards, guidelines and future-vision directives and architectures. MAUI will consolidate and streamline the processes for acquisition reporting.

MAUI's primary goals are to:

- **Consolidate Application Interfaces.** Provide a Web-based system that consolidates multiple AIM applications into a single, unified data-driven interface. The initial scope will be to consolidate the following application interfaces: Monthly Acquisition Program Review, Monthly Acquisition Report, Probability of Success and SmartCharts.
- **Eliminate Data Redundancy.** Use the segmented layers of the codified acquisition database to maintain and integrate normalized, universal and authoritative data. The single authoritative sources of data will be shared among all functional components in MAUI and with other systems both internally and externally.
- **Manage Operational Data.** Provide the capability to enter, update and maintain operational data for each functional area.

- **CODIFY all Data.** Employ and conform to the data standards of the Common Organizational Database Infrastructure For everYone (CODIFY) process.
- **Maintain Metadata Information.** Publish metadata information on all data elements into the Acquisition Data Dictionary. Integrate with the DOD Metadata Registry to the fullest extent possible.
- **Provide Functional Area Varieties of Data.** Allow specified data elements to have multiple varieties (versions) that are in context with the use of that data.
- **Provide Role-Based Functional Area Views of Data.** Present data in a role-based manner consistent with functional use of signed-on users.
- **Identify Authoritative Sources and Owners of Data.** Identify the authoritative data sources and owners for each of the functional area data sets to the maximum extent possible.
- **Integrate with Authoritative Data Sources.** Pull data from authoritative sources outside of the acquisition database wherever possible.
- **Conform to Network-Centricity.** Conform to the tenets of network-centricity and integrate with other Office of the Secretary of Defense (OSD), DOD, other services, Advanced Collaborative Environment and Global Information Grid systems to include the Consolidated Acquisition Supporting System and Defense Acquisition Management Information Retrieval.
- **Align with DOD COTS-Based Initiatives.** Employ a commercial-off-the-shelf (COTS)-based strategy to the fullest extent possible in accordance with *DoD Instruction 5000.2, Operation of the Defense Acquisition System.*
- **Enable Enterprise Capability.** Accommodate all levels of the Army acquisition community to include PMs, PEOs, HQDA and OSD.
- **Enable Program Portfolio Management Views.** Present data in a portfolio-centric manner. The portfolio perspectives shall include views based on program, earned value and budget. Other views shall be incorporated as they are discovered in the requirements phase of this project.
- **Provide a Search Capability.** Provide a search capability for all data within its realm.

The Assistant Secretary of the Army for Acquisition, Logistics and Technology and PEO Enterprise Information Systems sponsor the MAUI project.

Raymond S. Soroka is an Applications Integration Supervisor and the AIM Group Leader at PM ALTESS.

Contracting Community Highlights

The Contracting Highlights section of *Army AL&T* Magazine affords us the opportunity to educate the acquisition community on our various Army contracting organizations' missions and achievements. While each feature article's goal is to provide in-depth information relative to a contracting organization, mission or process, we are sometimes able to provide personal, firsthand accounts from our contracting personnel who have deployed overseas. In this issue, the feature article details the lessons learned by the Bagram Air Base, Afghanistan, Contingency Contracting Office in "creating a regional peace." Patrick O'Farrell served as the Coalition Forces Director of Contracting during *Operation Enduring Freedom* and he provides a vivid illustration of the challenges and successes during his tenure.

In addition to the feature article and the regular DAR Council Corner, we pass on current news of note from a number of our contracting organizations — including the announcement of a new Principal Assistant Responsible for Contracting at the Military Surface Deployment and Distribution Command. We are honored to recognize the Army contracting personnel who undertook lengthy deployments during FY04. We also recognize the FY04 appointments of new contracting officers.

We appreciate the continued support from the field in providing material for publication, and we hope you find the submissions as informative and interesting as we do.

Ms. Tina Ballard
Deputy Assistant Secretary of the Army
(Policy and Procurement)

Procuring Peace

LTC Patrick O'Farrell (USA, Ret.)

During *Operation Enduring Freedom*, I was Coalition Forces Director of Contracting at Bagram Air Base, Afghanistan. At central receiving near the main entry control point (ECP), 15 warlords governed the Parwan Province to the front and a "cooperative" Afghan warlord reigned quietly between my contracts office and the main airbase that was home to the Coalition Joint Task Force (TF). It was difficult to find a chapter in the *Federal Acquisition Regulations (FAR)* that addressed this scenario. Provost Marshal policy mandated that no Afghans bearing weapons pass ECP3 — which didn't do a whole lot of good for us at the front gate near ECP1.

Although it was unsettling to head to our office in the morning and walk past the military police (MPs) in full body armor, I knew our location was for the protection of critical air assets inside the air base. This is the operating environment that my contingency contracting officers (CCOs) and I, equipped with two volumes of the *FAR* and 100 Afghans at the door desiring contracts, found ourselves in.

The following is a collection of lessons learned by the Bagram CCOs while assisting our forces to instill regional peace and provide security while in Afghanistan.

Creating Regional Harmony Through Contracts
By issuing more than 500 contracts per quarter, it's clear that Bagram CCOs played a key role in stabilizing the region and changing the Bagram economic environment from a wartime economy to a more business-like atmosphere. The TF Dragon Commander recognized early that contracting was a key center of gravity for maintaining regional stability. He developed an overarching strategy to integrate local warlords into the emerging government and to have the warlords, now called "delegates," serve as a ruling body over the local area. These warlords are the Afghan patriots who fought the Soviets, Taliban and other aggressors over the past 40 years. The delegates were assimilated into the new government, serving as a "chamber of commerce" for the coalition commander, civil affairs and contracting offices.

Maintaining security was critical to local U.S. military interests, and applying *FAR 6.1-302* to solicit within the local

Communication

I cannot emphasize enough the value of a contract bid board to communicate solicitation information to potential contractors. Initially, all of our Requests for Proposal were taken from the wall by the first bidder to get to the board, but the installation of a locked Plexiglas® cover afforded everyone a fair opportunity to examine the information and submit proposals. Our commander also found the bid board an excellent method of communicating to those outside the gate. Additionally, we posted signs explaining that weapons weren't allowed inside the contracting office.

Creating One Message for the Locals

To speak with one voice and not have conflicting contract actions, commander's speeches or civil affairs efforts worked well in communicating with the Afghans. Contracting does more volume, touches more people and pumps more money into the local economy in a day than a month's worth of "hearts-and-mind" actions by civil affairs initiatives. We surmised early on that if locals were contracted to dig ditches, construct buildings and improve roads, peaceful relations would be easier to achieve. Our former Afghan warriors focused more on becoming shrewd businessmen than continuing the time-tested business of war.

Using Your Soldier Skills

The key to force protection is link analysis, which uses spreadsheets to track who is winning what contracts, how contractors are related and how individuals are linked to specific companies. The spreadsheet includes a running total of contract dollars awarded. For example, "Jaweed Muhammed" might be related to "Muhammed Kahn," who is the brother-in-law of "General Babajan," all of whom are employed by "Blue Bird Construction Co." This kind of link analysis is important to review with the S2 (intelligence officer at battalion or brigade headquarters) and counterintelligence screening team to ensure a war chest is not being created in one warlord's area. A balance of money and power among warlords contributes to regional peace.

Hardening the office was also a critical piece of force protection. The engineers designed an excellent building for the contracting office to use, but hardening the office with sandbags, rocket bunkers, blast-resistant materials and connex containers was important for conveying to the local population that the coalition meant business. Also, on procurement runs to forward operating bases for local purchases, or in runs to the vendor base in Kabul, it was important, again, to convey our Soldier skills because Afghans understand and respect soldiers. Additionally, integrating the Provost Marshal

Rebuilding local, war-torn communities can seem like an overwhelming task, but given the spirit, heart and dedication of the Afghan people, combined with the resources of coalition forces, the TF began to build momentum once local contracts were issued. (U.S. Army photo by MSG Bentura Fernandez.)

trade area under simplified acquisition procedures was an important factor in sustaining regional stability in Bagram. Other U.S./international companies also competed contracts in Bagram, but in separate and distinct markets. The local nationals had lower prices for low-tech, labor-intensive projects, while U.S./international companies competed in the more high-tech, preengineered buildings and services market. It was critically important that area residents understood this distinction to avert the impression of an invasion of businessmen from the west.

Using Contingency Contracting Skills

Issuing multiple award contracts for high-dollar times also aided peacekeeping efforts. It spread the money around while ensuring one warlord would not develop a war chest from coalition forces' money. The contracting office also hired local nationals to serve as procurement assistants, interpreters and managers for our contracting front-office customer window. This helped put an Afghan face on customer service and decreased potential tensions in emerging relationships.

Employing caution, the procurement clerks worked in the commodities area for stateside purchases to maintain the integrity of construction bids and service contracts. Blanket purchase agreements for sand and gravel, along with established prices for Tier III standard tents (military-issued tents with plywood floors and walls, a wooden frame, electrical outlets and lights and kerosene heaters), were also valuable tools for keeping the peace.

For services transferred to larger corporate contracts, such as the Logistics Civilian Augmentation Program, subcontract management mandated hiring more than 60 percent local area nationals to maintain regional stability.

CCOs and MPs from the Bagram Contracting Office pay workers for building living quarters for coalition forces. (U.S. Army photo by MSG Bentura Fernandez.)

office into the contracting operation was important. Posting MPs in the hallways and alerting Apache attack helicopters to fly over the contracting building showed force, prevented robberies and contributed to keeping the peace.

Recommendation for Future Operations
In the future, a chapter should be added to the *FAR* that includes contingency-specific information for deployed CCOs. Using best value helped CCOs in most cases, but spelling out specific issues can make operations run more smoothly for contract lawyers and deployed contingency specialists.

Our CCOs quickly became the center of gravity for regional stability and played a key role in maintaining civility and peace. Integrating the former warlords into the contingency contracting process proved very successful as well. My most vivid memory from my deployment to Bagram was the pride and dedication displayed by the Afghan people in accomplishing the mission when awarded a contract. After decades of violence, their will was not broken, and they have their hearts set on building a new and stable life — one that we hope will keep lives in the United States and around the world free of terrorism.

LTC Patrick O'Farrell (USA, Ret.) is a Contracting Branch Chief for the Research, Development and Engineering Command's Acquisition Center in Research Triangle Park, NC.

Army Contracting Personnel Deployed in FY04

We are proud to recognize the following Army contracting personnel who undertook lengthy deployments in FY04 in support of the global war on terrorism and other missions:

Corps of Engineers
Portland, OR, District
George W. Williams, Contract Specialist — Iraq

Humphreys Engineer Center Support Activity, Alexandria, VA
Carol A. Williams, Contract Specialist — Kuwait and Iraq

Army Contracting Agency (ACA)
U.S. Army Contracting Command, Europe
MAJ William Bailey — Serbia and Montenegro
Gary Busby — Bosnia and Herzegovina
CPT James Bushnell — Iraq
MAJ John Coombs — Bulgaria
Thomas Copeland — Bosnia and Herzegovina
Solomon Evans — Bosnia and Herzegovina
MSG Glenn Fairley — Iraq
Norma Jean Guins — Bosnia and Herzegovina
Ken Gunn — Serbia and Montenegro
SSG John Hamilton — Iraq
Alfred Heinrich — Serbia and Montenegro
MAJ Benjamin Kinard — Bosnia and Herzegovina
SSG Tondra Madison — Iraq
SSG Rodney Mathis — Iraq
SFC Billy Porter — Iraq
MAJ Ronald Quinter — Iraq
Toni Sandoval — Bosnia and Herzegovina
CPT Keith Taylor — Iraq

Information Technology, E-Commerce and Commercial Contracting Center
Jose Martinez, Contract Specialist — Kuwait

ACA-Southern Region
COL Anthony Bell, Head of the Contracting Agency, Coalition Provisional Authority (CPA) — Iraq
LTC Dennis Bleckley, Program Manager — Iraq
Colleen Burns, Senior Contracting Officer, Rapid Equipping Force (REF) — Fort Belvoir, VA
William Dunlap, Contracting Officer, REF — Fort Belvoir
Phil King, Contracting Officer, CPA — Iraq

MAJ Cyprien LaPorte, Senior Contracting
  Officer, REF — Fort Belvoir
Patricia Logsdon, Contracting Officer, CPA — Iraq
Rod Prickett, Contracting Officer, CPA — Iraq

U.S. Army Materiel Command (AMC)
HQ AMC, Fort Belvoir
MAJ Wayne Johnson, Contracting
  Officer — Serbia and Montenegro
Liz Smith, Procurement Analyst — Iraq

Army Field Support Command, Rock Island, IL
Gene Harrison, Contracting Officer — Kuwait
LTC Valerie Pringle, Contracting Officer — Kuwait

*U.S. Army Aviation and Missile Command,
Redstone Arsenal, AL*
James Wesley Cox Jr., Contract Specialist — Afghanistan
Tania A. Fak, Contract Specialist — Kuwait
Janice L. Fletcher, Procurement Technician — Kuwait
Willie Ruth Jackson, Contract Specialist — Kuwait
Colleen M. Rodriguez, Contracting Officer — Kuwait
Patrick C. Sherrill, Contracting Officer — Afghanistan
LTC John S. Womack, Contracting Officer — Kuwait and Iraq

*U.S. Army Communications-Electronics Command,
Fort Monmouth, NJ*
Steven Clark, Contracting Officer — Egypt
Donald Croes, Contracting Officer — Kuwait
Robert Emuli Demus, Contracting Officer — Kuwait
Marian Friedman, Contract Specialist — Kuwait
Robert Kennedy, Contracting Officer — Qatar
Erin Quinn, Contracting Officer — Kuwait
Michelle Weinert, Contracting Officer — Kuwait
Mark Young, Contracting Officer — Iraq

U.S. Army Research, Development and Engineering Command
LTC Jacques Azemar, Contracting Officer — Uzbekistan
Dennis Longo, Procurement Analyst — Iraq
MAJ Robert Macelli, Contracting Officer — Iraq
Laurie Pierce, Contracting Officer — Iraq
Victoria Thompson, Contract Specialist — Kuwait
James Warrington, Principal Assistant
  Responsible for Contracting — Iraq

*U.S. Army Tank-automotive and Armaments Command
(TACOM), Picatinny, NJ*
Eric Bankit, Contracting Officer — Iraq

TACOM, Red River, TX
Donald Kennedy, Contracting Officer — Kuwait

TACOM, Rock Island
MAJ Randy McGee, Contracting Officer — Afghanistan

TACOM, Warren, MI
Ume Chima, Contracting Officer — Kuwait
Paul Clennon, Contracting Officer — Kuwait
Priscilla Elaine D'Alio, Contract Specialist — Afghanistan

Army Contracting Officers Appointed in FY04

We are pleased to recognize the following Army personnel
appointed as contracting officers in FY04:

Army Contracting Agency (ACA)
U.S. Army Contracting Command, Europe

Bailey, MAJ William J.	Loth, Peter
Blanchard, Quentin	Lucas, Leigh Ann
Brown, Barbara A.	Mayer, Sigrid
Busby, Gary	Mazara, Marsha
Daniels, LTC Debra D.	Rader, David
Evans, Solomon	Robinson, Kennith
Foshay, Carlton	Scott, Lorraine
Hamilton, Randall	Scott, Suzanne
Harger, MAJ Daryl P.	Seeger, Yanina
Heinrich, Alfred	Smith, Carroll
Higginbotham, Cathy	Stowe, Elie Fried
Hillegas, Teresa A.	Taylor, Sarah
Hurt, James Jr.	Vaccaro, Mark A.
Kraus, Gabriele	Van Beneden, Sandra
Lefevre, Madhu	Van Tassel, Sherry Lynn
Livengood, Alina	Ward, James

*Information Technology, E-Commerce and Commercial
Contracting Center*

Baker, Timothy	Golling, Dawn
Blesi, Diane	Grayson, John
Caflisch, Christian	Hall, Cynthia
Cloutier, Elizabeth	Hastings, Pamela
Donnelly, Patrick	Kinsey, Norma Sue
Drew, Craig	Kuhl, James
Dulanto-Hassenstein, Jorge	Lukavec, Teresa
Garnes, Pamela	Parra, Debra

Russell, Jadie
Thye, Thomas
Underwood, Joann

Wentrcek, Kimberly
Wherry, Bill

Pleasant, Cynthia J.
Prather, James
Ridder, Margaret A.
Roberts, Beverly
Seaba, Julie

Smith, Charles
Taylor, Russell
Wall, MAJ Steven
Weston, Jana Lynn
Youngman, Sylvia R.

ACA-Southern Region

Aytch, Rodney D.
Baldwin, Charles E.
Barbee, Melissa M.
Batson, Andre D.
Bernardini, Mary S.
Berns, Helen M.
Bledsoe, Nancy L.
Boynton, Sabra A.
Braswell, Derrick L.
Bristol, David P.
Burke, Leeann
Butler, Steven L.
Calcote, Glenda S.
Calderon, Sheryl R.
Carter, Linda Jo
Chapple, Christopher W.
Charles, Rosanna M.
Clark, Brenda J.
Cochrane, Dennis D.
Cole, Wade Clay
Craig, Deborah S.
Delagado, Frank Jr.
Dixon, Martha S.
Dooley, Matthew R.
Elliott, Lermon
Fisher, Richard J.
Ford, Cynthia Ann
Fortune, Charles T.
Gadson, Valerie L.
George, Luzmila V.
Goins, Jared L.
Golden, Karen
Gonzalez, Lucia
Greene, Christopher K.
Grimes, John H.
Hannon, Timothy E.

Hawkins, Jon
Heck, Sheri L.
Hilliard, Nancy K.
Jacobs, Angela D.
Johnston, Frances J.
Jusino, Juan A.
Kemmerer, David A.
Klopotoski, Dean T.
Kraus, Wilhelmine
Kushinsky, Denese J.
Langford, Linda K.
Mack, Sandra D.
Mason, Barbara L.
McIntyre, Kelley A.
Milner, Michael W.
Murphy, Brian P.
Newsom, Olin D.
Ochoa, Deanna L.
Parker, Betty J.
Passmore, Elizabeth G.
Pressley, Michael A.
Rand, Jaimy S.
Robane, William
Roulain, Rhonda J.
Schumitz, Robert W.
Silva, Julia A.
Simpson, Erik J.
Small, Rolan
Staten, Carolyn L.
Thomas, Peggy J.
Urquhart, Darlene M.
Via, Maxine J.
Whittemore, Jannette B.
Wood, Patricia S.
Word, Deborah L.

U.S. Army Aviation and Missile Command, Redstone Arsenal, AL

Cicolini, Nannette V.
Deveaux, Gerard P.
Fak, Tania A.
Foster, Dorphelia B.
Fowler, Hilda E.
Fowler, Jeffrey T.
Gates, Carolyn J.
Hunt, Maragaret
Jordan, Bobbie T.
Lockard, MAJ William M.

McClure, Lark W.
Nolin, Chester
Ortiz, LTC Teresa
Ragland, Ellaphine
Ross, MAJ Peter A.
Springer, Emily A.
Wells, Patricia K.
Wilson, Gregory A.
Yates, MAJ Emmett

U.S. Army Communications-Electronics Command, Fort Monmouth, NJ

Botwinick, Joanne
Caltabilota, Patricia A.
Haase, Brenda E.
Hansen, Barbara A.
Hanson, Todd T.
Hessler, Emilce E.
Kampschroeder, Jean
Kormann, Victoria A.
Ludwig, Matthew J.
Massaro, Robert A.
Mazza, JoAnn M.

McCallum, Donna
Norton, Nancy M.
Oglevee, Danielle S.
Piermattei, Robert T.
Ross, Charles W.
Simmons, Michaela J.
Smeltzer, Richard E.
Snell, Jerrel D.
Stricker, Bette L.
Tedeschi, Kimberly A.

Program Manager, Saudi Arabian National Guard, Fort Belvoir, VA

McIntosh, Melvin
Sanchez, Frank Jr.

Travis, Willie A. Jr.

Army Materiel Command
Army Field Support Command, Rock Island, IL

Burgett-Jackson, Janet
Carr, MAJ Jay T.
Cox, Steven
Diettel, Michael L.
Dixon, Ernie
Duhart, Valiant

Goodrich, Roy
Hallgren, Trudy
Hearon, MAJ Robert
Johnson, Linda Rae
Larkin, MAJ Kevin
Muje, Jacques

U.S. Army Research, Development and Engineering Command (RDECOM), Natick Contracting Division, Natick, MA
Murphy, Sean

RDECOM, Research Triangle Park Contracting Division, Research Triangle Park, NC
O'Farrell, Patrick

Tank-automotive and Armaments Command (TACOM), Anniston, AL
Dingler, Rita

Jones, Valerie

TACOM, Picatinny, NJ

Howerton, Yvonne	Pascale, Stephanie Tara
Kallistros, Cathleen Anne	Yim, Anna

TACOM, Rock Island

Dennison, Bette	McGee, MAJ Randy
Hemmen, Adria	Sanner, MAJ Michelle
Hurst, MAJ Donald W.	Simmons, Alberta
Jaggers, Elvia	Stottlemyre, Teresa
Maple, Terri	Wendland, Michael

TACOM, Warren, MI

Beard, MAJ Kirby	Fields, MAJ Kenneth
Bursey, Loretta	Lewis, Leslie
Cummings, MAJ Kenneth	Sinelli, Scott
Elliott, Jane	

News From the Field

USAMRMC Procurement Stand Down. The U.S. Army Medical Research and Materiel Command (USAMRMC), through its contracting activity, U.S. Army Medical Research Acquisition Activity, sponsored a Procurement Stand Down Day on Nov. 3, 2004. This effort in contracting and procurement training is part of the command's continual commitment to its staff's professional development. In addition to training 84 contracting professionals, the Stand Down Day included 78 individuals from the command's labs and logistics organizations who were invited to the event. The training day started with a motivational video on "Managing Change and Transition," followed by procurement-specific topics taught by some of the profession's best and brightest. Significant topic areas included: use of sole source requirements; small business set-asides; award extensions; advanced acquisition planning; subject to availability of funds; wide area network flow and assigning appropriate priority designator; and *DD350 Individual Contracting Action Report (Federal Procurement Data System-Next Generation)*.

SDDC Awards Contract Supporting DOD "Families First" Initiative. The Military Surface Deployment and Distribution Command (SDDC) recently awarded a $55 million contract to SRA International to design, develop, deploy, operate and maintain the new Defense Personal Property System. This Web-based personal property system will integrate and automate all DOD processes that support military service families' moves worldwide. Services include project

management, requirements analysis, systems integration, information assurance, database development and integration of commercial-off-the-shelf customer relationship management and supply chain management technologies. This new system, part of the DOD "Families First" initiative, will streamline the personal property movement process and align with ongoing transportation reengineering and business improvement initiatives throughout DOD. The SDDC manages DOD's $1.8 billion Personal Property Program, moving more than 500,000 shipments annually for the military services (including the U.S. Coast Guard) and other DOD agencies.

ACA SRCC-E Supports Mobilized Soldiers. The Army Contracting Agency's (ACA's) Southern Region Contracting Center-East (SRCC-E) awards and administers contracts that support the First Army's mission — to prepare mobilized Soldiers to go to war. The training prepares Soldiers for the conditions they will face in Iraq. The training uses contractor personnel, termed "civilians on the battlefield" (COBs), to instruct Soldiers in situations, including searching civilians or interrogating civilians through interpreters; dealing with cultural differences in dress and interpersonal exchanges; and the respectful treatment of women in the Middle East. The SRCC-E has located a number of small business and Native American firms that provide these COB training services and is currently developing an acquisition strategy to compete a long-term requirement.

Mobilized First Army Soldiers practice searching a "civilian on the battlefield" role player provided under the SRCC-E contract. (Photo by ACA-Southern Region.)

SMDC and Army Strategic Forces Command Awards IDIQ Contracts to Small Businesses. In June 2004, the Space and Missile Defense Command (SMDC)/Army Strategic Forces Command contracting team, led by contracting officers Mary Gorman and Janet Schwarzbart, awarded three indefinite delivery indefinite quantity (IDIQ),

cost-plus-fixed-fee contracts under a 100-percent small business set-aside. The contracts were awarded to provide scientific, engineering and technical assistance for the Space and Missile Defense Initiatives Support II program. Contracts were awarded to the following Huntsville, AL, small businesses: CAS Inc., COLSA Corp. and Dynetics Inc. Each small business is required to perform 50 percent of the work as a prime contractor over the life of the contract. The contracts have the capacity to provide support to any government agency involved in the space, homeland defense and missile defense arenas. The contracts have a 5-year ordering period — October 2004 through September 2009 — with a maximum contract value of $245 million each. Within the first 2 months, there were more than 40 task orders competed among the three prime contractors for a total estimated cost of approximately $17.3 million. The good news is that through upfront planning and successfully involving industry before draft request for proposal (RFP) releases, the contracting team met its goal of awarding early without discussion. The time saved was used to introduce the small business contractors and their capabilities to government customers, and to promote competition among the three winners on individual task orders. For example, RFPs on task orders were phased to help the small businesses meet suspense dates, and debriefings were offered to ensure the small business contractors understood how they could improve to be more competitive on future orders. For additional information, contact Mary Gorman at **Mary.Gorman@smdc-cs.army.mil** or Janet Schwarzbart at **Janet.Schwarzbart@smdc-cs.army.mil**.

AMCOM Success With Patriot FPIS-FFP Conversion Contract. The Aviation and Missile Command (AMCOM) awarded the Patriot Advanced Capability-3 (PAC-3) Low Rate Initial Production-3 (LRIP-3) Contract in February 2002 as a fixed price incentive with successive-targets (FPIS) contract; the first of its kind issued by AMCOM. An FPIS contract allows for negotiation of a fixed price at a later date after unknown costs and uncertainties are identified, thereby reducing the cost risk associated with the contract. The PAC-3 LRIP-3 contract was initially executed with a target cost of $375 million. However, after evaluation and negotiation, this FPIS contract was converted to a firm fixed price (FFP) contract with a final FFP amount of $333 million. Following the conversion, $42 million was deobligated, returned to the government in September 2004 and reobligated prior to end of the fiscal year for use on the PAC-3 program. The contractor involved in this effort is Lockheed Martin Missile and Fire Control-Dallas, TX.

ACA-Southern Region Employee Named JWOD Champion. Nancy F. Brown, Chief Contracts Division Chief at the Fort Hood, TX, Contracting Command, was selected by the NISH (formerly the National Industries for the Severely Handicapped) South Central Region to be a 2004 Javits-Wagner-O'Day [JWOD] Program Champion. A JWOD Champion is a federal government employee — a "point of influence," primarily in acquisition — who fully believes in the JWOD Program mission and is doing everything in his or her sphere of responsibility to provide employment opportunities for people with disabilities. Within the ACA-Southern Region, awards to NISH work centers increased from $38 million in FY03 to $60 million in FY04, largely because of Fort Hood's and Brown's efforts. Brown was featured in an article in the December 2004/January 2005 NISH *Workplace* Magazine.

Nancy F. Brown, NISH South Central Region JWOD Champion, is hard at work. (Photo by ACA-Southern Region.)

Competitive Professional Development Opportunities

The Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) is offering 1-year developmental assignments to all DA employees at the GS-12 level (or Acquisition Demonstration broadband equivalent) in the Contracting and Acquisition Career Program (CP-14). The Contracting Career Program Office funds travel and temporary duty costs. For details, see the June 29, 2004, memorandum titled *FY2005 Competitive Professional Development (CPD) Announcement for the Contracting and Acquisition Career Program (CP-14).*

The U.S. Army Acquisition Support Center at Fort Belvoir, VA, can provide additional information about this opportunity. Contact Sally Garcia at (703) 805-1247/DSN 655-1247 or e-mail **Sally.Garcia@us.army.mil**. Online information can be found at **http://asc.army.mil/programs/cp/opportunities.cfm**.

SDDC Announces New PARC

The Military Surface Deployment and Distribution Command (SDDC) welcomed new Principal Assistant Responsible for Contracting (PARC) Francis A. Giordano. The SDDC supported Army transformation by converting the PARC position from a military to a civilian slot. Giordano also serves as the Director, SDDC Acquisition Center. His 20 years' acquisition experience includes 3 years as SDDC Contracting Center Director and 8 years as Acquisition Division Chief. Giordano earned a master's degree in business administration from The George Washington University and is a graduate of the Federal Executive Institute, Charlottesville, VA.

In January 2004, the Military Traffic Management Command was renamed the SDDC to more accurately reflect its mission. The SDDC provides global surface deployment command and control and distribution operations to meet national security objectives in peace and war. The SDDC Acquisition Center is responsible for the award and administration of contracts for these transportation services and supplies.

The DAR Council Corner

Comptroller General Decision on IDIQ and Multiyear Contracts. *Comptroller General (Comp. Gen.) Decision B-302358*, dated Dec. 27, 2004, regarding the Bureau of Customs and Border Protection's Automated Commercial Environment (ACE) contract stated that ACE was an indefinite delivery, indefinite quantity (IDIQ) contract and therefore was not subject to the multiyear contracting requirements of *41 U.S.C. 254c*, including the termination provisions in that section. Upon contract award, customs should have obligated the contract minimum of $25 million per *31 U.S.C. 1501(a)*, the recording statute, to ensure the integrity of customs' obligational accounting records. The ruling refers to an earlier decision under *65 Comp. Gen. 4,6 (1985): B-242974.6*, of Nov. 26, 1991, stating that an agency is required to record an obligation at the time it incurs a legal liability, which occurs during contract award. This decision contains an excellent discussion of the difference between an IDIQ contract and a "multiyear contract

under section 254c." The Government Accountability Office also explains the difference between multiyear contracting and an IDIQ multiple-year contract and the importance of such differences when funds must be obligated.

Proper Use of Non-DOD Contracts. In February 2005, Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASAALT) Claude M. Bolton Jr. and Assistant Secretary of the Army for Financial Management and Comptroller Valerie Lynn Baldwin issued the Army policy and procedures for reviewing and approving the proper use of non-DOD contracts to acquire supplies or services, with an estimated dollar value above $100,000, titled the Simplified Acquisition Threshold. These procedures implement Section 854 of the *FY05 National Defense Authorization Act (Public Law 108-375)* and the associated requirements of the Office of the Secretary of Defense Policy memorandum, *Proper Use of Non-DOD Contracts* dated Oct. 29, 2004.

Ensuring proper use of non-DOD contracts, including orders against the General Services Administration's *Federal Supply Schedules*, requires an emphasis on market research; acquisition planning; and the early involvement of the requirements, contracting and financial management personnel in the acquisition process. Although the requirements community has the primary responsibility to ensure compliance with this policy, all must work closely together to develop an acquisition strategy that complies with the procedures contained in this memorandum and ensure that use of a non-DOD contract is in the best interest of the Army and its customers.

The procedures address both direct acquisitions (i.e., an order placed by an Army or DOD contracting officer against a non-DOD contract) and assisted acquisitions (i.e., orders placed on the Army's behalf) by a U.S. official outside DOD for supplies and services.

These procedures were effective Jan. 1, 2005, and will be used until the *Defense Federal Acquisition Regulation Supplement*, the *Army Federal Acquisition Regulation Supplement* and the *DoD Financial Management Regulation* are updated.

To view the policy, go to the ASAALT Web site at **https://webportal.saalt.army.mil/main/saal-zp.htm?page-no=3** and select **Acquisition Information and Links to Other Sites** then **Information/Guidance/Publications**.

This information was provided by Army Policy Member Barbara Binney.

Contractors Accompanying the Force: Challenges and Recommendations

Andrew O'Rourke

Historically, contractors have been an essential component of the U.S. Army and a significant contributor to its mission successes. However, the use of contractors supporting contingency operations presents several challenges. To overcome these challenges, the Army must pursue revisions to current laws, policies and regulations and consider changes in the way contractor support is managed.

Contractor support has been provided to the military since the United States was founded. George Washington used civilians to transport supplies. Contractors participated in every U.S. war including the Civil War, World War I, World War II, Korea and Vietnam. Their involvement with current operations in Iraq and Afghanistan has been critical.

Using contractors as part of the total force is consistent with DOD Joint Chiefs of Staff policy that states, "The total force policy is one fundamental premise upon which our military force structure is built. It was institutionalized in 1973 and … as policy matured, military retirees, DoD personnel, contractor personnel and host nation support personnel were brought under its umbrella to reflect the value of their contributions to our military capability."

On the battlefield, the Army employs contractors so that soldiers can focus on warfighting missions. In Bosnia, the Army used contractors for firefighting services because the number of military personnel was limited. This limitation is known as a "force cap." When force caps are in place, contractors routinely replace military personnel so that they are free for combat operations. In addition, the Army relies on contractors to provide installation and weapons system support. Contractors were used to support the Guardrail Surveillance Aircraft because the Army determined that using government support was not cost-effective.

Contractor support is predicated on contract execution. The Army, like all executive agencies, executes contracts that are consistent with the *Federal Acquisition Regulation*. Contracts between the Army and private industry can only be executed by contracting officers (COs) appointed by the Head of the Contracting Activity or Principal Assistant Responsible for Contracting. COs are responsible for ensuring that contracts comply with all applicable laws and regulations.

In addition to laws and regulations, contractors may also be subject to military statutes and/or international treaties, notably the Geneva Convention. The Geneva Convention applies to military combatants and, "… person[s] who accompany the armed forces without actually being members thereof, such as civilian members of military aircraft crews, war correspondents, supply contractors, members of labour units or of services responsible for the welfare of the armed forces." The convention establishes the term "contractor accompanying the force." It requires contractors accompanying the force to obtain cards that specifically identify them as contractors. This identity card affords contractor personnel with the protections of the convention such that they, "… be treated humanely, without adverse distinction founded on race, colour, religion, sex, birth or wealth, or any other similar criteria." In addition to the Geneva Convention and other international treaties, contractors may be subject to the Uniform Code of Military Justice (UCMJ) in wartime.

Deploying contractors to the battlefield presents certain challenges. One significant challenge involves the oversight of a contractor's performance in a combat environment. Unlike soldiers, individual contractor personnel are not legally accountable to the chain of command. Rather, they are accountable to their corporate management, the CO and the terms of any specific contract. Serious consequences can occur when proper oversight is overlooked. This was demonstrated at the Abu Ghraib Confinement Center in Iraq, when criminal abuses against detainees were uncovered. These abuses were attributed to contractor and military personnel at Abu Ghraib. The Army's investigation of these abuses revealed that the contractors were not properly supervised within the confinement center. They were allowed free access within the facility and were not easily identified. Contractors were issued military-type uniforms with no distinguishing marks other than a small label saying, "U.S. Contractor." This led to confusion within the military, evidenced by the fact that several contractor personnel were awarded Purple Hearts or Bronze Stars. These awards were withdrawn because only members of the military are eligible for them.

In addition to oversight challenges, the lack of DOD-wide policy and contract language also presents a formidable challenge. Currently, there isn't DOD-wide guidance that establishes policies or implementation instructions for contractors accompanying the force. In addition, there isn't a standard contract language applicable to the deployment and support

of contractor personnel. The Government Accountability Office found that when the U.S. Army's 4th Infantry Division was deployed in support of *Operation Iraqi Freedom*, the support contracts executed for the effort contained either vague deployment contract language or were silent altogether. This put contractors in an untenable position. As a result, DOD and the Army are working together to develop guidance for all military departments on managing contractors. This combined DOD-Army exercise has three goals. The first is to provide consistent guidance throughout the departments. The second goal is to provide more specific guidance relative to the issuance of weapons and uniforms. The third is to use that guidance to develop future Joint doctrine relative to contractors accompanying any force into combat.

Standard contract language is critical to solving contractor-related challenges on the battlefield. Proposed contract language has been developed and an interim rule was published in the *Federal Register* on March 23, 2004. The proposed language applies to all contracts calling for contractor support of deployed troops for peacekeeping, humanitarian or combat operations, and will be formalized upon its publication in the *Defense Federal Acquisition Regulation Supplement.*

The language will increase the quantity and quality of contracting officer's representatives (CORs) embedded with combat troops in theater. CORs represent COs and manage contractors' performance consistent with requirements. Without properly trained CORs, proper oversight and surveillance of contractors cannot occur. As discussed, individual contractor personnel at the Abu Ghraib Confinement Center lacked proper supervision and oversight. A COR might have provided the oversight needed to prevent the problems at the confinement center.

While implementing consistent DOD-wide policy, adopting standard contract language and using well-trained CORs will mitigate most challenges occasioned by contractors, it has been suggested that the Army apply the UCMJ to its support contractors. While the UCMJ applies to contractors during a declared war, it doesn't apply to the current operations in Iraq and Afghanistan. Consequently, contractors are not subject to the provisions of the UCMJ. So, the two civilian contractors involved in the Abu Ghraib abuses will only receive letters of reprimand, have their security clearances revoked and employment terminated. These are insufficient consequences given the gravity of the abuses. Military personnel similarly involved may face incarceration as a result of their criminal acts. While there is a risk that contractors might be hesitant to accept a contract if the UCMJ was applied, many contractor personnel have considerable military experience and recognize the implications of the UCMJ.

Contractors accompanying the force are an essential component in achieving the U.S. Army's mission. Contractors have a long history of supporting the Army and Soldiers on the battlefield. And, with the proper precautionary measures, they will continue to do so in the future.

Andrew O'Rourke is a Contracting Officer assigned to the U.S. Army Communications-Electronics Command Acquisition Center, Fort Monmouth, NJ.

CECOM'S Common Hardware/Software Acquisition Team Recognized for Its Dedicated Support to PM CHS

Bob Tiedeman

On Nov. 19, 2004, the U.S. Army Communication-Electronics Command's (CECOM's) Common Hardware/Software Acquisition Team was honored for its efforts for supporting the Program Manager Common Hardware/Software (PM CHS). The team, led by Contracting Officer Marcia Easton and Contract Specialists Gene Caffrey, Shannon Lis, Michelle Banach, Anne Marie Vasconcelos, Thomas Flynn and Kevin King, was presented with certificates of appreciation by, Product Manager Dr. Ashok Jain for their dedicated and ongoing support in FY04.

Common Hardware/Software III is a 10-year indefinite delivery/indefinite quantity contract that provides Army, Navy, Air Force and Marine tactical computer users with commercial and ruggedized computers, network hardware equipment, power subsystems, peripheral devices and commercial software worldwide.

Jain recognized the team's dedication, technical competence and outstanding performance that help PM CHS better support the warfighter.

Bob Tiedeman is a Procurement Analyst, CECOM Acquisition Center.

Conferences

Acquisition E-Business Conference Slated

Strategic acquisition through electronic systems is the future, and e-business is leading the journey to achieve this ideal. The Office of Defense Procurement and Acquisition Policy, E-Business (DPAP, EB) is hosting an E-Business Conference, May 24-27, 2005, in Orlando, FL. Acquisition and procurement executives who oversee strategic plans and manage transformation policies are encouraged to attend.

The E-Business Conference will focus on the approaches, strategies and initiatives that will make this environment a reality. The conference will cover:

- Enterprise architecture — movement away from application silos.
- Portfolio management — an assessment of technical and functional capabilities supporting strategic acquisition.
- Transition planning — a plan to transform the acquisition domain from what it is to what it should be.
- Governance — reflective of both procurement and acquisition processes and strategies.

The 2005 DPAP, EB Conference will convene at the Rosen Centre Hotel, 9840 International Drive, Orlando. For more information about the hotel, go to **www.rosencentre.com** or call (407) 996-9840. For registration or additional information, go to **http://www.dodebconference.com**.

National Security Personnel System

On Feb. 14, 2005, DOD and the Office of Personnel Management (OPM) proposed regulations to establish the National Security Personnel System (NSPS), which offers new rules and processes for pay and classification, performance management, hiring, reductions in force, discipline, appeals and labor-management relations.

The proposed regulations' publication in the *Federal Register,* Feb. 14, 2005, initiated a 30-day formal public comment period, after which DOD will meet with employee representatives for 30 days to discuss the proposed regulations. DOD will report the results of these discussions to Congress prior to finalizing the regulations late this spring.

DOD will implement NSPS in three major phases, or spirals. Spiral 1 is limited to 300,000 employees and includes general schedule (GS), general manager (GM) and acquisition positions in select organizations. Spiral 1.1, the first of three increments, is scheduled to begin no earlier than July 2005. Spiral increments 1.2 and 1.3 will each occur approximately 6 to 9 months after the preceding deployment.

Army Spiral 1 Implementation
Spiral 1 will include approximately 24,000 GS, GM, Acq Demo and acquisition employees from:

- Madigan Army Medical Center, Fort Lewis, WA.
- Communications-Electronics Command (Fort Monmouth, NJ, only).
- Tank-automotive and Armaments Command.
- Armaments Research, Development and Engineering Center (Picatinny Arsenal, NJ, only).
- Space and Missile Defense Command.

- Civilian Human Resources Agency (CONUS locations).
- Corps of Engineers, Mississippi River Division, Southwest Division and South Pacific Division.

Spiral 1.2 will include approximately 24,500 positions from:

- Army Engineering and Support Center, Huntsville, AL.
- Corps of Engineers, Northwestern Division and South Atlantic Division.
- Army Materiel Command (all remaining CONUS organizations).

Spiral 1.3 will include approximately 30,500 positions in the remaining elements of the:

- Medical Command (remaining CONUS organizations).
- Corps of Engineers (all remaining CONUS organizations).

Each increment and phase will be assessed and necessary adjustments will be made. Spiral 2 will be implemented after the Secretary of Defense and OPM Director determine NSPS satisfies legal requirements. It will include the remainder of the Army workforce, with the exception of the exempted (until FY08) Laboratory Demonstration Projects identified in the *2004 National Defense Authorization Act.* Spiral 3 will consist of the Laboratory Demonstration Projects.

For more information on NSPS, go to **http://www.cpms.osd.mil/nsps/index.html** and **http://cpol.army.mil/library/general/nsps/**.

Jerry Lee is an SAIC Contractor supporting the Army Acquisition Support Center.

3rd INFANTRY DIVISION RETURNS TO IRAQ

Since its activation in November 1917, the 3rd Infantry Division's (3ID's) mission has been to deploy rapidly to a contingency area by air, land and sea to conduct mobile, combined arms offensive and defensive operations worldwide. Stationed at Fort Stewart and Hunter Army Airfield, GA, the 3ID has one of the most successful combat records of any U.S. Army division, with 50 Medal of Honor recipients.

The Stewart/Hunter military complex is the U.S. Army's premier heavy force projection platform on the East Coast. This complex is home to one of the most highly trained and rapidly deployable mechanized forces in the world — the 3ID, the "Iron Fist" of the XVIII Airborne Corps.

Known as the "Rock of the Marne," the 3ID contributed to the U.S. Army's success in fighting World Wars I and II, the Korean War, the Cold War and *Operation Desert Storm*. In the past few years, the 3ID has demonstrated its deployability by sending forces to Egypt, Kosovo and Bosnia for peacekeeping and partnership training missions. Since Sept 11, 2001, units have been sent to Afghanistan, Pakistan and other Middle Eastern countries to support the global war on terrorism. In early 2003, the entire 3ID deployed within weeks to Kuwait to support *Operation Iraqi Freedom*. On the front lines, the 3ID fought its way to Baghdad and helped destroy Saddam Hussein's regime and free the Iraqi people.

Recently, the 3ID returned to Iraq for a different mission — to help rebuild Iraq's economy and establish democracy. The 3ID's forces are reconstructing the country's infrastructure and training Iraq's security forces. Their efforts are allowing Iraq to become a free and peaceful nation, while also improving the average Iraqi citizen's quality of life.

SGM William M. Grant and 3ID Commander MG William G. Webster Jr. uncase the Marne Division colors during a Transition of Authority ceremony at the parade grounds in Baghdad, Iraq, Feb. 27, 2005. (U.S. Army photo by SPC Emily J. Wilsoncroft.)

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ASC ACQUISITION SUPPORT CENTER

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