

May 2002

intercom

Journal of the Air Force
C4 Community

AFSOC
Comm and Info
Warriors ...

... 'Quiet
Professionals'

Warfighting
Integration

... See Page 4

Air Force Chief of Staff
Gen. John P. Jumper

**Deputy Chief of Staff for
Warfighting Integration**
Lt. Gen. Leslie F. Kenne

**Deputy Chief of Staff for
Installations and Logistics**
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On the cover

This month's cover focuses on Air Force special operations communications and information warriors – of active duty, Air National Guard, and Air Force Reserve members – and they enhance air operations every day.



Cover by Janet Moreiko-Gagen

Air Force Special Operations Command Communications and Information

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Visit the Computer Based Training System Web site at <http://afcbt.den.disa.mil>



Graphic by Lori Manske

Air Force integrates warfighting assets

WASHINGTON – The Air Force stood up a new deputy chief of staff for Warfighting Integration (AF/XI) April 29. This new office integrates Air Force intelligence, surveillance and reconnaissance assets with command and control, communications and computer capabilities. Lt. Gen. Leslie F. Kenne, former commander of the Electronic Systems Center, Hanscom AFB, Mass., leads the new organization.

“These changes will best posture the Air Force to enhance our contribution to national security by exploiting the synergies within command and control, communications and computers, and intelligence, surveillance and reconnaissance capabilities,” said Dr. James G. Roche, Secretary of the Air Force.

“Successful operations depend on modernized air and space capabilities to quickly find, fix, track and attack targets,” said Gen. John P. Jumper, Air Force Chief of Staff. “I have explicitly charged the new AF/XI to close the seams in this kill chain by integrating manned, unmanned and space systems, thereby enabling commanders to create desired effects in the battlespace.”

“The integration of command and control and intelligence, surveillance and reconnaissance capabilities and their supporting communications infrastructure is key to transforming how the Air

Force conducts joint and combined operations on a global basis,” said General Kenne. “The integration of these capabilities to support commanders is the focus of this new organization.”

The deputy chief of staff, Communications and Information (AF/SC) was disestablished, with its integration, modernization and strategic planning responsibilities and resources becoming part of AF/XI, while the day-to-day operations responsibilities were transferred to the newly formed Air Force directorate of Communications Operations (AF/IILC), under the deputy chief of staff for Installations and Logistics. The directorate of Command and Control, in the DCS for Air and Space Operations (AF/XO), was disestablished, with key responsibilities moving to AF/XI.

Five field operating agencies are part of the new structure. Realigned from AF/SC were the Air Force Communications Agency and Air Force Frequency Management Agency, which went under AF/XI, and the Air Force Pentagon Communications Agency, under AF/IILC. The Air Force Agency for Modeling and Simulation, formerly under AF/XO, and the Air Force Command and Control, and Intelligence, Surveillance and Reconnaissance Center, previously a part of Air Combat Command, were aligned under AF/XI.

DCS
Warfighting Integration
 Lt. Gen. Leslie F. Kenne



Mission: Close the seams between find, fix, track, target, engage and assess, through integration of manned, unmanned and space systems

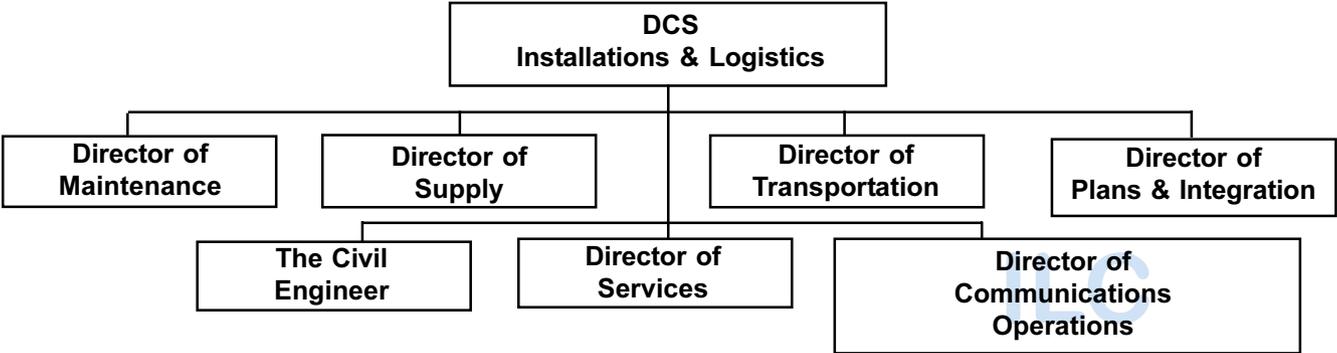


- * Translate concept of operations to operational architectures
- * Develop strategic planning direction
- * Oversee experimentation and advanced concept technology demonstrations

- * Maintain C4ISR architecture
- * Make capability assessments
- * Oversee development of robust modeling and simulation environment supporting development and training

- * Oversee comm and info system support to programs
- * Oversee modernization of comm and info systems in the global grid

Field operating agencies realigned to AF/XI:
 AF Command and Control, and Intelligence, Surveillance and Reconnaissance Center; AF Communications Agency; AF Agency for Modeling and Simulation; AF Frequency Management Agency



- * Oversee global C4 operations, including Info Assurance ops, network ops
- * Oversee C4 systems, including C2 sustainment, combat support
- * Force management, plans & policy

Field operating agency realigned to AF/ILC:
 AF Pentagon Communications Agency

CSAF Gen. John Jumper:

Transformation allows AF to leverage technology

By Staff Sgt. A.J. Bosker

*Air Force Print News
Washington*

“Today, we have airmen in harm’s way, doing the nation’s business, just as they always do,” Air Force Chief of Staff Gen. John P. Jumper told congressional and defense industry leaders at an aerospace power seminar on Capitol Hill.

General Jumper is adamant about providing men and women in uniform with the proper resources to accomplish their missions. In the long run, he said, our continued transformation will accomplish this goal.

It will allow the Air Force to leverage the nation’s technology and what the service brings to the fight – stealth, precision, stand-off, information technology and space – to create asymmetrical advantages against the enemy, he said.

“In our transformation, we have several things going for us,” General Jumper said. “The first is stealth. The F-22 (Raptor) will bring stealth into the daylight for the first time.”

Transformation will also rely on tying the information gathered from various intelligence, surveillance and reconnaissance assets into an advanced command and control network.

“This is where we are proposing some of the more radical changes – the horizontal integration of manned, unmanned and space platforms,” General Jumper said.

Manned is not only flying platforms, but includes people on the ground who can put eyes on target; unmanned includes unattended sensors on the ground; and space includes both manned and unmanned space assets, he said.

“(Continued development of) information technology will have these platforms communicating at

the machine level, allowing them to resolve the ambiguities of target location and identification (digitally),” General Jumper said.

“How we parcel this out between manned, unmanned and space platforms is of little relevance,” he said. “What is important is getting the mix right.”

The Air Force will have to combine the persistence of the airborne platforms, manned and unmanned, with the high ground of space in the right proportion to make sure this horizontal integration can work, he said.

General Jumper also called for breaking down the functional stovepipes that stand in the way of the seamless integration of various assets to provide commanders with decision-quality information and target-quality data.

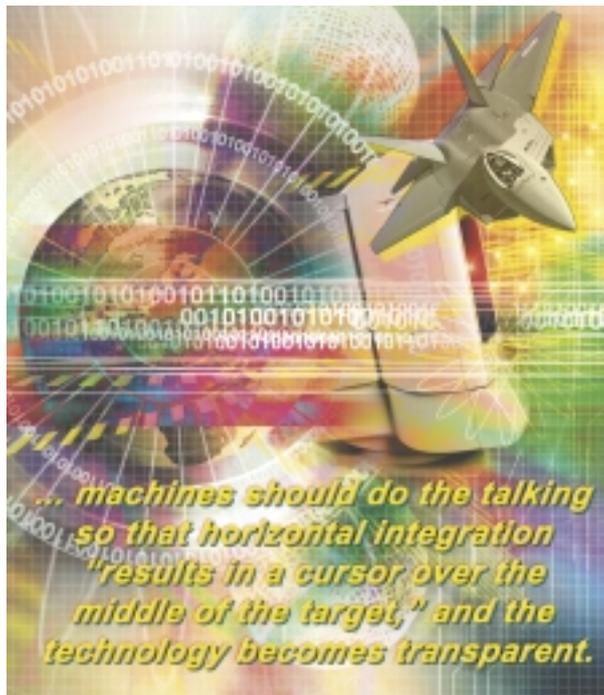
People and organizations should not be jealous about which platform or sensor is put to work in the air, space or on the ground, he said.

To the maximum extent possible, machines should do the talking so that horizontal integration “results in a cursor over the middle of the target,” and the technology becomes transparent, General Jumper said.

“We are putting all this together in a concept called the Global Strike Task Force,” he said.

The GSTF construct is an example of a family of global response task forces specifically designed to accomplish certain objectives, he said.

“This operational concept will describe, in a task force format, how we plan to fight and how we plan to put things together to create desired effects,” General Jumper said. “This is the formula we are using as we transform ourselves, technologically, into this new way of going to war.”



Graphic by Lori Manske

Translating transformation into capabilities

By Jim Garamone

American Forces Press Service
Washington

“To my mind, the ‘T’ in ‘transformation’ stands for time,” said Maj. Gen. Daniel P. Leaf, Air Force director of Operational Requirements.

The U.S. military already can decide and act quicker than anyone else, General Leaf said, but it must continue to maintain this edge to fight the war on terrorism.

The U.S. military must capitalize on its asymmetrical advantages as it transforms to meet the threats of the 21st century, said Defense Secretary Donald Rumsfeld. The abilities to assess in-

Predator and other unmanned aircraft provide real-time surveillance and reconnaissance capabilities to the battlefield.



telligence and pass it to the commander who needs it and can act on it are among the American military's greatest asymmetrical advantages, he said.

Maintaining this edge may mean building new more capable equipment or combining existing systems in new ways, Rumsfeld said. But what is most important in transformation is a culture of innovation, a willingness on the part of commanders and subordinates to take risks and try new methods and ideas.

Afghanistan is a proving ground for some of these concepts. Rumsfeld has continually pointed to Army special forces and Air Force combat controllers calling in pinpoint air strikes while participating in a horse cavalry charge as an example of the type of flexible thinking required to transform the military.

The air operations center enjoys a joint service approach. “If you walk into that facility, you see a great representation of all the services and our partner nations,” General Leaf said.

General Leaf, who was the commander at Aviano AB, Italy, during Operation Allied Force, said the

Army representation at the air operations center proved important even though U.S. ground forces had no part in the Kosovo campaign. “They helped give that grand combat picture of the enemy on the ground,” he said.

Servicemembers “side-by-side wearing different uniforms” and offering their expertise give commanders an awareness they would not have otherwise, General Leaf said. Establishing an air operations center also centralizes planning and helps the services work together closely.

Communications improvements have allowed an unprecedented exchange of information. Interoperable radios and computers have sped up reaction time. He said one example occurred in Afghanistan when a Northern Alliance commander turned to an Air Force air control specialist and said he wanted to attack Taliban forces on the next ridge.

“He thought we'd go through a long approval process ...(that) it would be a day or two before the strike came in,” General Leaf said. Nineteen minutes after the airman's call, Taliban positions were bombarded with precision accuracy.

This flexibility and interoperability contrasts with even Desert Storm. Then, air tasking orders had to be physically delivered to land bases and carriers at sea.

Data links join air, ground and sea forces now and will be the most fertile area to explore as the services move forward, General Leaf said. These advances, coupled with the Global Positioning System, laser range finders and others, allow planners to integrate their efforts.

Unmanned aerial vehicles bring another tool to the battlefield. Predator, Global Hawk and other unmanned aircraft provide real-time surveillance and reconnaissance capabilities. The fiscal 2003 defense budget request includes an additional \$1 billion to speed up development in this field and would increase funding for research into an unmanned combat aerial vehicle.

General Leaf called this “seize the initiative stuff” for the potential capabilities they offer to the U.S. military. Today, no other military in the world can do what the United States now routinely does, he said.

The U.S. military must work to improve its capabilities and integrate technologies to maintain its world lead, he said.

C2 and ISR transformation dependent on industry relationships

By Maj. Gen. Robert F. Behler
Commander
Air Force Command and Control,
and Intelligence, Surveillance
and Reconnaissance Center
Langley AFB, Va.



“Our enemies must know we can detect all threats ... and can eliminate his courses of action.”

Maj. Gen. Robert F. Behler

The Air Force has been transforming itself since President Harry S. Truman signed Executive Order 9877 and the National Security Act of 1947. Today, our service has become a beyond-line-of-sight, over-the-horizon Air Force.

We are further along in the integration of command and control than one might expect. This is evidenced by tremendous successes in the Afghanistan campaign which have revealed the immense value of unmanned aerial vehicles like Global Hawk and Predator, and the innovation in the linkage of “streaming video” from unmanned Predator to AC-130 Gunships.

In dealing with change, particularly as we face technical challenges that seem to defy solution, it’s appropriate to quote from a widely-read book among CEOs of leading businesses.

It’s “Who Moved My Cheese,” by Dr. Spencer Johnson. Cheese is a metaphor for what you want most in life.

When they discover their cheese has been moved, one of the main “Little People” characters (Haw), takes a stone and scrawls out some words for his buddy Hem, who cannot accept the fact his cheese was moved.

The message reads:

“If you do not change, you can become extinct.”

As simple as that story is in this top-rated book, there’s a profound message for all of us.

For this article, I want to focus on the importance of military-industry partnerships in leveraging our nation’s technology, in order to find solutions that enable us to transmit “decision-quality” information, automatically fused into knowledge, at the speed of light, to a commander who can ultimately execute the mission.

Our enemies must know we can detect all threats ... and can eliminate his courses of action. There-

fore, if we can horizontally integrate our C2ISR systems, we will have a force multiplier equal to any advanced technology weapon system. To achieve that, we need the bright minds of industry to work on these hard problems.

That’s why we held a C2 summit outside Boston, where the top leadership of the Air Force gathered to dialogue and collaborate on the importance of working together to solve technical challenges and develop a robust C2ISR system for our Air Force.

Eight months have already passed since the terrorist attacks of Sept. 11. Within hours of sunrise on that day, our nation found itself at war once again. In a departure from past wars America found itself involved in, the nation’s defense firms are now moving away from the traditional role of making bombs, ships and fighter jets, and have begun to establish internal Homeland Defense Offices to identify technologies to fortify America at home. Similarly, we need to work closely with industry in identifying key technologies that will enhance C2ISR.

I wish I could chronicle the tremendous successes we’ve seen in Operation Enduring Freedom with respect to finding solutions for locating and striking elusive targets. The good news is: We’ve gotten better. However, despite the great successes with operations in Afghanistan, Allied Force and the Gulf War, our C2 and ISR capabilities are not where they need to be at the beginning of the 21st century. The bottom line is we need to do it **quicker and better**.

You may find this hard to believe, but during

Desert Storm over a decade ago, we had no capability to **FIND, FIX, TRACK** and **KILL** time-critical targets, such as mobile SCUDs, on the battlefield.

Obviously we've made some progress in that area, but we've still got work to do before reaching our goal of being able to find and kill critical targets that emerge on the battlefield within single-digit minutes, as envisioned by our chief, Gen. (John) Jumper (Air Force Chief of Staff). The good news is that we can get there – but it's going to require a lot of help from **industry** to make it happen.

CAOC-X (Spiral Development)

We stood up the Combined Aerospace Operations Center-Experimental about a year ago to serve as a key element in standardizing and modernizing the air operations center.

Langley AFB is where the industry-warfighter partnership will grow stronger than ever. This is where the warfighters, our operators, work together with industry to quickly baseline and field critical capabilities.

Our immediate challenge is to standardize and modernize all of these AOCs into a single spiral development process known as “blocks” – the same process used in modernization of fighters, bombers and spacecraft.

AT AOC Weapons System of the Future

On the horizon, the biggest command and control challenge I'm focusing on today is building the next generation Advanced Technology Air Operations Center (AT AOC).

This is the “Joint Strike Fighter” equivalent of AOCs. But I don't just want to **evolutionize** the AOC with continuing block upgrades, I want to **revolutionize** our AOCs by jumping ahead and building the Advanced Technology Air **and Space** Operations Center. Our AOC needs to be a standardized weapon system that provides our commanders the tools and processes they need to command **air** and **space** power.

Our goal is to create a “plug and play” AOC environment that fits the ever-widening spectrum, from terrorist operations with weapons of mass destruction to hostile nation states.

I have a poster in my office of a pilot in a space suit with the caption, “The Ultimate Computer.” I keep that poster because it illustrates that humans

solve the complex problems. To do that, we have to figure out a way to improve the “machine interfaces” so that all intelligence can be fused by fewer people.

Machines don't get tired and they have the ability to solve very complicated problems such as searching databases, comparing images, adding real-time information and overlaying the weather. But giving the solutions to humans is the key. What we can't do yet is solve complicated problems at the machine language level.

The AT AOC must be thought of as a weapon system. To that end, it should be complete with the hardware, software, operating manuals, training for the operators, and logistics support.

MC2C/MC2A Constellation

In today's beyond-the-line-of-sight Air Force with distributed combat operations, the Multi-Sensor, Command and Control Constellation is the primary tool the Air Force needs to improve the speed and accuracy of finding solutions for locating and striking elusive targets. It's the **enabler** for the chief's Global Strike Task Force.

If you have the air armada launching to kick down the door, you need a command and control element to go with it because you may not have it on the ground. It's important that we have ISR eyes and ears to make sure we're kicking down the right door. The constellation is a key enabler of predictive battlespace awareness capability that will allow us to operate **inside** the enemy's decision cycle.

By having a digitally linked network of sensors and C2 nodes, we can move away from the old paradigm or single-INT mentality and pursue distributed and networked operations. At the center of gravity for this constellation is the Multi-Sensor Command and Control Aircraft (MC2A), a wide-body transport like a Boeing 767, to provide the required command and control.

ROBE

Another capability I'm tremendously excited about is **ROBE** or roll-on-roll-off beyond-line-of-sight enhanced. It is a device about the size of a



See **INDUSTRY** Page11

ACC comm and info supports Combined Aerospace Operations Center-Experimental

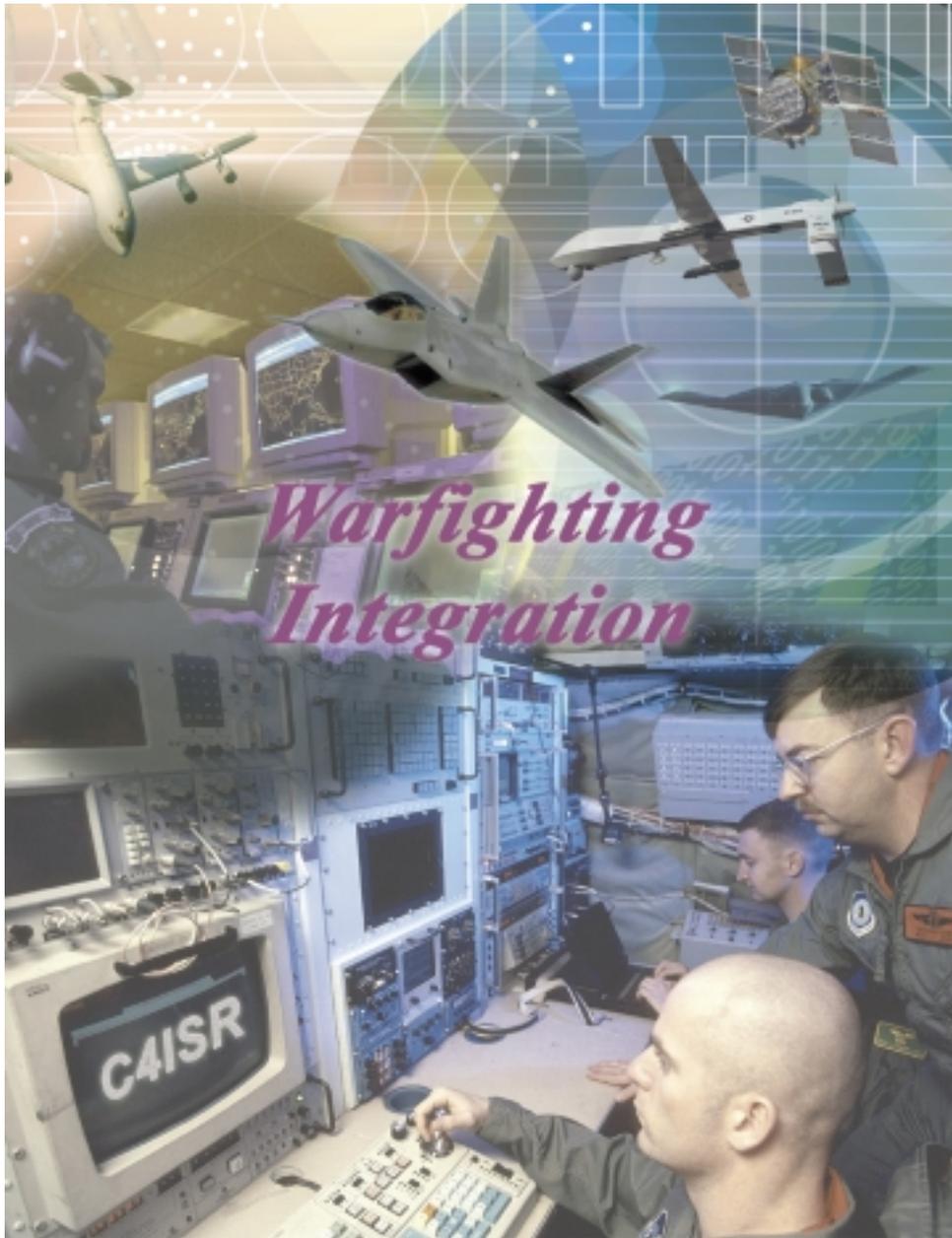
By Lt. Col.
Roland Rivera
*Chief, CAOC-X
 Communications
 and Information Systems
 Air Combat Command
 Langley AFB, Va.*

The Air Combat Command communications and information community has joined forces with the Air Force Command and Control, and Intelligence, Surveillance and Reconnaissance Center, and Air Force Materiel Command to operate the Combined Aerospace Operations Center-Experimental at Langley AFB. The CAOC-X, led by Col. Craig "Lighty" Lightfoot from AFC2ISRC, is a place where warfighters from throughout the air and space forces work closely with developers and testers to quickly evolve requirements and refine operational procedures. Integral to prudent C2 system management is a spiral software development process and evolutionary acquisition strategy that allows the combined teams to develop systems that take advantage of ever-shortening technology life cycles. The intention is to focus efforts on creating the air operations center weapon system that the Air Force Forces commander provides to the Joint Forces Air Component commander for planning, executing and assessing theater-wide air and space operations. Support for the vital CAOC-X mission requires a significant investment in information technology. One of the biggest problems involves the forward footprint of equipment at each operator position. In an environment such as the CAOC-X and operational AOCs, there is a need to operate using multiple command and control systems. Many of these systems require dedicated clients configured to communicate through the local area



Combined Aerospace Operations Center-Experimental operators and system administrators access multiple command and control applications using a multi-user keyboard-video-mouse solution.

network with applicable servers. The challenge for the local system administrators was to use information technology to reduce the forward footprint as much as possible. To solve the challenge, administrators have employed a multi-user keyboard-video-mouse switch solution. As background, single user KVM switches throughout the IT sector have been able to handle dozens of servers with a single monitor, keyboard and mouse. However, handling a large number of servers with these KVM switches is cumbersome at best, and impractical if more than one user requires simultaneous access. The KVM industry addressed this need by creating KVM switches geared to enterprise-wide solutions, which allow system administrators to set up a control or server room where their technical people can remotely access any or all of the servers and devices in their server farms. In addition to eliminating the need to walk to and locate a server you need to work on, they allow administrators to restrict unnecessary physical ac-



Graphic by Lori Manske and Janet Moreiko-Gagen

cess to sensitive equipment. These multi-user KVM switches have security features that allow administrators to specify the actual users who can login and access a user station. KVM switches can also be configured to give users either partially-blocked or unblocked access to every connected server and device. The result to operators in the CAOC-X is the ability to sit down at one work station and access multiple C2 applications such as the Global Command and Control System and Theater Battle Management Core Systems from a single monitor, keyboard and mouse, thus re-

ducing the forward footprint. This application of information technology not only aids administrators in managing an increasing workload, but also invaluable to the operations community by facilitating mission accomplishment through ease of access to critical systems. The next step is to apply information technology to reduce the forward footprint even further through the application of multi-level security solutions. As a leader in innovation, the CAOC-X continues to explore these and other solutions that will ultimately provide maximum capability to the air warrior.

INDUSTRY

From Page 9

small refrigerator that we intend to place inside a KC-135R tanker to make it “smart.”

In essence, this will allow the tanker to relay information (beyond-line-of-sight, over-the-horizon) through a gateway over a tactical datalink broad spectrum and “network-centric” information to the MC2A to give the warfighter a clearer picture of the battlespace. We expect to field the first prototype in the next six months and ultimately procure 20 units, and phase in modernization of 40 KC-135s across the active, Guard and Reserve over the next 13 to 35 months.

I’m pleased to introduce two articles in this issue. One deals with Information Assurance (Page 12) and the other CAOC-X (Page 10).

We’re working hard to achieve a common vision for stronger military and industry partnerships to revolutionize C2ISR for the first half of the 21st century.

Information Assurance enables AOC operations

By Capt. Mebine Manuel Jr.
Information Assurance Branch
Air Force Command and Control, and
Intelligence, Surveillance
and Reconnaissance Center
Langley AFB, Va.

The Air and Space Operations Center is highly effective when the right tools collect the right information that reaches the right people, at the right time. The AOC is supported by the main pillars of Information Assurance.

In yesterday's wars, gathering and using information took days or several hours. But today, the cyber environment enhances the war tempo. Collecting and making use of the data now only takes minutes. Thanks to cyber technology, the AOC must ensure the data produced, transmitted, and used remains in a secure environment. To achieve AOC information assurance requires the commitment of the people, the security of the hardware and software tools, and the protection of the network. These are the foundational structures that enable successful AOC operations.

The People - The AOC is highly dependent on the skill level and knowledge of the operational and communications personnel. Operators who collect, produce, and prepare data for other users must be skillful and precise to data accuracy. These individuals are committed to protecting and validating the data collection. Equally important are the communications network personnel. Network technicians are highly skilled in the administration and maintenance of the AOC network. Only the best technicians are selected for this demanding job. While in garrison, both the operators and network technicians undergo intense training. These airmen are the same ones who carry out their role in the AOC environment. The Air Combat Command Comm and Info directorate, certification and sustainment branch, at Langley AFB, for example, has set the standard on training Network Operations and Security Center personnel. To view these network operational training resources, link to: <https://networks.acc.af.mil/scnc/ttps/checklists.shtml>.

The Hardware and Software - All AOC computers (hardware) and programs (software) must

undergo a rigorous certification and accreditation process before operating in the AOC. Computers are configured with the latest service packs and virus definitions. The certification and accreditation process is essential because the vulnerability of one system threatens the whole AOC operation. If unauthorized individuals gain access to the AOC data pool, it could cripple the AOC's mission. Availability, authenticity, confidentiality, and integrity of data used in the AOC is highly dependent on the security measures enforced on each device connected to the network.

The Network - As the network interweaves the AOC communications and information systems, the network is managed to ensure availability, information delivery, and information protection. The AOC achieves this capability by configuring network equipment such as firewalls, network intrusion devices, vulnerability scanners, and host based intrusion systems. The Combined Air and Space Operations Center – Experimental, at Langley AFB is aimed at establishing a core/baseline network configuration for the AOC. However, the AOC network may still differ in many ways depending on the operations, theater, and personnel who have access to the AOC network. In these cases, network configuration depends on many factors. For instance, when coalition partners participate in operations, the following questions are addressed:

Who are the coalition players? What's the source of the releasable data from foreign nations? What network devices are in place to filter releasable data to foreign nationals? What other "in-place" networks service the AOC?

Understanding the mix of who, what, where, when and how information is released becomes a major undertaking.

Information Assurance must be applied from the first process to the end user. This methodology of information protection is critical to successful AOC operations. The implementation of IA allows the AOC to conduct operations knowing the data is secure and genuine because of its availability, authenticity, non-repudiation, confidentiality, and integrity. These five pillars of IA enable successful AOC missions.

intercom evolves to keep pace with C4

By Col. Jay Adsit
Commander

Air Force Communications Agency
Scott AFB, Ill.

Intercom has been serving communications professionals for 40 years, since 1961 when the Airways and Air Communications Service became Air Force Communications Service and was designated a major command. Its predecessor, the *AACS World*, was first published in 1958 for the people of Airways and Air Communications Service. The *intercom* has won many awards and honors while giving our community a magazine we can call our own.

This publication has thrived because of the men and women who support it with timely and inter-



Colonel Adsit

esting articles and photographs. Be a part of it! We want the *intercom* to firmly focus on the C4 profession and we want to hear your suggestions on how to make it better. It is a corporate magazine for all of us. Technology is changing, our business is growing, organizations are evolving, and the *intercom* will keep pace with your information needs.

C4 people at every level are welcome to send articles that report the achievements, interest areas, and best practices of C4 organizations around the world. Let us know about your activities, deployments, accomplishments and opinions. Let the Air Force see your unit in action. Tell us what works well at your unit.

The *intercom* can continue to succeed and grow as an information tool only with support from the entire C4 community. Together, we can make the *intercom* the best quality product for the best C4 professionals in the world.

You can help tell the C4 story

By Tech. Sgt. Mike Leonard
AFCA Public Affairs
Scott AFB, Ill.

As the newspaper and magazine for communicators for the past 40 years, the *intercom* has a proud history of keeping people up to date on happenings in the communications world.

Beginning with this issue, the *intercom* is expanding its horizons, evolving from its role as a communications and information magazine to a broader purpose of serving Air Force C4 people at every level of our service and in joint assignments around the world.

With all the changes taking place in our business, this is a great time to use the *intercom* as a means of staying informed about C4 people, systems, policy, doctrine, procedures and technology.

I invite you to become a part of the voice of the C4 community. C4 stories, ideas, and photographs are the *intercom*'s lifeblood.

Take a look at the operational projects your unit is involved with and the achievements of people assigned to your unit, and ask, "How can I tell the rest of the C4 community what we're doing?" The *intercom* is the answer!

Write down who, what, where, when, why and how. You can enhance a story even more with action photographs that communicate and illustrate the C4 mission.

As we strive to improve our publication, we want you to be a part



of it. Your stories are important to us now and for our history books.

Please send your articles and photos to afca.pa@scott.af.mil. Or you can call AFCA/PA at 618-229-5690 or DSN 779-5690 for more information or guidance. Guidelines for submitting articles are online at: <https://public.afca.scott.af.mil/public/submissions.html>

Lt. Gen. Woodward to retire

WASHINGTON -- Lt. Gen. John L. "Jack" Woodward Jr., Air Force deputy chief of staff for Communications and Information, announced his plans to retire after almost 34 years of service. His retirement is effective June 1.



General Woodward

General Woodward entered the Air Force in 1968 after receiving his commission through the Air Force ROTC program. He has served in key line, staff and command positions in the command, control, communications and computer systems arena. He has commanded four communications units at squadron, group, center and headquarters squadron levels and was the senior communicator for Headquarters Air Com-

bat Command, Headquarters Air Mobility Command, and Headquarters Air Force Space Command.

He was director of Command and Control Systems for Headquarters North American Aerospace Defense Command and U. S. Space Command and the director of Communications and Information for Headquarters Air Force Space Command.

Prior to assuming his lead role in the Air Force, he served as the director of the Command, Control, Communications and Computer Systems directorate, J6, for the Joint Staff.

He has had vast experience in space operations, air mobility operations, acquisition program management, tactical warning and attack assessment, as well as tours at five major commands and a Pentagon tour on the Program Review Committee, C4 Resource Allocation and Joint Matters.

General Woodward thanks communicators

This will be my last official opportunity to speak to you, the Air Force's communications and information warriors. As I leave the Air Force, it is with super memories of all that you have accomplished. It has been an honor to serve with you. Your total commitment to making our Air Force the best in the world has made my job easier. We've faced many challenges together and you've met them all with excellence.

One of the reasons the Air Force is so effective and able to engage rapidly anywhere in the world is its use of and dependence on information technology. As comm and info warriors, the support you provide to the operational forces is absolutely critical to success.

As you embark on another new era for C4 professionals in the Air Force, take a moment to

look back with pride at some of the great things you've accomplished over the past few years.

You have "Web-enabled" the Air Force, setting a new focus on information sharing and leveraging the combat power of the network.

You have radically transformed the way we create, use and share information – all toward a more combat-effective Air Force and a better quality of life in the workplace.

You have led the charge in an information technology revolution to establish new processes



General Woodward accepts a 2E maintenance coin from Senior Master Sgt. Rod Goodwine, Chief, Computer Maintenance Training Flight.

and field new capabilities at lightning speed, so Air Force members can have the tools they need to meet the high everyday operations tempo. Your efforts were a turning point for the Air Force in the area of knowledge-based activities and self-service functions

that use network power to become more effective and efficient. Initiatives include the Air Force Portal, the Air Force Directory, and network/server consolidation.

You built a defense-in-depth strategy using multiple layers of defense to provide perimeter protection for our networks. You organized our forces in a three-tiered concept by putting network control centers at bases, network operations and security centers at major commands, and a network operations center at Air Force level.

After the Sept. 11, 2001, terrorist attacks, communications and information professionals maintained the National Military Command Center in the face of degrading conditions. Communications was key to Air Force headquarters' and the Office of the Secretary of Defense's ability to continue operations to support Noble Eagle and Enduring Freedom.

Security was improved for our front-line Air Force postal activities. The Air Force chief of staff approved the \$6.8 million purchase of explosive detection equipment to protect Air Force postal personnel. The Air Force also established safety measures aimed at reducing the anthrax threat for postal specialists.

The Defense Message System delivered organizational messaging to desktops Air Force-wide and postured the Air Force to eliminate a costly legacy messaging system.

You made the Air Force the first in the Department of Defense to computer-simulate base network operations – delivering accurate network assessments critical for achieving Information Superiority.

You started a crew concept to train network professionals and continue to provide training at the Keesler AFB Center of Excellence, through Web-based training and by bringing training to the field. The Air Force launched Network Training Centers where industry experts teach concentrated courses. Nearly 1,500 IT Computer Based Training courses were made available for the entire Air Force, whether deployed or at home.

You have seen the largest single budget increase in the history of Air Force communications, funding IT programs that provide global access to information for decision dominance and making the global information grid a reality.

You continue to improve the technology area with better equipment, upgrading firewalls,



Lt. Gen. John L. Woodward Jr., cuts the ribbon at the official reopening of the National Military Command Center's visual recording studio.

moving ahead with public key infrastructure and biometrics, and by investing in the future.

You are making great progress at how we buy information technology through AFWay, a combination of our automated inventory system, CIT-PAD, and a Web-enabled process developed in Air Combat Command. AFWay leverages the power of bulk buying, providing a single-source for online purchases of PCs and more.

The Air Force depends on you to accomplish the mission. Network centric operations are about speed of decision and speed of action – the tight coupling of sensors, fusion centers, decision-makers and shooters in the air, in space, and on the ground and in manned and unmanned platforms.

I'm confident you are up to the challenge of successfully carrying out a new vision as the Air Force transforms and stands up the deputy chief of staff for Warfighting Integration. Establishing AF/XI will improve information flow processes between our operators, intelligence, surveillance, reconnaissance assets and decision-makers, who are dependent on information generated and shared across multiple nodes worldwide.

My congratulations to each and every one of you for your record of excellence and professional service and commitments. I salute you! You are the best and "no one comes close!" Keep up the excellence, always smile, and stay focused on the warfighter.

A handwritten signature in blue ink, appearing to read "John Woodward".

Comm and info community key to IT transformation

By Col. Thomas J. Verbeck

Former Commander

Air Force Communications Agency

Scott AFB, Ill.

The Air Force is playing a major role in the U.S. military's continuing transformation to maximize use of available technology for success in combat.

Defense Secretary Donald Rumsfeld designated the Air Force as DOD's executive agent for space – with responsibility for all military planning, programming and acquisition of space systems, and integrating them with not only air assets, but land and maritime forces. This action has transformed the Headquarters Air Force organization and how it addresses the integration of information technology.

As part of the headquarters transformation, the deputy chief of staff for Communications and Information, AF/SC, was disestablished on April 29, and a new deputy chief of staff for Warfighting Integration, AF/XI, headed by Lt. Gen. Leslie F. Kenne, was established to improve integration of manned, unmanned and space systems, for combining command and control, communications and computers, or C4, with intelligence, surveillance and reconnaissance, or ISR, during Air Force, joint and combined operations.

As the “senior communicator,” General Kenne represents the Air Force on communications matters, and oversees the operation of three directorates: Communications Infostructure, or XIC; Warfighting Innovation, or XIW; and C4ISR Integration, or XII. Most of the traditional functions of AF/SC moved to XIC and XIW.

XIC oversees policy, procedures, planning, programming, budgeting and developing supplemental guidance for communications and information systems, including Information Assurance. It also provides policy and guidance for the military and civilian communications and information career fields.

XIW develops Air Force infostructure to ensure synchronization of operations, systems and technical architectures, as well as network modeling and simulation architectures.

XII develops policy, guidance and architecture, and provides oversight for horizontal integration

of C4ISR systems.

A new directorate for Communications Operations, or ILC, was established within the deputy chief of staff for Installation and Logistics, or IL. ILC manages day-to-day operations and maintenance of installation-level, intra-base, major command-oriented communications and information systems, and provides ongoing functional management of comm and info military and civilian career fields. The deputy chief of staff for Operations, or AF/XO, is responsible for computer network defense.

AF/SC's three field operating agencies were realigned, with Air Force Communications Agency and Air Force Frequency Management Agency reporting to XI, and Air Force Pentagon Communications Agency reporting to IL.

XII's director also serves as commander of the Air Force C2ISR Center, which was formerly a part of Air Combat Command, and is now a field operating agency under XI. The Air Force Agency for Modeling and Simulation reports to XIW.

In spearheading these changes, Air Force Chief of Staff Gen. John P. Jumper said he expects the traditional Air Force communications and information community to lead the way. He emphasized it was not dissatisfaction with the community or its leadership which instigated the restructuring, but rather its past successes at integration. He said he wants the comm and info community to “expand its definitions.”

General Jumper explained “integration” is the key to understanding the changes. He said previous functional stovepipes created barriers that prevented true integration. The new structure, he said, integrates total information cycle activities horizontally – combining people, processes and technology in one place – to give warfighters immediate access to critical decision-quality information. This approach helps achieve DOD's goal to continue to maximize its asymmetrical advantages over foes in areas where the United States has traditionally held the upper hand, such as information technology, which in turn leads to information superiority and decision dominance.

AFSOC



***S**pecial operations
communications and information
warriors ensure “quiet professionals”
own the high ground*

AFSOC comm and info warriors enhance operations

By Lt. Gen. Paul V. Hester
Commander Air Force Special
Operations Command
Hurlburt Field, Fla.



General Hester

When terrorists attacked our nation Sept. 11, AFSOC's "Quiet Professionals" were ready to respond.

That day special operators were dispatched to assist with rescue operations in New York City and the Pentagon, and soon launched around the globe to fight terrorism. Every step along the way information technology played a significant role in the execution of special operations missions. Reliable information technology (secure networks, radios, satellite communications and telephones) were critical for global command and control of special operators and was a decisive tool for mission planning and combat execution.

The war on terrorism has proven communications technology to be a tremendous force multiplier. In Afghanistan, combat controllers on horseback with global positioning systems used laser range finders and secure satellite and radio links to commu-

nicate target locations to inbound aircraft. Modern communications have made it possible for planners to build the extensive air tasking orders on the Theater Battle Management Core Systems while allowing ground radio operators to flight-follow individual MC-130 Combat Talon infiltrations. Communica-

tions technology is also critical in mission planning with secure Internet connections enabling informed command decisions.

This issue focuses on our Air Force special operations communications and information warriors – made up of active duty, Air National Guard, and Air Force Reserve members. You'll read about how our warfighting communicators and information specialists enhanced air operations everyday. They are an integral part of the AFSOC team. Their service, dedication, and professionalism ensure the "Quiet Professionals" own the high ground, any place, anywhere, any time!

AF Special Ops comm meets combat challenges

By Col. Michael E. DeHart
Communications and
Information Director
Air Force Special Operations
Command
Hurlburt Field, Fla.



Colonel DeHart

Since the events of Sept. 11, Air Force Special Operations Command has undergone what is probably the most volatile, challenging, and rewarding period in its history. Operation Enduring Freedom was the largest-ever deployment of AFSOC airpower and would need the full spectrum of communications and information capabilities to support the command and control of special operations forces' aircraft,

special tactics teams, intelligence, and maintenance operations in numerous austere locations.

To date, our warfighting communicators have supported SOF combat operations with high quality tactical communications at seven deployed bases in six countries – a level of deployment never before seen in AFSOC. In most cases, AFSOC communications teams were typically "first-in" and "first-on-the-air" in the war

against terrorism.

The 16th Communications Squadron's tactical communications flight led the way within weeks, and was with AFSOC's initial deploying forces to the first of many beddown locations. They were the first communications team on the ground in the Afghanistan AOR and immediately activated critical communications so that SOF missions could commence immediately. Though tasked to support SOF, the team quickly found itself supporting the entire base with U.S. forces arriving almost daily.

This scenario became the

See **CHALLENGES** Page 39

Special Operations communications 'The Human Factor'

By Maj. William Nelson
AFSOC/SC
Hurlburt Field, Fla.

Before Sept. 11, little was known about the “Quiet Professionals,” or Special Operations Forces in Air Force Special Operations Command. By the end of September, SOF would be on the ground in Southwest Asia, ready to execute the commander in chief’s orders to lead the fight on terror. This is a synopsis of what it took to get SOF communications capability to the fight. In a time of the information technology revolution, it was the human factor that was key to execution.

As soon as the 9/11 attacks occurred, AFSOC personnel prepared for action. Current operations (HQ AFSOC/SCCO) reviewed crisis action plans, and confirmed communications unit readiness. The C4I system branch contacted key contractors within hours for fast delivery of critical equipment. Spare parts were on a truck and on their way to Hurlburt Field two days after initial contact with AFSOC and shortly thereafter all AFSOC communications units had their full complement of equipment and spare parts.

The noncommissioned officer in charge of the current operations branch immediately went to Special Operations Command CENTCOM (SOCCENT) to help plan actions. This was key to speed early in Operation Enduring Freedom. He was the first SOF component communications planner on the ground and provided insight to the SOCCENT operations decision loop in near real time. Information was quickly fed back to the HQ AFSOC/SC Crisis Action Team (CAT-K) which became the 24/7 focal point for communications planning for OEF.

On Sept. 22, the first echelon of the 16th Communications Squadron deployed with one of its two Theater Deployable Communications suites and a Joint Base Station. These SOF communicators were “first-in” the area of responsibility and the “first-on-the-air” to support AFSOC aircraft in the initial stages of Afghanistan operations.

AFSOC’s CAT-K stayed in contact with the 16th CS deployed communicators through secure IRI-DIUM and INMARSAT systems. They also coordinated with U.S. Central Command, U.S. Special Operations Command, Joint Task Force Southwest Asia J6, and others. The spectrum manager worked many long days to assure CENTCOM had the right information for Satellite Access Authorization and Gateway Access Authorization for AFSOC’s systems. In addition, AFSOC’s communications security manager made sure all keying material was available for initial setup and operations. Because of the strong headquarters and deployed unit teamwork and coordination, the first 16th CS beddown of forces only took a couple of days to establish critical communications so AFSOC forces could begin Combat Search and Rescue operations.

AFSOC’s communications planners built as much redundancy as they could into the communications laydown. Because the guiding premise was to always have backup communications in case the primary systems failed, the 16th CS deployed an extra satellite terminal (AN-TSC 93B) from the 280th Combat Communications Squadron out of Dothan, Ala., to their initial deployment location. The 280th CBCS commander knew that satellite transponder power would be a limiting factor for operations, so a 20-foot dish accompanied the TSC-93B.

This paid great dividends when the call came to split the CSAR force and move to a forward staging base closer to the action. This shortened response time for CSAR and increased aircraft loitering time over target areas. By splitting the ICAP and using the TSC-93B, the 16th CS could support two locations with one TDC suite.

AFSOC played a critical role in planning for northern Joint Special Operations Air Component and Joint Special Operations Task Force communications support. Over one weekend, a full communications planning conference was held at Hurlburt Field with more than 30 representatives from U.S. Army Special Operations Command,



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Special operators guide aircraft

By Master Sgt. Lew Harrington
AFSOC Tactical C4 Systems Branch
Hurlburt Field, Fla.

In the days following the attacks on New York and the Pentagon, the Air Force Special Operations Command's special tactics teams provided special operations services to the unified commander of Operation Enduring Freedom. Among those services is providing "first-in" precision approach and landing capabilities to joint military aircraft.

AFSOC's special tactics teams have one-of-a-kind landing and portable air navigation systems. When used together at an assault landing zone or unimproved runway each provides landing capability to military aircraft.

AFSOC worked with several agencies to review and submit requirements and modification proposals for new and old systems.

From 1999 to 2000, AFSOC tested and validated the modification of its tactical AN/TRN-41 TACAN. The modification enhanced capability to extend the service range and enable the equipment to monitor itself. Testing the modification with special tactics operators ensured the system was easy to use under the harshest of circumstances.

Flight inspection crews evaluated the signal in



TRN-41 TACAN

space, which includes accuracy; range of the signal radiated from the TACAN; and the monitoring system, which keeps the system safe for pilots.

Working with the lead command and using MAJCOMs, it was decided the range achieved through the modifications would meet user requirements.

The TRN-41 is only one capability AFSOC brings to the warfighters. The other is the Mobile Microwave Landing System (AN-TRN-45 MMLS).

The mobile landing system is the only instrument landing system in the Department of Defense that can provide category I landing minimums. AFSOC active duty and Guard special tactics squadrons can set up this system anywhere around the world. It can be deployed in either a trailer or transit case version.

AFSOC works logistics issues with Electronic Systems Command and Air Force Flight Standards Agency. To reduce maintenance downtime, TEXTRON, the manufacturer, is working to introduce a capability, also known as "Real Time Monitoring," that allows maintenance personnel to actually view what the system monitors see "real-time" so maintenance can adjust or fix problems before downtime. Units are expected to see the modification by fiscal year '04.

Teamwork provides new, reliable, supportable, and accurate systems to special operators who are "first in" giving vital precision landing services to the warfighter.



The mobile landing system, along with the TACAN, completes the precision approach capability AFSOC supplies to the warfighter.

ICE meets deployable comm needs

By Capt. Troy Wicktom
AFSOC Tactical C4 Systems Branch
Hurlburt Field, Fla.

ICE, or initial communications element, filled a shortfall in Air Force Special Operations Command's deployable communications requirement: the ability to provide a small, lightweight satellite system with voice and data capability to a forward staging base.

AFSOC had documented in its joint mission assessment the need to provide secure voice and network capabilities to a FSB, but didn't have a system with a small enough footprint. Users could deploy to an FSB with only organic tactical satellite radios to pass voice and limited data. This was the only capability for an FSB when Operation Enduring Freedom kicked off.

OEF had AFSOC units deploying like never before. Two theater deployable communications packages and a TSC-93B with a 20-foot satellite antenna were supporting three initial locations. In addition to having two TDC packages broken up between three sites, a requirement to provide comm to a FSB was on the horizon with the potential to support other leap-forward operations.

The AFSOC communications and information staff contacted Air Force Communications Agency, asking them to send a reduced footprint initial comm, or RFIC, system to Hurlburt for evaluation. Members of the 16th Communications Squadron looked it over and the RFIC system and spares were deployed to OEF to support special operations forces. AFSOC then requested assistance from U.S. Air Forces in Europe to provide a USC-60A satellite terminal to build a second RFIC from the spare voice and data equipment that deployed. With two complete RFIC systems deployed, AFSOC confirmed the need for a small footprint system that could support FSB and leap-forward operations.

As the RFIC systems were being deployed, AFSOC Comm and Info personnel began a dialog with deployed users to design a system that would fully meet AFSOC deployable needs. A system was designed on paper and a combat-mission needs Statement was submitted as the best and fastest way to get approval to purchase the package. The tactical C4 systems branch put together a proposal and sent it through the SC to the AFSOC requirements



Part of the ICE package is a USC-60A satellite terminal.

review board.

The C-MNS was forwarded to the air staff for approval. The deputy SC, Lt. Col. Robert Steele and the tactical C4 systems branch chief, Capt. Troy Wicktom, appeared before the Rapid Response Process Council at air staff to brief the C-MNS. The package moved on to the chief of staff, who approved the funding.

The first two of eight systems were delivered on Jan. 10, and the final system Feb. 27. From start to full fielding, including training on the new equipment, was only five months.

The ICE package is composed of a USC-60A satellite terminal and three transit cases to support voice and data services. The transmission case contains a Promina 400, NSM-8448 nodal satellite multiplexor, global positioning systems timing source and KIV-19 bulk encryptors.

The NIPR and voice case contains a REDCOM telephone switch, unclassified e-mail server, Cisco router and Cisco switch. The SIPR case contains classified e-mail server, Cisco router, two Cisco switches, fiber optic modem and two KIV-7 encryptors. The system can support 64 telephone drops with the ability to expand to 94, 22 NIPRnet drops and 46 SIPRnet drops. The entire suite of equipment fits on a standard 463L aircraft pallet with room to add a tent, spare equipment and administrative supplies. Including power production equipment, the ICE takes up only two pallet positions and can be broken down for helicopter transport.

See ICE Page 26

Success depends on quality information

By Ali Pfeffer and Tom Jones
AFSOC Tactical C4 Systems Branch
Hurlburt Field, Fla.

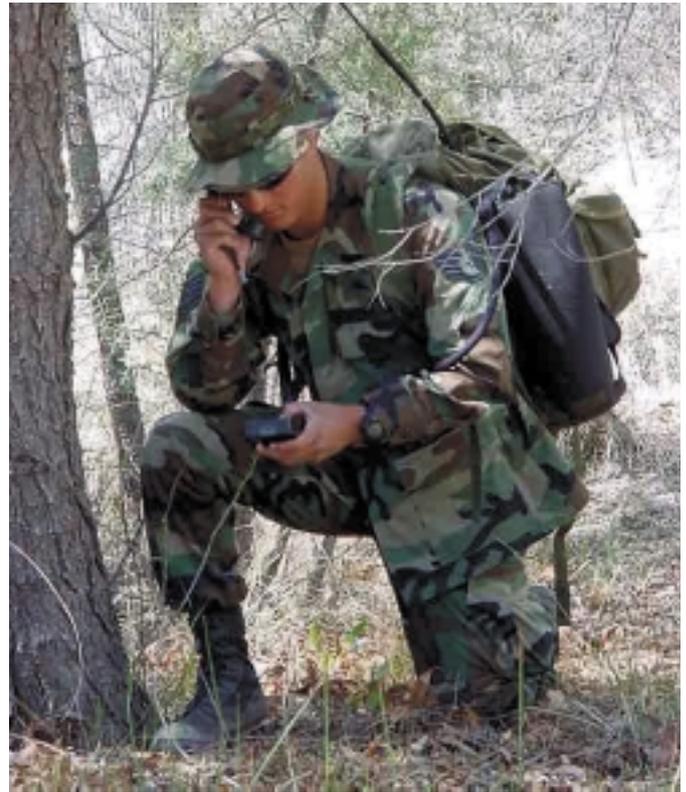
Special operations success depends on having the right communications system to get the right information where it needs to be – fast. From intelligence imagery to threat information, special operators require a myriad of communications equipment to do their job.

Communications technology is growing exponentially both in capability and complexity.

Modern radio systems have added versatility to ensure special operations forces can talk to anyone they need to, anytime, anyplace. At the major command level, the job of planning and programming for tactical communications equipment belongs to the tactical C4 systems branch where AFSOC program managers work with their counterparts at U.S. Special Operations Command and other Air Force major commands to put the latest technology into the hands of Air Force special operators. A few of the newer programs under way are the multi-band multi-mission radio; special mission radio system; multi-band inter-team radio; joint base station; and the small network access package.

The program manager's job of working the acquisition process to get the best capability is complex and time-consuming. Applying the process guarantees that the fielded system will meet minimum mission requirements. Although the acquisition process has been streamlined, it can still take years to get a piece of equipment to the users. Ali Pfeffer, program manager for numerous tactical communications equipment programs, keeps the customer in mind when working programs and "found it very gratifying to see equipment that she worked to acquire, fielded and used in an operational environment such as Enduring Freedom."

AFSOC communicators provide command and control support for operations, logistics, transportation, intelligence, weather, communications, medical care, maintenance and force protection. As providers of communications for a theater joint special operations air component, SOF communicators are responsible for consolidating and tracking requests for SOF air support (close air support,



Staff Sgt. Perez, 21st Special Tactics Squadron, Pope AFB, N.C., participates in operational testing of the Multi-Band Multi-Mission Radio.

electronic warfare, suppression of enemy air defenses), transmitting SOF aviation inputs to the air tasking order, airspace control order, and special instructions through or in coordination with the special operations liaison element.

Services provided include equipment and personnel to establish, operate and maintain EHF and UHF satellite communications, high frequency, VHF/UHF-AM and VHF-FM data and voice radio networks. Other services include inter-team radio, secure telephone, high-speed data, facsimile and power generation.

The SOF communications element is immediately deployable and can provide a sustained 24-hour operational C2 structure to any bare base location. To meet the demands for flexibility that SOF operations require, deployed communications are modular and tailored to the mission, based on the size and type of an operation or transportation limitations.

Today's AFSOC communicators deploy with several specialized types of radio equipment. The pre-



Staff Sgt. Roy Castor and Airman Jason Darr prepare a Small Network Access Package terminal for deployment.

mier radio system is the multi-band multi-mission radio, a multi-band, lightweight radio in the 30-512 MHz frequency range. It is designed to reduce the combat load of the individual SOF warrior by packing the most technology possible into a portable package. The entire system weighs just under 12 pounds without batteries.

SOF teams tasked to support special operations air, ground and maritime missions also use the MBMMR. These SOF teams provide communications support for pararescue, search and rescue, drop zone and landing zone surveys, establishment of DZ and LZs, terminal guidance operations, air traffic control, establishment and management of assault zones, conducting direction action and personnel recovery missions, medical care and evacuation operations, coordinating, planning and conducting air, ground and naval fire support operations, and C2 air operations. The MBMMR reduces the combat load by at least three pieces of equipment and a decreased weight of about 39 pounds per team member.

Special operations communications operators are also experts in the nearly lost art of high frequency communications. These missions require long-range, low probability of interception and low probability of detection LPI/LPD radio systems and the special mission radio system is the SOF solution that offers this capability. Operators of SMRS radios are assured that their location will not be compromised by radio frequency emissions. SMRS is capable of long-range and highly reliable data and voice communications with other SOF elements or with conventional aircraft. Success of SOF operations depends on teams not being found. If you can't find them, you can't stop them. SMRS guar-

antees you can't find them.

On the ground mission success requires extensive coordination between team members from pre-mission preparation through mission execution to post mission debriefing. This kind of complex team coordination requires reliable, secure, interoperable and flexible short-range communications. The multi-band inter-team radio is the SOF solution into the foreseeable future for inter-team radio communications.

Many different radios were previously carried by special tactics teams: one to communicate with Army or Air Force helicopters, one for ground teams, another to communicate with fixed wing aircraft, and so on. Different incompatible encryption coding used within the different types of radio nets also required multiple COMSEC devices. The MBITR radio eliminates these problems by including all the frequencies, types of modulation, modes and encryption standards into one handheld package.

With the MBITR, SOF personnel can immediately deploy to the designated objective area by parachute, air, land, amphibious, helicopter, or foot, and communicate effectively. MBITR provides special operators the most reliable team communications support available. Today the MBITR, with the benefit of reduced weight, volume, assets, and overall logistics support, gives special operators a superb capability.

AFSOC deploys worldwide in support of USSOCOM missions. Often these deployments are in areas where initial communications infrastructure is sparse, unreliable or nonexistent. Successful execution of SOF missions requires a small worldwide, reliable, interoperable system that can provide "first in" secure voice and secure network access from any bare base environment. The small network access packages offer a portable Integrated services digital network 64kBs data capability and can support global secure voice, facsimile, and network access in point-to-point mode or through international public switched telephone networks.

SNAP affords this capability in a small, lightweight, and relatively inexpensive package that provides critical "first in" communications until larger footprint systems such as TDC can be put in place. Secure connectivity requires use of ancillary equipment such as laptop computers, Internet routing, cables and encryption devices. SAP is

TACTICAL COMM

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the system of choice for immediate connectivity requirements for deployed forces and reduces reliance on overloaded military ultra high frequency satellite communications systems.

To successfully respond to any crisis, it is also imperative that AFSOF units are able to “fight on arrival.” The Joint Base Station is part of a USSOCOM program that integrates the various radio equipments into the transit cases to support various modes of deployment for all SOF forces. The JBS is a small, self-contained modular communications system comprised of three functional groups: communications, automation and message handling, and ancillary items to provide secure single channel communications between deployed AFSOC air and ground forces, higher headquarters, and component elements in the field. These functional groups integrate data input/output and information distribution systems into a single deployable system. JBS can be transported to and within theater by any means available. It provides the long and short-range command and control communications for mission coordination, logistics, and administrative support a deployed commander needs to effectively manage combat operations. It is interoperable with all other communications mediums within SOF or service components, and provides continuous, reliable and secure communication capabilities. Integration of communications into one system maximizes effectiveness, survivability, sustainability, and minimizes combatant and non-combatant losses.

Demand Assigned Multiple Access terminals allow users to share UHF satellite channels by assigning resources on an as required basis. The assignment of resources results in more efficient use of the spectrum thereby increasing availability. DAMA does this by breaking the channel up into time slots that can be distributed as required. DAMA also prioritizes messages to make sure more important traffic gets allotted transmission time first. DAMA has greatly increased the complexity of using satellite communications for the operator.

Keeping crews trained and current on all the new communications technologies requires significant efforts. The most recent addition to the AFSOC



Airman First Class Cassandra King, 19th Special Operations Squadron, trains on DAMA operations using the AN/URC-133.

training arsenal is the Demand Assigned Multiple Access Satellite Emulator. The DSE gives aircrews, ground communicators, and Special Tactics operators the ability to train and maintain mission readiness on all modes of satellite communications during day-to-day training operations. The DSE provides over-the-air or directly connected simulated satellite network channel control capability.

Two terminals are presently fielded and located at the 19th Special Ops Squadron, Hurlburt Field. One terminal is set up for classroom training of aircrew personnel via direction connection of satellite communication radio terminals. Following initial qualification training on this terminal the crews are then able to conduct local training operations using the over the air terminal to communicate with other aircraft or ground operators.

Getting the right equipment, tailored to the capability required by the mission, and in the hands of properly trained personnel, with life-cycle support in place, is the job of the tactical C4 branch of the communications and information directorate, HQ AFSOC. As systems evolve and become smaller with greatly increased capability, the complexity of tactical communications will grow exponentially. The already enormous job of keeping Air Force special operators on the leading edge of communications technology will become larger and more complex. The dedicated staff of the tactical C4 branch will ensure that AFSOC will remain the best-equipped and trained forces in the world.

AFSOC demonstrates imagery over GBS

By Earl Gothard
HQ AFSOC/SCC
Hurlburt Field, Fla.

Shortly after AFSOC's 16th Special Operations Wing deployed to OEF, the deployed AFSOC/A2 asked for help in quickly getting imagery to support crew mission planning. The A2 specifically requested a capability to receive Broadcast Request Imagery Technology Experiment (BRITE) distributed imagery requests over Global Broadcast Service.

While working with the GBS community to arrange an integration test, AFSOC submitted a GBS product request to the CENTCOM theater information manager, however, the proposed solution—Buzz Lite—was disapproved in favor of an emerging GBS Immediate File Delivery feature. The CENTCOM TIM asked AFSOC to test the IFD concept instead. As a result, AFSOC conducted a BRITE/GBS IFD demonstration at Hurlburt Field Feb. 6-8. To support this demonstration:

- The GBS JPO provided GBS access, equipment and expertise, and
- the NRO established and managed the connectivity from the BRITE Tactical Imagery Server to the GBS SBM and provided BRITE expertise.
- 16th SOW Communications Squadron provided a GBS RS connection to the Hurlburt Field classified network and the facilities required for the demonstration.

The demonstration setup was straightforward and

- the GBS RS was set up and on line receiving broadcasts within minutes.

- Once the GBS RS was on line and connected to the Hurlburt Field classified network, the BRITE client could receive data availability notices from the BRITE TIS via GBS and send tactical imagery request messages to the BRITE TIS via SIPRNET.

During the two-day demonstration a number of images (ranging from 10-50M) were chipped out to illustrate GBS's new IFD feature. The time from request at the Intel Analyst's workstation to reception of the image back at the same Intel Ana-



Master Sgt. Mark Kalafut, AFSOC/SC staff, inspects the GBS prior to training.

lyst workstation ranged from a worst case of 25 minutes to a best case of 5 minutes with an average of about 15 minutes. The bulk of the delay was due to the interaction between the BRITE TIS and the image libraries. With the longer delays, the requested image was queued behind a large broadcast already in progress.

AFSOC's intelligence, weather and special tactics staffs attended the demonstrations as well as representatives from Eglin AFB's Air Armament Center. The originator of the OEF requirement, Master Sgt. John Stephenson, 16th OSS, said he could have used four of these while he was deployed to OEF. This IFD over GBS demonstration proved the concept and showed its value.

With transponders in orbit and operating injection points, AFSOC's GBS concept of operations is to provide GBS services to their rank and file user by linking GBS RSs to their "core" infrastructure systems – CITS and TDC. GBS RS will provide an alternate service delivery point to each AFSOC fixed and deployed base.

Special tactics teams take technology to front line

By Tech. Sgt. Ginger Schreitmueller
Air Force Special Operations Command
Public Affairs
Hurlburt Field, Fla.

Air Force Special Operations Command is bringing to bear the full range of its capabilities in the fight against terrorism.

Among the command's low-density, high-demand specialties supporting Operation Enduring Freedom are combat controllers, combat weathermen and pararescuemen. These three specialties join forces at the tip of the spear under the special tactics umbrella to provide a unique capability to unified and regional commanders around the globe. Although the mission is high-risk – members from all special tactics operator specialties have been wounded or killed in the current conflict - the ability of special tactics to leverage technology in the deep battlespace is remarkable.

Combat controllers are certified air traffic controllers who have special skills to enhance air operations from the ground. Their specialty is integration, synchronization, and control of the elements of air and space power. Throughout the Afghan area of operations, combat controllers have provided air traffic control in austere locations employing unique tactical navigational aid systems (precision approach landing systems, beacons, and tactical air navigation) in conjunction with their radio systems. In addition, Terminal Attack Control qualified combat controllers have served on joint teams to call in close-air-support missions against enemy forces.



Master Sgt. Bart Decker, special tactics operator, travels on horseback through Afghanistan. He carried communications equipment vital to calling in air strikes.

Combat weathermen are weather forecasters with forward ground combat skills. Forward deployed, the combat weathermen provide weather data to decision-makers and planners to support operations.

Pararescuemen are the only specialty in the Department of Defense specifically trained and equipped to conduct conventional and unconventional rescue operations and provide battlefield trauma care. AFSOC's PJs supported airborne missions flown throughout OEF.

Although small in number, these Special Tactics warriors make the mission happen by relying on their intense training and unique knowledge of

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ICE From Page 21

The USC-60A terminal was chosen for its small size and high reliability rate. The White House Communications Agency and the Joint Communications Support Element proved the terminal's performance. The voice and data equipment is standard ICAP, Integrated Communications Access Package, equipment from the

TDC program that was reconfigured to fit AFSOC's requirements. No additional training is necessary on the voice and data equipment, so total training time on the ICE package is about one week including a three-day satellite terminal training class.

This is a great success story for AFSOC and the Air Force. Multiple MAJCOMs teamed with AFSOC to help with equipment and manpower to support SOF

operations in OEF, deployed users' requirements were used to design a system to fit a documented shortfall in operational taskings, and the Air Force funded and fielded an operational system in time to support the operations that need it. All of this was done in less than six months and the result is a system that AFSOC communicators are excited about taking into the field.

AFSOC E&I provides comm for units on the move

By Master Sgt. Samuel Footman Jr.

*AFSOC Network Branch
Hurlburt Field, Fla.*

There's plenty of construction at Hurlburt Field and more to come as the 16th Special Operations Wing plunges into the new millennium with a facilities plan that will ensure mission support for the expansion of military construction projects. It will take an enormous amount of communications infrastructure to support the organizations moving into new facilities, as well as upgrading existing buildings.

The communicators at HQ AFSOC are tackling this issue through use of the command engineering and installation program. The E&I program will play a major part in ensuring communications connectivity is provided to all of the 16th SOW's missions and requirements.

The process started when the five-year Program Objective Memorandum was approved. E&I program dollars were forecast against anticipated workload. Funding was then annually planned, programmed, and budgeted to provide support to install, upgrade, or move critical command, control, communications, and computer systems.

HQ AFSOC then solicits E&I organic resources to perform site surveys, installation support, and provide technical assistance for command wide, garrison-based and deployable communications in support of military construction projects and C4 requirements documents. This could be as simple as a 25-pair copper cable installed to a dormitory or as complex as upgrading an entire copper plant for the base.

Last year, Hurlburt's east side copper cable plant was in dire straits. Tech. Sgt. Jack Boles, NCO in charge, cable maintenance section, 16th Communications Squadron, said, "Many times after long-lasting rain showers, it became common for voice lines to go down. Florida's tropical climate just exacerbated the situation."

The command saw the need to replace the old cable and funded a major upgrade to the entire east side. Initial commercial estimates came in as high as \$1.5 million. Additionally, the milestones established for completion were in three separate phases over three fiscal years.

By using existing E&I resources, AFSOC got en-

gineering assistance from the 38th Engineering Installation Group at Tinker AFB, Okla., and installation support from the 738th Engineering Installation Squadron, Keesler AFB, Miss. The entire job was completed for less than \$700,000 in nine months.

Additionally, a new, modern, 10-story, \$3.2 million air traffic control tower was built to replace the old tower. The new building increased the range of visibility for tower personnel, enhancing the flying operations for the 16th SOW. Again, the 38th EIG and 738th EIS, with help from the 16th CS, stepped in and transferred communications from the old facility to the new.

The E&I program not only provides support to military construction and normal E&I workload, it provides man-days and funding for Air National Guard members supporting AFSOC/SC requirements. A prime example is missions provided by the 193rd SOW, Harrisburg, Pa., and 280th Combat Comm Squadron, Dothan, Ala.

AFSOC was one of the first commands to allocate man-days in support of Operation Enduring Freedom and continues to do so as needed. The plans and resources branch provided more than 3,000 days for officer and enlisted personnel to perform their missions.

Another force enhancer provided by E&I man-days is the support given to the 16th SOW's SIPRNET migration.

With secure communications becoming increasingly critical, the base's secure Internet migration got under way a couple of years ago. However, much of the effort hinged on installing protective distribution systems within the secure facilities. That's where the Air National Guard came in. Teams from the 919th SOW at Duke Field, Fla., and 213th EIS, Roslyn ANGB, N.Y., began immediate installation of inter-building conduits, distribution panels, and lockboxes throughout facilities with a SIPRNET capability.

As a result of organize vs. commercial estimates, Hurlburt Field avoided commercial costs of more than \$250,000. As program dollars continue to dwindle while requirements increase, AFSOC will look for cost-saving ways to provide communications infrastructure support. You can bet, E&I will remain on scope to help.



An Air Force special tactics operator uses a radio during a field training exercise.

TACTICS

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air power. In order to move and shoot alongside their Army and Navy special operations counterparts, and interact with the conventional Air Force, Army and Navy forces, special tactics teams must be able to communicate effectively.

“We tailor our communications systems to the mission,” said a combat controller who recently returned from Afghanistan. “The mission drives what we do, not the gear. But, technology makes what we do easier, safer and more effective.”

A key element of the special tactics communications systems is its ability to integrate with other special operations and conventional forces.

“A driving factor in all our systems is compatibility to communicate with others in and around the battlefield,” said Capt. Joseph Tam, the 720th Special Tactics Group communications/requirements officer. “Few forces achieve that capability, but in Air Force special operations we operate in a joint arena and have to be able to integrate seamlessly with everyone in the fight.” To provide this seamless communications on the battlefield, ST systems must be small, lightweight, rugged, and powerful. They must be capable of communicating across the radio spectrum with both conventional and special operations units.

Saddled with rucksacks that can weigh more than 100 pounds, special tactics team members carry an array of “comm” gear to provide the critical communications links on the battlefield that are required to integrate, synchronize, and direct airborne forces in support of the ground battle, and

to reach back to higher headquarters.

“Using secure multiband radio systems, we can talk and send data worldwide from anywhere on a battlefield,” said the controller.

Technology has also introduced laptop computers to the battlefield. “Special tactics teams can further enhance their data communications capability by transmitting directly from the computer via the radio,” said the controller.

Other technology tools proving their value during OEF are image intensifying systems, global positioning systems, laser designating and targeting systems.

Throughout the war controllers used GPS for everything from navigation and surveying, to humanitarian support and calls for fire. Night vision goggles and thermal imagery devices also helped the special operators get a clearer picture of the battlefield at night. The laser designating and targeting systems provide the terminal guidance to put bombs on target.

The evolution of technology is continual, said Captain Tam, and capitalizing on innovation is vital to the special tactics mission. Our goal is to leverage existing technology and develop programs to provide a lightweight, small footprint, integrated system incorporating all of the above capabilities to meet special tactics operational requirements.

AFSOC wants to incorporate items that best fit this integrated system requirement from programs such as Air Combat Command’s Tactical Air Control Party Modernization Program, U.S. Army Space Based Soldier System Advanced Concept Technology Demonstration, and U.S. Marine Corps Warfighting Lab computerized system for forward air controllers. It also wants to integrate existing technology such as a “heads-up display” using see-through display optics viewable through lens of glasses.

“It is a clip-on device that puts information literally in front of the operator,” said Master Sgt. Geoffery Hitchcock, a combat controller assigned to the 720th STG. “The system is a hands-free device that can display the information from a computer right in front of the operator’s vision. By placing the information in front of the operator, he can enhance his situational awareness.”

To further enhance the special tactics operator’s capability, future light, lean, integrated communications systems are being developed.

16th CS provides communications for special ops

By Lt. Col. Richard Mallick
16th Comm Squadron Commander
Hurlburt Field, Fla.

The 16th Communications Squadron provides services that support the global warfighting and readiness missions performed by Air Force special operations forces.

Air Force special operators have unique capabilities in demand at the onset of almost every conflict involving air assets. This requires a light and highly mobile force that can execute command and control while operating from austere environments. This holds true for the 16th CS; however, with the unique mission of Air Force special ops comes unique challenges for the comm squadron. To meet these challenges, the squadron dedicates 120 of its 270 personnel to supporting the deployed mission of the Tactical Communications Flight, or SCT.

The Tactical Communications Flight provides a fast reaction communications force prepared for immediate worldwide deployment. The members of SCT train to provide secure voice and data command and control communications in support of unilateral, joint service, and multi-national special operations forces.

The flight deploys Theater Deployable Communications packages and a mix of secure voice, radio, and data services. They can provide these services in tactical, mobile, fixed, shipboard, and airborne configurations.

The ability to operate as a self-contained unit is one of the most important assets the flight brings to the deployed arena. SCT contains disciplines necessary to provide deployed communications including radio maintainers and operators, computer programmers, and power pro specialists. This has proved invaluable as the members of the flight train daily on the same equipment and with the same individuals with whom they will deploy. With more than 40 exercises and deployments supported in 2000 and 2001, the communicators in SCT are constantly testing their proficiency. These tests proved invaluable as the flight provided initial comm services to multiple deployed locations at the start of Operation Enduring Freedom.

Home base services include support for 8,000 personnel including members of the 16th Special Op-



16th Communications Squadron members set up the LMST during early stages of Operation Enduring Freedom.

erations Wing, Headquarters Air Force Special Operations Command, and 24 tenant units. The growth of Hurlburt Field as a base has created a continuously expanding mission for the comm squadron. Development along the east side of the base has created constant work for the “Wire Dawgs,” requiring them to lay \$300,000 of cable across 73 facilities. Additionally, Hurlburt’s emphasis on secure comm created a squadron-wide effort to install 655 SIPRNet drops in 57 offices across 30 squadrons. Now, every Unit Control Center in the 16th SOW has SIPRNet access providing an unmatched capability of transferring secret information to any squadron on base.

The mission offers unique opportunities for the squadron’s Support Systems Flight. SOCOM taskings have given the flight’s video and photographic sections the opportunity to deploy across four continents to support AFSOC missions, as well as Army Rangers, Green Berets, Naval Seals, other elite members of the U.S. Special Forces, and coalition operations.

The specialized aircraft and mission of the 16th SOW resulted in the flight establishing the only unit-level Visual Information flying program in the Air Force. This allowed the training of two photographers and two video-graphers as aircrew

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352nd CS flight gives special operators an edge

By 352nd Special Operations
Communications Flight
RAF Mildenhall,
United Kingdom

Mottos and slogans are easy to coin, but not always so easy to live up to. That's not the case at the 352nd Special Operations Communications Flight at RAF Mildenhall.

These communicators boast the ability to provide "Deployable, dependable communications, any time any place." And they do!

As the communications providers for the 352nd Special Operations Group and Headquarters Special Operations Command Europe, the 62-person flight supports the European Command area of operations, spanning three continents, 91 countries, and 13 million square miles, which is home to more than a billion people. That covers "any place." As for "any time," the flight logged 1,632 deployed days over the past year, while deployed on 17 exercises, two real-world missions to 24 different locations from the Arctic Circle to the southern tip of the Sahara Desert.

That's the way the flight likes it. "Most people want to come to this flight because of the deployment opportunities. A lot of folks want to come here," said Maj. Amy Arwood, flight commander.

Major Arwood leads a flight that she describes as "young professionals with lots of responsibility for a lot of equipment and supporting an important mission." The experience pays off individually and for the command, she said. "They leave here with higher qualifications," noting that such a pool of experienced communicators also gives AFSOC "an edge" because their time spent with the 352nd Special Operations Group "keeps them leaning forward" as a result of the opportunity to deploy and learn.

The 352nd SOG is EUCOM's air component for special operations. Under the operational control of Special Operations Command Europe, the 352nd



Tech. Sgts. James Williamson and Scott Scheff, 352nd OSS, install a grounding grid for a EUCOM Conference.

SOG conducts infiltration, exfiltration, resupply of special operating forces in denied territory under night or poor weather conditions in support of: combating terrorism, direct action, special reconnaissance, counter-proliferation, unconventional warfare, psychological operations, and personnel recovery. The group consists of three flying squadrons (flying the MH-53M Pave Low IV, MC-130H Combat Talon II and MC-130P Combat Shadow) and a Special Tactics Squadron.

The SOCF mission is to install, operate and maintain rapidly deployable and reliable communications-computer systems that provide secure and nonsecure voice and data in support of the air component commander, SOCEUR. They do so with proven success. "Our communicators supported missions for simultaneous operations from multiple locations with a phenomenal 99.92 percent mission capability rate," Major Arwood said.

The 352nd SOCF is organized into two major sections, combat systems and combat support. The primary mission is deployment, employment, sustainment and redeployment of \$15 million of deployable communications equipment.

To meet the rigorous operations tempo, the flight



Typical example of initial communications, established within minutes of hitting the ground.

uses two different types of deployable communications packages. “Our mission is 99.9 percent deployable. Our goal is to be as light and lean as possible while pushing as much information out to the warfighter as possible,” said the major. Doing so requires flexibility. “We’re different every time we go out the door.” Operations can range from a single person with a radio in a rucksack for basic command and control flight following to as many as 25 people and five pallets of equipment to provide a full complement of communications.

While the radio mission is still this flight’s mainstay of communications, Major Arwood said the 352nd SOCF now has used TDC as much or more operationally as anyone else in the Air Force. Since the flight’s first employment of TDC, many attempts have been made to create smaller, more efficient and technically sound solutions. The flight moved TDC integration into small team operations. The small-package TDC configuration used extensively during joint and combined training exercises the past year exceeded expectations and has been integrated into flight deployment plans.

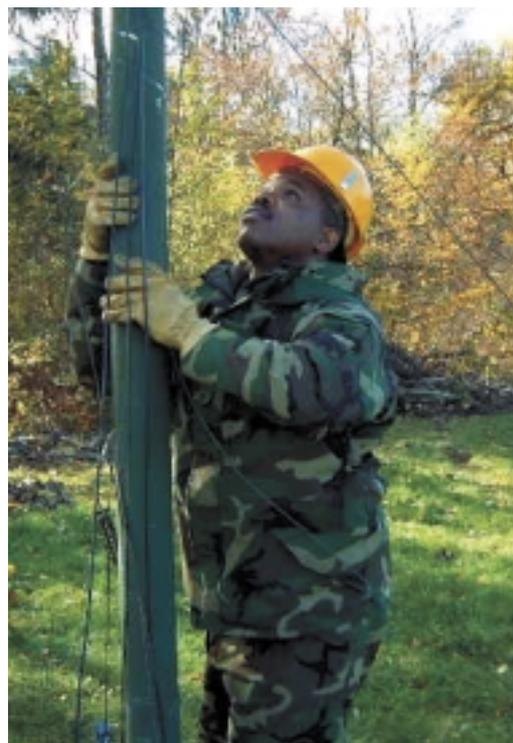
The 352nd SOCF also promotes flexibility by allowing its people to do different jobs. People from seven different specialties are often used interchangeably to cut the flight’s manpower footprint. Radio operators typically perform routine maintenance functions (and vice-versa); power production troops operate radios; and computer operators configure and operate telephone switches. During a major Operation Enduring Freedom deployment, the one-communicator concept proved critical to “doing more with less.” The flight boasted a 99

percent systems up-time rate over the two-plus month deployment, with only 66 percent of the typically required manpower.

Other flight initiatives include development of a small communications package for deployment with MH-53 helicopters, which ensures C2 for deployments into hostile territory where otherwise not possible. Additionally, communicators developed standard laptop configurations, reducing hard drive reprogramming time from three hours to 45 minutes. This decreased redeployment turnaround time and increased standardization across the flight.

Off duty, SOCF is active in the community, leading the way on activities such as Operation Santa Talk, an annual event whereby the flight provides local students the opportunity to chat with Santa and fellow residents of the North Pole via line-of-sight radio. The flight also supports the Old-Aged Pensioners Christmas Party and the Annual Battle of Britain Parade. The flight consistently has one of the highest volunteer rates for base activities.

“Without a doubt, these tactical communications professionals proved they are among the best in the Air Force,” said Major Arwood. “From Africa to Norway, we deliver highly reliable, dependable and sustainable communications.”



Tech. Sgt. Rodney Hooks erects a mast to hold radio antennas.

Reserve unit provides special ops comm

By Maj. Richard Risner
*919th Operations Support Squadron
Communications Flight
Duke Field, Fla.*

Air Force Reserve Command's only Air Force Special Operations Command wartime-gained communications unit is the 919th Operations Support Squadron Communications Flight. Located with the 919th Special Operations Wing on Duke Field, Fla., the unit is about 20 miles from Hurlburt Field, home of AFSOC.

Once referred to as "Sleepy Hollow," recent events have thrust Duke Field and the 919th SOW to the forefront of the nation's combat endeavors. The flight's mission is to provide deployed commanders special operations communications to include on-site, site-to-site, and reach-back communica-

tions using HF, VHF, UHF and satellite communications systems. This tasking isn't unique among special operations communicators, but how the unit supplies that support and what they bring to the fight is what sets them apart.

A postal worker, power company lineman, high school teacher, college student, and a civil service computer scientist are a few of the diverse civilian occupations held by members of the 919th CF.

When they come to the fight not only do they bring their Air Force specialty code skill sets, they also bring a wealth of experience and skills obtained during civilian employment. When you ask for a radio operator you may also get someone with electrical power, small equipment maintenance, computer science, telephone maintenance or environmental management experience and training. This experience and training is often gained from train-



Photo by Tech. Sgt. Michael Weaver

Master Sgt. Doug Meredith, 919th OSS Communications Flight, performs a radio check during a training weekend at Eglin Test site on Okaloosa Island, Fla.

ing opportunities offered by civilian employers.

They meet one weekend a month and two additional weeks throughout the year, to train for war-time taskings and fulfill ancillary training requirements. Experience levels range from two to 21 years of total military service, the average being 11 years. They also have members who were prior Army, active duty Air Force, Air Force/Army National Guard, and some who spent their entire career in the Air Force Reserve.

Most have associate degrees, several have bachelor's degrees, and two have master's degrees. It is this high experience level, background diversity, and education that make mission support unique. Today's Reservists provide the backbone of Air Force and joint forces.

Most members perform, on average, 36 days a year above and beyond their standard commitment. During the extra duty, they get more equipment and mobility training, and perform squadron additional duties such as training management, disaster preparedness, unit deployment management, and safety representative.

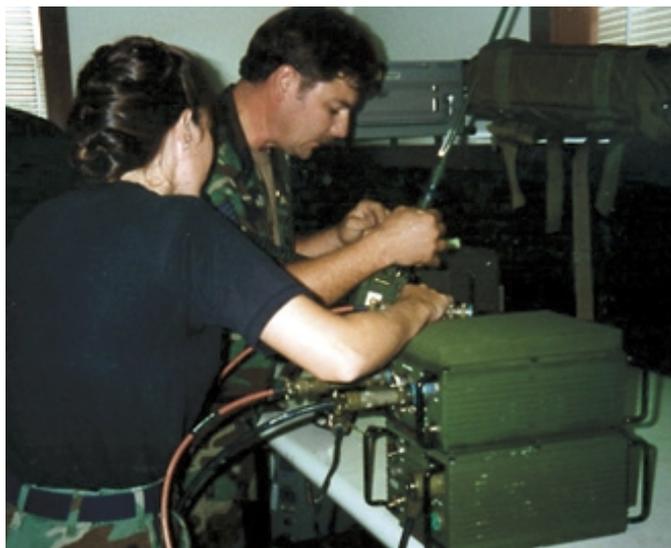
Since 1995, the 919th CF has deployed to 10 different countries in support of special operations missions as well as a number of deployments within the United States where their communications assets were needed.

One that unit members consider satisfying was the Humanitarian Civic Action mission in conjunction with the 919th Medical Squadron. Communications personnel deployed on all medical humanitarian missions to provide communications



Photo by Master Sgt. Michele Miecznikowski

Tech. Sgt. James Bennett, 919th OSS Communications Flight, passes information back to Duke Field from a medical treatment site in Nicaragua during a humanitarian civic action training mission.



Master Sgt. Laurie Tucker and Tech. Sgt. Kenneth Brockwell, 919th OSS Comm Flight, maintain a high frequency radio system.

support.

Among the travel opportunities are countries such as Belize, Bolivia, Ecuador, El Salvador, Guatemala, Honduras, and Nicaragua. They provided communications support to the civil engineering squadron when they deployed to Jamaica and Belize to conduct other humanitarian missions. They also participate in joint forces training missions and real world missions across the U.S. and worldwide.

Sharing knowledge through technology: AFSOC's e-business journey

By **Kimberly Risalvato**
AFSOC Systems Integration Branch
Hurlburt Field, Fla.

The Internet is an increasingly popular means of getting and disseminating information worldwide. It isn't merely another piece of the communications infrastructure, but a legitimate force multiplier. Likewise, e-business tools have multiplied over the last several years.

The challenge is to ensure warfighters have access to the information and business tools they need, when they need it, and in a useful and relevant format.

Air Force Special Operations Command is stepping up to the challenge. They have developed an e-business program management plan that establishes a road map for using technologies to move business processes from a paper-based to a Web-based/electronic environment. The command has embraced the concept of knowledge management, found ways to capture and share critical information, and taken advantage of information technologies to enhance the work environment.

AFSOC headquarters has established an e-business steering group that examines business processes and evaluates Web-based capabilities to improve and simplify processes. Representatives to the group are the conduit between functional areas and the communications community on all e-business matters. While the e-business steering group leads e-business efforts, the user's needs are at the heart of the effort. AFSOC has more than 30 e-business initiatives under way and a number of successes to date.

With the ops tempo for special operators at an all-time high, they established a single point of entry on the AFSOC Web page to obtain information for travelers. This "one-stop shop" provides instructions, guides, forms and information. It contains links to databases housing information about per diem rates and mileage tables, as well as links to travel information and reservations. Instead of

users having to search the Web for numerous sources of information, they can find it all in a single location and only a "mouse click" away.

The steering group found valuable information throughout AFSOC, but discovered that in many instances it wasn't available to all AFSOC members. The challenge is to determine what information should be shared, whom it could be shared with, and the best avenue for providing it. The Web is allowing for faster and more transparent communications and global networks are possible with rapid transportation of complex data.

In one effort, they updated policies and procedures for sharing information on the Web and standardized the AFSOC Web page format so information is displayed clearly and consistently. In addition, they instituted an "A-Z index." Key words are indexed and linked to the appropriate page for easy access. All directorates in AFSOC now have a presence on the Web providing up-to-date information on all functional areas. Sharing information on the Web produces many advantages, such as reduced bandwidth requirements, and readily available and accessible information.

While technology is providing faster and more efficient ways of doing business, they found that education is the key to harnessing the power of tools and information in today's environment. The communications directorate has designed a brochure that walks the novice through AFSOC's Web, and publicizes new technologies. In addition, the e-business steering group promotes e-business and knowledge – sharing practices.

Technology has made it possible for organizations to capture and share knowledge while enhancing their effectiveness to complete the mission. The Air Force needs to continue to look at business practices to determine how to integrate technology. The top priority is to ensure warfighters have access to the information they need, when they need it, and in the form they need it.

Our Web site is <https://www.afsoc.af.mil/milonly/ebusiness> .

FACTOR

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USSOCOM, the 112th Signal Battalion, the 5th Special Forces Group, the 280th CBCS, the 16th CS, and others. The HQ AFSOC/SC staff engineer, with assistance from AFSOC's network systems team, crafted an innovative communications architecture. Others tackled logistics issues, equipment listings, development of the joint communications-electronics operating instruction, Annex K to the OPORD, and the myriad of other details for the JSOAC and JSOTF deployment.

At the same time, the 16th CS deployed its second TDC package to support exercise Early Victor '02 in the CENTCOM area of responsibility. The 16th CS was supporting three separate base operating locations in three separate countries.

Just when they thought AFSOC communications forces could not stretch any further, the call was made to split the JSOAC force and move CSAR assets to a forward staging base closer to the battle ground. With this decision, AFSOC was tasked to support four sites with equipment designed to support two locations. Because of the teamwork within the SOF community and the robust TDC packages, they were able to satisfy requirements at all four deployed sites. By then, however, all the 16th CS TDC assets were fully deployed, and planning was under way to deploy to further forward locations.

While the 16th CS moved to its FOB, an all points bulletin went out calling for ideas to field a communications package smaller than TDC. In response, the Air Force Communications Agency offered a prototype system called the reduced footprint initial communications package to support AFSOC forces in OEF. One complete RFIC (satellite dish with baseband equipment) and the baseband equipment for a second RFIC arrived at Hurlburt within the next five days for operational checks. The satellite terminal was one of the initial small commercial satellite dishes to hit the market and both baseband systems were similar to the TDC ICAP with a promina multiplexer, hubs, routers, KIVs and REDCOM voice switch.

The systems arrived by van late Friday night with two AFCA personnel from Scott AFB, Ill. In only two days, they conducted systems checks, and tackled how to add SIPRNET capability by teaming with USSOCOM to integrate small, rack-mountable servers originally slated for Hurlburt, with

the RFIC packages. With time running short to meet the airlift schedule, the USSOCOM/AFSOC team spent all night loading and configuring servers for the two packages. AFSOC's logistics planners shifted into high gear to get the RFIC packages to the theater on the next available aircraft. That was four days from the time the systems arrived at Hurlburt.

They now had one complete RFIC package, but the second package needed a satellite terminal, so U.S. Air Forces in Europe SC offered its new light-weight satellite terminal, the USC-60A, and a technician from the 1st Combat Communications Squadron. AFSOC now had two complete systems for quick reaction and ease of movement within the Afghanistan theater. These two systems came together through chance, luck and the perseverance of many organizations. Both would play prominent command and control roles in the coming months.

AFSOC participation in OEF grew further as the 352nd Special Operations Group entered the fight. Their task was to set up operations on the outskirts of the AOR and provide communication operations for covert, CSAR, field resupply, and humanitarian assistance missions. Aircraft had to fly long routes around restricted airspace and then into hostile areas, so the 352nd Communications Flight brought in three-dimensional mapping for mission planning. Their mission was brief, yet successful.

As things wound down in Afghanistan, the 353rd Special Operations Group at Kadena AB, Japan, readied for its own fight on terrorism. Loaded with lessons learned from previous months, USSOCOM called for a planning team to assemble at MacDill AFB, Fla., to lay out possible courses of action for the Pacific rim. Again, as with the JSOAC/JSOTF-North planning at the end of September, planners from the 112th Signal Battalion, USSOCOM, Special Operations Command Pacific, and AFSOC converged to hammer out the communications operations plan that was eventually selected as the basis for operations in the Philippines. The rest will be history.

It is strange to think of the AFSOC motto, "The Quiet Professionals," and see warfighting communicators in such a prominent and visible role in the fight on terrorism. In just a few short months, AFSOC communicators have become prominent enablers, providing robust, flexible and rapidly deployable comm systems around the globe.



Air National Guard is vital part of AFSOC mission

By Maj.
Steve A. Poole
280th CBCS
Commander
Alabama, ANG

The 280th Combat Communications Squadron, Alabama Air National Guard, provides communications and information systems for command and control of Special Operations Forces worldwide as well as responds to state emergencies.

As a member of the Air Force Special Operations Command team, the 280th CBCS provides

communications-electronics support of U.S. Special Operations Command missions worldwide. The squadron works under AFSOC's command and control when mobilized for contingencies, exercises or real-world commitments. Mission performance, with AFSOC as the gaining command, is the unit's "federal mission" and it has been under the AFSOC umbrella since February 1999.

Like all Guard units, the 280th also has a state mission which falls under the control of the Governor of Alabama and the Adjutant General in times of emergencies. Working with the state and local Emergency Management Agency, the unit provides communications and power generation equipment to protect lives and ensure protection of property. They also provide vehicles to move equipment, food, and other supplies in conjunction with the American Red Cross during disasters, such as floods, tornadoes, and hurricanes.

The 280th brings unique assets to AFSOC, including some of the most current, lightweight, deployable communications equipment available, along with seasoned personnel who have been working in the communications industry, both military and civilian, for most of their careers. The unit continues to receive upgrades and new, high-tech, modern equipment to provide stand-alone capability



The 280th CBCS TSC-93B provides a long-haul communications link in support of Enduring Freedom.

for worldwide contingencies. This makes the squadron lighter, leaner, and readily deployable to be a mainstay in the total force concept.

During current world events, the 280th has demonstrated its essential role to AFSOC in deployment of equipment and personnel in support of Operation Enduring Freedom overseas. The unit has provided augmentee support to AFSOC and personnel support to numerous organizations within the command. The unit's role continues to expand to include new missions supporting four separate directorates in AFSOC. The 280th serves as pilot unit for two AFSOC unit type codes and provides equipment and personnel training to communications organizations throughout AFSOC. Hall Air National Guard Station serves as a hurricane evacuation site for two major directorates within AFSOC Headquarters.

A new \$11 million facility was approved and funded this year for the 280th with the signing of this year's budget. Construction is scheduled to begin within a few months at the Dothan Regional Airport. Having been a member of the AFSOC community for a short three years, the 280th has made a tremendous impression on its new command and the future looks even brighter.

353rd Communications Flight 'connects' operators

By Capt. Robert Leary

Tactical Communications Flight Commander

353rd OSS

Kadena AB, Japan

The 353rd Operations Support Squadron's Communications and Information Management Flight is an integral part of special operations in the largest theater of operations in the world. With an average of only 55 personnel, the flight provides all deployed ground-to-air and command and control communications for Air Force and joint air-special operations in the Pacific.

The flight can simultaneously fully support a deployed Joint Special Operations Air Component headquarters, as well as provide primary services for a rear staging area, a forward staging area, a liaison team at the Joint Special Operations Task Force headquarters, and a liaison team at the Joint Forces Air Component Commander headquarters.

In 2001, with the backdrop of real-world and exercise schedules, the flight supported 15 Joint Combined Exchange Training and Joint Combined Exercise Training exercises and three real world deployments to locations in Australia, Korea, Mongolia, Philippines, and Thailand for a total of 1,614 days. An average member of the flight was deployed for almost 30 days. In addition, there were 1,133 days of Air Expeditionary Force deployments, conferences, formal training, and professional military education, which equates to almost 50 days TDY per year for each member of the flight in 2001.

A recent, interesting operation included providing the communications package used during the repatriation of the EP-3 crew from China. In the first quarter of 2002, the flight has already had more than 1,200 total days supporting Operation Enduring Freedom with people and equipment deployed.

Individuals not deployed occupy themselves with a range of in-garrison tasks, including everything from manning a 24-hour radio room, which is the center of the group's current flight operations, to participating in local exercises, and training on new, updated equipment.

This special operations communications flight integrates the newest technology, provides the most capabilities with fewer people and less airlift than any other unit in the Air Force. With only a single C-130 worth of cargo and people, the flight estab-

lishes and maintains all computer and telephone communications, both classified and unclassified, from a bare-base to support a Joint Special Operations Air Component headquarters. This is done using the Lightweight Multi-band Satellite Terminal connected to a scaled-back version of the Integrated Communications Access Package. Every item in the package (except the generators) is transportable. This means 10 people can establish communications for a base capable of supporting more than 1,000 people, providing everything from secure and unsecure phone lines, to Internet connectivity, to video and teleconference capabilities.

In 2002 the unit is fielding an entirely new, smaller, and lighter communications package that can provide DSN, NIPRNET, and SIPRNET capabilities to a forward operations base. The flight will also field 18 new servers for NIPRNET, SIPRNET, and DMS; a new TBMCS-unit level server and user suite; and a deployable video teleconferencing suite.

On the push-to-talk side, unit members communicate with aircraft and ground units using the latest technology combined with unique modifications of older equipment. The unit simultaneously will use everything from HAVE-QUICK for line-of-sight operations, to DAMA for UHF-SATCOM and ALE on HF. For reach-back capabilities, the unit uses the tried and true HF, various types of UHF-SATCOM, as well as newer technology in the EHF range.

As technology gets smaller, the flight started equipping teams with encrypted Iridium satellite phones, which are slightly larger than most cell phones used in the states. As an answer to the increased paperwork generated by all units, most communications has gone from voice transmissions to encrypted data. In response to smaller and lighter, even the largest push-to-talk communications package fits onto a single pallet, with the smallest package requiring only a few hundred pounds of equipment.

With all of this new equipment and capabilities, and the ability to participate in training missions throughout the world, it's no wonder people from throughout the Air Force fight to get into special operations. The flight is on the cutting edge of deployable communications. The quiet professionals of the 353rd Special Ops Comm Flight can deploy any time, anywhere, with little or no notice.

Battle Staff Network provides an information link

By Senior Master Sgt. Rod Gurski,
Tech. Sgt. Doug Lovett, and
Staff Sgt. Cathrine Sharrock
16th Special Operations Wing
Hurlburt Field, Fla.

The Battle Staff Network is the future of 16th Special Operations Wing deployments and information managers at Hurlburt are on the cutting edge.

The network is managed by the 16th Communications Squadron information managers who execute work group management duties. The 3A0 is responsible for the network in every stage of deployment, from pre-deployment setup and configuration to setup in the field, to breakdown.

When the 16th SOW deploys, the BSN, along with the 3A0/WM, deploys too. The system provides the means by which all deployed battle staff leadership and planners can operate, share information and make decisions. The BSN consists of information "captured" from previous exercises and deployments. This information includes Web pages, forms and publications, templates, worksheets, checklists, briefings, databases, and other data files. This is helpful in preventing deployed personnel from having to "reinvent the wheel" each time they deploy.

During a deployment, the IMer is responsible for setting up the network. This includes a server-laptop, printers and up to 16 laptop computers. The laptops are provided to all deployed battle staff leaders and planners. Information from the server-laptop's hard drive, "captured" and downloaded from home base, is shared on all laptops so all deployed battle staff can communicate, share and update their work. Instead of going to one central

location to update slides or situation reports, all information is updated by members at their work stations. When one member makes a change to a document, it's updated on all the computers and saved to the server. When the deployment is completed, the information from the server hard drive is uploaded onto the Hurlburt classified Web server. This information is then used to prepare for future deployments.

The IMer is completely responsible for the deployed network. The 3A0 is the on-the-spot troubleshooter. They are the facilitators, operators and maintainers of the network and ensure it enhances operational capabilities for the battle staff.

Another BSN element is access to the outside world and that's where theater deployable communications comes in. Once TDC is up and running, the BSN can be tied into the classified network server providing e-mail service. The deployed battle staff can communicate with the home base battle staff and other deployed locations. The deployed 3A0 works with TDC to make sure this happens. Without the TDC, the BSN would remain a stand-alone network.

Hurlburt is leading the charge in 3A0 comm integration. The 16th CS ensures WM-qualified administrators are going out the door with the BSN. The additional training needed is widely supported since key leadership depends heavily on this network, and the IMer's importance as a WM is recognized and encouraged.

The deployed battle staff relies on the BSN and the deployed 3A0. If they can't communicate, decisions aren't made. The value of the IMer is higher than ever and the BSN gives the war planner and fighter the tools they need to fight and win.

16TH CS

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members who completed 400 flying hours last year in addition to their regular duties.

They played an active role on test missions flying more than 180 hours, documenting operational tests of SOCOM-specific technology and upgrades. These

individuals also benefited from the variety of aircraft flown on Hurlburt, logging hours in American special operations aircraft, and the rare opportunity to fly missions in foreign aircraft.

A time-tested quote reminds us that an organization is only as good as its people. Individual talent abounds, with accomplishments ranging from a slot on the

Air Force soccer team, to traveling worldwide as a member of Tops in Blue, or recognition as the Department of Defense's top photographer for the 54th Presidential Inauguration.

These individuals combine to form a team guaranteed to meet the special operations requirement of completing the mission "anytime – anyplace."

CHALLENGES

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norm as the 16th CS deployed communications teams to three more countries, the 352nd Special Operations Group out of RAF Mildenhall deployed a team to still another, and more recently, the 353rd Special Operations Group out of Kadena AFB deployed two teams to the Philippines. At all but one location, AFSOC communications provided base-wide support for an extended period until follow-on heavy communications arrived. In every case, AFSOC communications teams took on this additional mission and performed superbly.

The Air Force's Theater Deployable Communications system was our linchpin to providing secure and reliable telephone, NIPRNET, SIPRNET, JWICS, and TBMCS services to our SOF warfighters. TDC served us well for stable, long-term operations, but OEF experience revalidated a standing, but unfunded AFSOC need for an even smaller, lighter system to support the rapid relocation and redeployment of AFSOC forces. With help from the Air Staff, the TDC Program Office, and the Air Force Communications Agency, we acquired eight new Initial Communications Element systems that have been quickly integrated into our communications planning for ongoing OEF deployments.

OEF security concerns over the protection of information have also accelerated our migration to

greater reliance on the SIPRNET at Hurlburt Field. We have completely wired the AFSOC headquarters building for SIPRNET and continue to extend SIPRNET to more 16th Special Operations Wing units.

We're well on the road to completing our server consolidation initiative and have also developed an E-business program management plan to move our business processes from a paper-based to a Web-based electronic environment. AFSOC has embraced the concept of knowledge management, determining ways to capture and share critical information with our counterparts and customers in an effective and efficient way, and we take advantage of information technologies to enhance both fixed and deployed communications. We continue to review our current ways of doing business, and look to other MAJCOMs and the commercial sector to find ways to improve or renew our capabilities.

AFSOC's communications and information professionals are overcoming never-before-seen challenges and proving their mettle every day through sheer hard work and professional dedication. I'm proud of them, and convinced they are far and away the best warfighting communicators in today's Air Force. My hope is that in this AFSOC edition of the *intercom*, you'll gain some insight into their tremendous successes.

transformation

TRANSFORMATION

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In the past, the general said, people interpreted data and passed it on to others, who added their own data and interpretations. Instead, machines should be talking to other machines to provide a result similar to the computer on a F-15 directing missiles to a target with minimal human interaction. The goal is to provide a seamless process where an operator in an air and space operations center can place a cursor on an electronic display and lock onto a target.

"We must enable machine-level,

digital conversations between our command and control, intelligence, surveillance and reconnaissance and strike platforms so the 'sum of our wisdom' results in cursor over target," General Jumper said.

General Jumper credited communicators with integrating technology for 92 years, since 1910 when the U.S. Army transmitted the first radio message from an aircraft. By the end of the decade, the aviation section of the Army Signal Corps was experimenting with air-to-ground and ground-to-air communications. Since then Air Force communicators have been at the fore-

front of providing increasingly sophisticated communications technology to operators, giving the Air Force air superiority any time, any place.

People, talent and expertise will be the key to success of the entire transformation.

During World War II, communicators provided "Highways in the Sky," and under Air Force Communications Command, the "Reins of Command." Now, General Jumper said, it's logical for communicators to "take a giant step forward" and give our warfighters a seamless virtual "Network in the Sky."

E-mail: friend or foe

By Col. Paul F. Capasso
*Director of Communications
 and Information
 HQ Air Education and
 Training Command
 Randolph AFB, Texas*



Colonel Capasso

Whether sitting at a desktop computer at work or at home, or in the middle of a vast desert using a personal digital assistant, e-mail provides us a worldwide means to exchange information. While e-mail provides our warfighters another tool to aid in the successful completion of their missions, it comes with risks—that an adversary may intercept vital information; that a computer virus or denial-of-service attack can bring this communications capability to a standstill; of an adversary impersonating (or as it's referred to in the world of computer hackers – spoofing) a legitimate military entity; and of classified information compromised by transmission through unclassified e-mail systems.

To support the warfighter, the Air Force is implementing several programs that will enhance our ability to communicate throughout the entire spectrum of conflict. The Defense Message System provides a means to securely send and receive e-mail while providing authentication between sender and receiver. The new Common Access Card will not only replace our current ID cards, it will also enable us to use public key infrastructure to authenticate e-mails. The Air Force Common User Virtual Private Network provides encryption between Air Force bases to further secure e-mail messages.

But as fate has it, there isn't a single technological silver bullet

available that will protect us from a determined adversary. Because we must be prepared to operate in an environment of cyber uncertainty, risk management and mitigation are critical tools in the Air Force's toolbox to ensure we can leverage the advantages information technology has to offer. Mitigation of risks are accomplished through policies, standards, processes, tools, training, and awareness in dealing with incidents to ensure our networks are available when and where they are needed.

These tools, however, are only as good as YOU, the user, understand and remain engaged in the information security process. Gone are the days of posting a sign on your login screen saying, "Please restrict all hacking attempts between the hours of 0700 to 1900, Monday thru Friday."

The theme for Information Assurance Campaign 2002 is *Defeating Global Terror ... Demands Effective Information Assurance*. We challenge you to become the key link in the information assurance process and to increase your understanding of the vital components that make up this critical program. Information is available at the Air Force's IAC 2002 Web page <https://www.afca.scott.af.mil/ip/> or the AETC IAC 2002 Web page <https://www.aetc.af.mil/sc/>.

97th CS automates INFOCON alerts

By Staff Sgt. William Bower
*Network Admin
 97th Comm Squadron
 Altus AFB, Okla.*

The 97th Communications Squadron at Altus AFB is using computer "scripts" to improve network information condition, or INFOCON, notifications to users. Scripts are small, decision-making programs that can automate a process.

Separate text files to display the current INFOCON level during network logon were created.

Pre-formatted e-mail messages, one for each INFOCON level were also created

Finally, an HTML document was created with links to execute the scripts.

Now the process to change the network logon banner INFOCON level or to distribute a base-wide e-mail informing all users of a change in the INFOCON level can be done with a simple click. The time to distribute notifications was reduced from five minutes to less than 30 seconds.

Handheld computers come complete with risks

By Elby Jones

Computer Systems Squadron
Air Education and Training Command
Randolph AFB, Texas

Handheld computers and their applications were built for cool, new functions, not security. They lack the processing power for strong encryption, memory management, and solid password security. When they were just electronic organizers, it didn't matter. Now they're an open door to the network, and that matters a lot.

Several years ago when a co-worker brought one of his new technology "gizmos" into the office, we all looked at the new personal digital assistant and "ooh'ed" and "aah'ed!" But we thought, "What can you do with this little device that has a small screen, minimal applications, and a stylus that keeps falling out of the holder?" Little did we know we were on the verge of a handheld computer explosion still growing in capability, but considered one of the weakest links for maintaining security of information and networks.

I never expressed much concern over these new electronic toys, since in their early configuration they were not a significant risk to our network – until PDAs with e-mail capability became popular. Then the warning bells went off!

We now have the capability for personnel to receive official mail from government e-mail servers directly to their handheld devices for real-time communications or the capability to synchronize e-mail with their desktops. While synchronizing via a cradle is allowed, AFI 33-202 prohibits synchronizing via infrared transmission. While many bases have gone as far as procuring and installing their own 'Blackberry' server to provide an official, wireless e-mail capability for customers, others are still accepting the risks of having official e-mail sent or received through a commercial server.

Forwarding e-mail from your desktop to a commercial Internet service provider e-mail account, and then accessing that account from your handheld device sounds easy until you realize the security implications of people being able to read your official e-mail and the possibility of someone accidentally sending a classified e-mail message to your unclassified mail box. Then, you not only have classified on your handheld device, but stored on a commercial mail server as well. Who really wants to tell the multitude of commercial Internet service providers that they need to take their servers down to clean off a possible classified e-mail! Do you really think commercial ISPs will take down

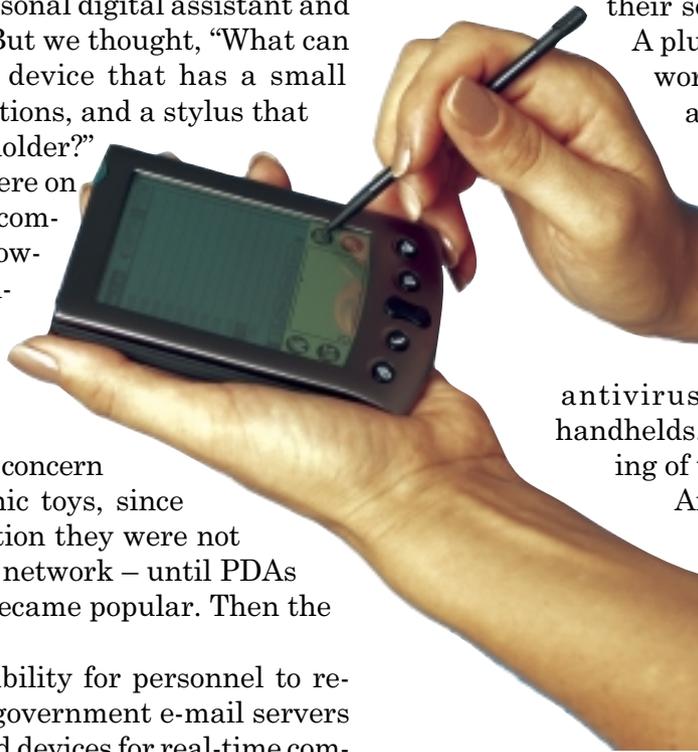
their servers to sanitize them?

A plus in favor of increased network security was the recent announcement by DOD that PDA antivirus software is available for downloading from the DOD CERT Web page. All users synchronizing personal or government-provided PDAs must install antivirus software on their handhelds. This will prevent spreading of viruses from the devices to Air Force networks.

Still a concern are the number of possible security problems (lack of adequate encryption and password policies) inherent with this technology. We must be

aware of the need to protect sensitive information, secure the devices from possible loss and theft, have accountability for the devices, and continually educate users on correct procedures.

Personal wireless digital devices will only increase in numbers and capabilities. We must stay alert and plug security holes as fast as they're identified.



Electronic junk mail loads e-mail servers

By Master Sgt. Richard B. Thorpe
17th Communications Squadron
Goodfellow AFB, Texas

“Unless you forward this e-mail to everyone you know, you’ll have a rotten day.” I don’t need an e-mail to tell me I’m having a rotten day. All I need is to be notified that another chain-letter e-mail has affected Air Force e-mail servers.

There’s someone on every base who believes everything they read on e-mail. As a wing computer security manager, I’ve noticed an increase in spam (or “junk” e-mail) and chain-letter e-mails. Many people have no idea how this e-mail traffic adversely affects Air Force networks.

The first thing that happens is that the exchange server that controls the mail traffic is overrun with extra mail. This slows down the server, which in turn, slows delivery of official e-mails. E-mails with large attachments such as pictures or PowerPoint presentations can actually over-saturate the exchange server and bring e-mail to a halt. This not only affects our ability to accomplish our mission, but places an incredible workload on network professionals.

When I’m first notified, I have to stop what I’m doing and track down whoever sent the e-mail to every soul on base to ask, “What was on your mind when you brought the exchange server to a grinding halt for unofficial mail?” Then I have to contact their unit computer security officer to make sure the culprit gets remedial Information Assurance awareness training. Then the base network control center folks have to stop what they’re doing, and depending upon the severity of the situation, either bring the e-mail servers up again or work to reduce the effects of the traffic as much as possible.

While all of this is going on, reports are sent to

the major command network operations and security center. The Network Operations and Security Center reports it to MAJCOM leadership and to organizations such as the Air Force Computer Emergency Response Team and the Air Force Network Operations Center. These organizations feed the information to Headquarters Air Force where it becomes part of a daily briefing to leadership on the status of the Air Force enterprise network.

These spam or chain letter e-mails have one thing in common and are normally easy to identify. They ask you to forward the e-mail to everyone you know.

Some that I’ve seen include the notion that a commercial network provider, such as AOL, will donate a nickel to charity for every person who receives the e-mail. Then there’s the spam e-mail that warns, “Don’t discard this – worst computer virus ever – forward to everyone you know.” It’s more junk.

Some spam e-mails are well written and easy to believe. Examples include the lost little girl and a request to send her description to “everyone on your e-mail list,” and another that proclaimed an organization would donate to charity for every “hit” on a specific Web site.

The Air Force’s strategy for computer network defense is referred to as “defense in depth.” It begins with MAJCOM NOSCs and includes the base network control center, functional system administrators, workgroup managers, and at the core of “defense in depth” is you, the computer user.

Users of government computer systems have many responsibilities. One is recognizing spam e-mail and taking the correct action: delete the e-mail.

If you’re ever unsure whether an e-mail is official or spam, contact a network professional for advice before you hit the “send” button.



E-mail increases productivity, vulnerability

By Capt. Omar Gauthier

*Air Force Communications Agency/GCO
Scott AFB, Ill.*

E-mail, an emerging mission critical application used for business purposes is fast on the rise as organizations recognize electronic messaging as one of the most efficient means of communication. Quicker, cheaper and more flexible than traditional modes of communication, millions of users have an enthusiastic view of e-mail and the capability it can provide for an organization. E-mail has transformed the way daily functions are conducted by increasing the ability to transfer vast amounts of information within seconds.

This revolution in the transfer of information has not only increased productivity, it has also increased the vulnerability to information attacks such as interception, tampering, viruses and spamming. Even with the service wide fielding of the newest platforms such as Defense Messaging System for high grade messaging, and Medium Grade Services for business grade messaging, these vulnerabilities still exist. Technology alone will not eliminate the vulnerability of an organization to information attack via e-mail.

Personnel can be the cheapest, first lines of defense against an onslaught of information attacks. The failure to follow established e-mail policy, training guidelines and procedures can become vulnerabilities, leaving the gates open for an information attack. There are countless actions users can do to make themselves vulnerable to information attack via e-mail.

The easiest protective measure — and the biggest mistake made — is not adhering to the organization's established e-mail policy. By adhering to the established e-mail policy personnel can protect their organization in many ways. First, the e-mail policy will help prevent e-mail threats and reduce e-mail vulnerabilities. The policy makes the user aware of organizational rules and guidelines, which, if followed, will protect the organization. Second, e-mail policy provides guidelines on who has access to e-mail capability, how personnel should send e-mails containing protected or confidential information via e-mail and what actions should be taken to safeguard information during transmission. Finally, adherence to e-mail policy can help stop misconduct at an early stage

by empowering those actually working on the system to stay vigilant, coming forward after receiving questionable e-mail and reporting security incidents. E-mail policy essentially makes personnel vital parts of the organization's security program.

Another mistake which makes e-mail users vulnerable to information attack is not realizing the need for awareness training, one of the foundations of Information Assurance. Improper security practices implemented by an organization force hackers to focus on the weakest links of that organization to accomplish their goals. Awareness training provides the e-mail user with the most up-to-date information on the latest threats to e-mail systems whether it's a new virus, hacker tool or e-mail scam. Most people view security or awareness training as a waste of company or personal time, but this form of training can improve an organization's first line of defense.

Within most e-mail policies, topics such as password creation, opening of e-mail and attachments from known and unknown sources and the use of virus scanning software are addressed. Failure on the part of the user to combine the appropriate combination of letters, numbers and special characters during password creation is considered by a hacker to be an open door for the introduction to malicious activities.

Even the opening of seemingly regular e-mail traffic from unknown sources can increase vulnerability to information attack. An attacker incorporating the newest code writing technique that no longer requires the opening of attachments to activate viruses. Disregarding or disabling the use of virus scanning software because it interrupts work opens holes in security and increases your vulnerability to attack. All of these simple e-mail policy guidelines when implemented effectively and consistently can reduce vulnerabilities to information attack.

Currently, there's only one way to eliminate the vulnerabilities totally—don't use the system. Aside from this extreme measure, personnel can drastically reduce their vulnerability by following three basic rules. First, know your organization's e-mail policies and procedures. Second, stay vigilant, you're in an environment with constant threats. Finally, think security at all times working on or around workstations and e-mail.

Classified incidents shut down systems

By Terry Murphy

Network Operations and Security Center
Air Education and Training Command
Randolph AFB, Texas

A “classified message incident” is time-consuming, expensive and often results in the shutdown of base-wide e-mail systems. A CMI happens when someone sends classified information over the Air Force’s unclassified e-mail system. To Air Force network professionals it means hours of frantic work to make sure classified information is isolated and then sanitized from unclassified Air Force computer networks.

Network professionals within Air Education and Training Command have already handled 16 CMIs in 2002. There were 18 CMIs in AETC during 2001.

Statistics from the AETC network operations and security center show that of the 16 CMIs in 2002, AETC personnel caused eight of them. The rest were caused by people at organizations outside of AETC sending classified information to AETC unclassified networks.

When e-mail servers are taken offline to prevent classified information being inadvertently re-transmitted and to allow for sanitizing the servers, the result is a self-imposed denial of service attack, a serious threat to networks.

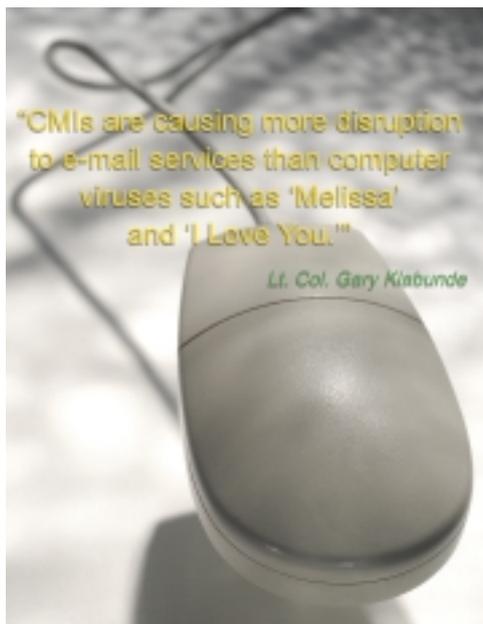
“CMIs are causing more disruption to e-mail services than computer viruses such as ‘Melissa’ and ‘I Love You,’” said Lt. Col. Gary Klabunde, AETC Computer Systems Squadron commander. “The cost in terms of man-hours spent in recovery actions and lost system time is staggering. A recent CMI in AETC resulted in 783 personnel being denied e-mail services during a 12-hour span while CMI recovery actions were under way.”

CMI recovery starts with a damage assessment – classifying the information, how many people the e-mail was sent to, whether the information is perishable, and other details.

Recovery actions involve much more than simply deleting an e-mail message from a computer. Workgroup managers participate by sanitizing user PCs. Base network control center personnel and functional system administrators work together to sanitize unit and base e-mail servers. The NOSC coordinates the CMI with other network control centers and other MAJCOM NOSCs when it involves more than a single MAJCOM or base.

“While we’re working CMI recovery actions smarter and minimizing actual e-mail downtime, our objective is to eliminate incidents, Colonel Klabunde said. “We need to increase information security training for personnel with access to classified information. We also need to implement remedial training for personnel involved in a CMI. MAJCOMs and the Air Force Communications Agency are identifying trends and developing policy to help combat CMIs, but we will only see this trend in CMIs halted when everyone with network access practices diligence and professionalism when sending information over e-mail systems.”

Several MAJCOMs instituted new procedures to increase leadership awareness of CMIs and their impact on the operational mission. For example, when a CMI occurs on Air Combat Command or AETC networks, the respective director of communications and information gets personally involved. The SC sends an e-mail to the first general officer in the chain of command of the CMI originator. This message, sent after the incident is closed, describes the incident, number of bases affected, and number of hours spent sanitizing networks. Feedback has been positive, with some general officers pledging to get personally involved in preventing recurrence. That’s exactly what’s needed – personal involvement on the part of *everyone* to ensure we don’t send classified messages across our unclassified networks.



Vandenberg ecstasy video wins film festival award

By Capt. Trish Wiegman-Lenz
30th Communications Squadron
Vandenberg AFB, Calif.

What started out as a small base video production has won an international film festival award.

“Ecstasy: The End of the Dream,” a video produced by the 30th Communications Squadron won a first place trophy at the 2001 Italian Film Festival, Eserciti re Popoli, beating out 65 entries from 29 nations.

The production also was awarded a prestigious Telly Award in 2001. Telly awards are given to outstanding network and non-cable video productions. Previously, the video won the Internal/Public Information Category of the Department of Defense Visual Information Awards competition and was selected as one of the five DOD entries to the Italian Film Festival.

Secretary of the Air Force Dr. James Roche accepted the trophy on behalf of the Air Force in a special Pentagon ceremony after the film festival.

The concept for “Ecstasy: The End of the Dream” was born when the 30th Medical Group began looking for a means to get the word out to Vandenberg troops about the popular rave drug, ecstasy. There had been several incidents of ecstasy use among Vandenberg’s military population.

“When we began to do research on the project, it was immediately apparent that there was really very little out there on ecstasy in the DOD community,” said Christopher Zenor, 30th CS chief of motion media. “We saw this as a real opportunity for us to put together a production the way it’s supposed to be done.

We brought the customer together with everyone who needed to be involved – everyone from videographers and editors to our producer and directors – and together we developed a vision for the production.”

The subject was Amber, an airman who had been found guilty of ecstasy use. She agreed to be interviewed on camera in her jail cell. Her story became the basis of the video. The production crew credits her with the success of the production.

“Amber was extremely candid,” said Gabrielle



Photo by Staff Sgt. Jennifer Wallis

Lt. Gen. John L. Woodward Jr., Air Force Deputy Chief of Staff for Communications and Information, presents the Telly Award to Chris Zenor, James Jones, Kathi Peoples and Capt. Trish Wiegman-Lenz.

DeFrancisco, co-producer and lead videographer. “She talked about how disappointed her parents were, and how she lost her Air Force career because of ecstasy use. We thought her account from behind bars would be much more convincing to our target audience than any amount of preaching about the dangers of the drug.”

The production team edited this footage with stock footage from the National Interagency Civil-Military Institute and various police departments.

They even went so far as to stage a rave in their production studio to get some of the close-ups and slow motion sequences. The finished product combined factual information and eye-catching graphics.

“We cut this video specifically to appeal to a younger audience,” said James Jones, co-producer and lead editor. “We wanted it to look like something they might see on MTV.”

The video debuted at a 30th Space Wing Commander’s Call in November 2000 to glowing reviews. From there, it took on a life of its own.

They submitted the production to the Defense Automated Visual Information System, the DOD clearinghouse for audiovisual productions, so customers could order it.

“This production is a perfect example of what can happen when everything comes together,” said Zenor. (AFPN)

AFCA NCO competes for AF Outstanding Airmen of the Year honors

By Master Sgt.
Ed Ferguson
AFCA Public Affairs
Scott AFB, Ill.

An Air Force Communications Agency NCO here has been selected to represent the 11th Wing, Bolling AFB, Washington D.C., the Air Force elements and Headquarters U.S. Air Force air staff at the Air Force 12 Outstanding Airmen of the Year competition for 2001.

Master Sgt. Jennifer Ostrander, NCOIC, network/computer maintenance, is the nominee in the noncommissioned officer category. She was promoted to master sergeant in February under the Stripes for Exceptional Performers program.

"She's a dynamic and talented leader who achieves spectacular results, placing her far above the rest," said Walt Patton, branch chief, Technology and Interoperability Facility at AFCA. "She deserves this honor."

AFCA is a field operating agency, reporting directly to the Air Force deputy chief of staff for Communications and Information.

Upon finding out she'd made it to the final round of the 12

Outstanding Airmen of the Year competition, Sergeant Ostrander said she felt humbled and honored. "Even though these awards are given individually, it's never just one individual who makes things happen. I've been lucky enough to be part of a great team with



Sergeant Ostrander

awesome coworkers and a chain of command who believes in taking care of their people," she said. "No matter what the outcome of all of this, I'll always be thankful to my supervisory chain who took the time and made the extra effort to nominate me. "Thank

you' just doesn't seem to be enough."

Winners of the Air Force 12 Outstanding Airmen of the Year competition are expected to be announced in late June. Nominees are authorized to wear the Outstanding Airman of the Year ribbon, while the 12 selectees will wear the bronze service star device on the ribbon. The selectees will also wear the Outstanding Airman badge for one year from the date of formal presentation.

The selectees are scheduled to be honored during the Air Force Association national convention set for September in Washington, D.C., and will serve as members of the AFA's Enlisted Advisory Council.

Modeling and simulation aids network planning

By Jeri Kaufman
and Ken Becker
Architecture and Interoperability
Air Force Communications
Agency
Scott AFB, Ill.

Are you concerned about the performance of your network? Wonder where the bandwidth went? Worried that your communications-computer infrastructure won't soar like an eagle when all those new programs are fielded, or when your force structure expands?

The Air Force Communications Agency is addressing these concerns with a computer-based toolkit designed to model, simulate and analyze network performance based on bandwidth capabilities. Experts in AFCA's network analysis cell used the toolkit successfully to evaluate the classified network supporting Operation Enduring Freedom. Within 72 hours, they built a network model from architecture data provided by network planners, generated network traffic data from user profiles, and ran simulations to verify and validate accuracy of their network model. Using their validated model, they simulated operations traffic across the entire network. The computer-generated analysis identified a link

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MODELING

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with a potential bandwidth problem. A solution was built into the model and validated through another simulation event. Final results were sent to the communications planning cell of the Air Force deputy chief of staff for Communications and Information. Value of this new capability was further demonstrated when AFCA provided a timely and accurate response to an Air Force senior communicator's request to analyze the impact on network bandwidth if an Air Expeditionary Force wing was expanded by 50 percent within the area of responsibility. Leveraging these successes, the experts took on their next big challenge, to be first to demonstrate the impact network bandwidth has on battlefield strategy. A Future Games exercise was their battleground, and they met their objective. Next up is Exercise Global Engagement VI.

AFCA has partnered with Joint Staff/J6I, the Air Force Institute of Technology, and the U.S. Navy's Space and Naval Warfare Systems Center, to build models of critical communications nodes, such as the air operations center, airborne warning and control system, Predator, and the integrated communications access package. The Joint Staff J6I's network warfare simulation toolkit is the genesis for AFCA's network modeling and simulation capability. The NETWARS toolkit uses a commercial software called optimized network engineering tool to model, simulate and analyze network performance based on bandwidth capabilities. AFCA experts use network architectures to build a topology in OPNET. OPNET has "drill down" capabilities enabling analysts and engineers to view the component configuration within network topology. The most challenging task is identifying network traffic flow. OPNET enables building traffic data based on network user profiles. This capability opened the technology door for AFCA experts to simulate traffic through network models. As shown in the figure, results are displayed graphically to make analysis simpler and faster.

AFCA continues to refine its network analysis capability. The ability to "auto import" network

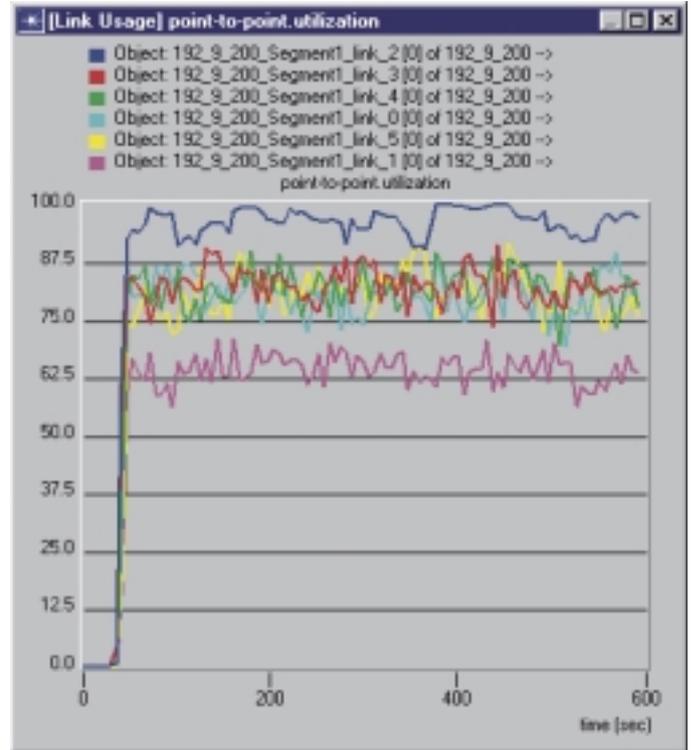
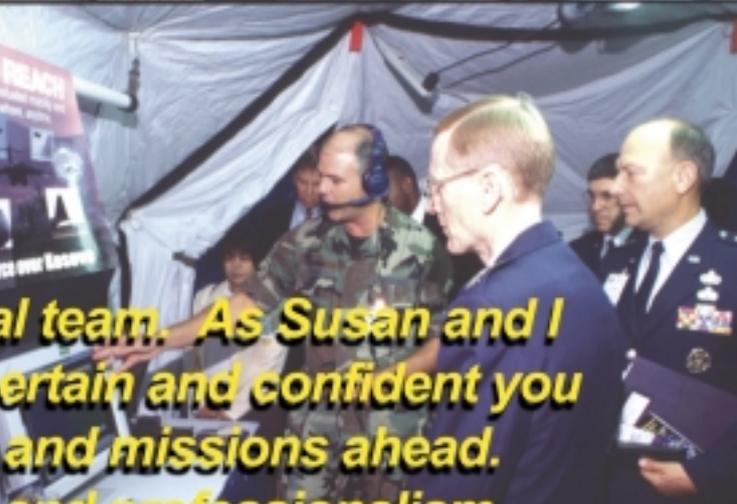


Figure 1: Bandwidth usage results

topology and traffic flow data from network management tools will decrease the time required to build the models. AFCA experts are leaning forward to bring the Air Force on line with Joint Staff's modeling and simulation tool, NETWARS. They're working compatibility issues to stand up NETWARS as their tool of choice to model, simulate and analyze Air Force network performance. They are also assisting a major command in a bandwidth analysis study on its server consolidation network.

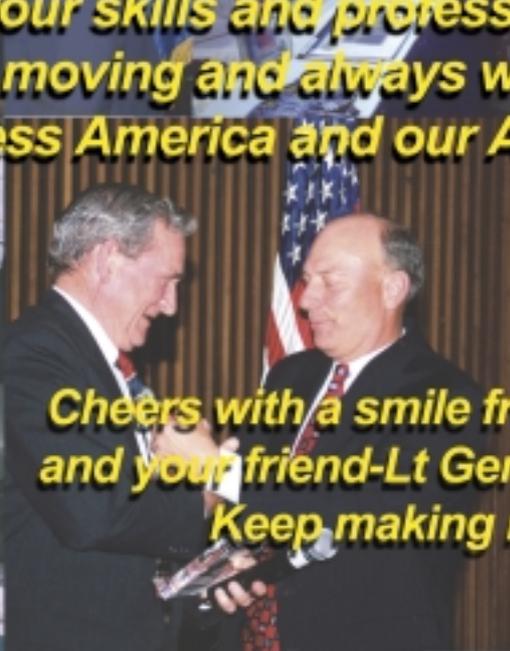
The ultimate success of network analysis using modeling and simulation hinges on involvement of the operational community. Warfighter input is essential to produce meaningful analysis results

More information is available on the AFCA Network Analysis Web page at <https://www.afca.scott.af.mil/msa/>, or from Ken Becker, chief of AFCA's Infrastructure Analysis Division, DSN 779-5340, (618) 229-5340, or e-mail afca.ita@scott.af.mil.



A special Thanks to a special team. As Susan and I depart the Air Force we are certain and confident you all are ready for the tasks and missions ahead. I thank you for your skills and professionalism.

Keep those 1's and 0's moving and always win the big fight-- Bless you all and Bless America and our Armed Forces.



Cheers with a smile from your DCS /SC and your friend-Lt Gen Jack Woodward. Keep making me proud!

