



The Air Force Leverages the Power of IT

Brig. Gen. Glenn F. Spears is Director of Plans and Programs, Headquarters Pacific Air Forces, Hickam Air Force Base, Hawaii. In this capacity he serves as the PACAF focal point for developing theater contingency plans; command input for the Department of Defense planning, programming and budgeting system; and regional security and international affairs assistance. He also oversees doctrine development and command arrangements and manages resources, force development and modernization.

General Spears is a command pilot with more than 3,200 flying hours in 13 types of Air Force aircraft. The general's awards and decorations include the Legion of Merit with two oak leaf clusters, the Bronze Star Medal, the Defense Meritorious Service Medal, the Meritorious Service Medal with two oak leaf clusters, the Air Force Commendation Medal with oak leaf cluster and the Kosovo Campaign Medal.

As the PACAF Director of Plans and Programs, my team develops the command's long-range, deliberate plans to implement national, military and theater strategy in support of our nation's interests. All of these plans rely heavily on information technology. Furthermore, we develop and oversee the PACAF program, our long-range budget. In doing so, we attempt to take full advantage of IT to leverage its nearly boundless capabilities to save dollars, save manpower and reduce risk. However, I'm also an operator. While currently desk-bound, I've spent most of my career in the field, and I depend very much on the information technology that you engineer and provide. Let there be no doubt — I am a believer in the value of IT!

From the origins of our Air Force there has been a unique connection between our Service and technology. In fact, from the defining moment of powered flight in 1903, to the creation of the Air Force as a separate Service in 1947, to the present — the Air Force and technology have been inexorably linked.

I'd like to review for you the major components of PACAF's mission and what information technology means to us here in the Pacific. Then, I'll discuss how IT was used as a force multiplier during our recent conflicts in Afghanistan and Iraq. After that, I'll bring you up to date on some of PACAF's IT programs. And lastly, I'll present some of our future plans that involve IT.

First of all, as many of you know, PACAF's primary mission is to provide U.S. Pacific Command and our global, expeditionary Air Force with ready air and space power. As General William Begert (Commander, Pacific Air Forces) often says, we are a full service Component Command, providing PACOM with the full range of Air Force capabilities. This includes combat strike, mobility, intelligence, information operations, expeditionary combat support and space capabilities. We promote U.S. interests in the Asia-Pacific region during peacetime, through crisis and in war.

We accomplish this mission across the vast PACOM AOR. It extends from the west coast of the continental United States to the east coast of Africa and from the Arctic to the Antarctic. In total, this area of responsibility covers more than 100 million square miles. While some 70 percent of the AOR is covered by water — all of it is covered by air and space! This AOR is home to nearly 2 billion people who live in 43 countries, and includes some 16 time zones. Do we rely heavily on IT to do our job? You bet we do. Information technology helps us prevail over the tyranny of distance.

Today, information may be the world's hottest commodity. However, the military wants more than information; it wants and needs information superiority. Information technology is a crucial area that helps us to gain information superiority, improve readiness and

enhance mission performance. Advanced information technologies allow us to engage any target, anywhere in the world, at any time. IT impacts virtually every functional area within PACAF — from medical to personnel, engineering to operations and everything in-between. Information, itself, is considered a weapon.

The second point I want to emphasize is the importance of information in the way we conduct combat. During our recent conflicts, IT was a true force multiplier. Information technology reduced risk, saved manpower and money, increased efficiencies and improved effectiveness. Many heard the story of young Airmen riding horseback in Afghanistan using a laptop, GPS and a laser designator. They successfully directed surface attack and close air support. They leveraged technology to employ strikes from B-52s, a mid-20th century designed platform engaged in a 21st century battle. Better still, we used data links and feeds to employ an unmanned aerial vehicle (UAV) with air-to-ground missiles in a close air support role. Can you imagine the enemy's shock as we confidently relied upon a UAV to attack them within 50 yards of our coalition forces? The raw power of IT available to our forces today is staggering.

One of our key lessons learned from recent operations in Afghanistan and Iraq is the criticality of our air operations center — another IT-powered force multiplier. The AOC enabled commanders to employ joint and coalition airpower, destroy strategic leadership targets and prosecute time critical targets with speed precision never seen before in combat. And, we could do it day or night, in all weather conditions. Today, the Air Force considers our AOCs as weapons systems — just like a B-1, C-17 or F-16. The AOC is the embodiment of network-centric warfare. It remains the nerve center for all air component missions in support of operations in Afghanistan and Iraq.

In today's AOC, warriors translate the Joint Force Commander's guidance to produce the effects desired across the battlespace, which often involves identifying and analyzing targets. Some of those targeteers are traditional "steel on target" conventional planners. However, today we also include space warriors and information warfare warriors in the AOC. We place the kinetic warriors side-by-side with the non-kinetic warriors. And, they're leveraging IT to make sure we achieve the right effects on the right targets.

Let me now shift gears to discuss some of PACAF's IT initiatives and programs. We assign IT to the principal-supporting role in the command and control of air and space operations. The Pacific Operations Support Center, Air Mobility Operations Control Center and our AOCs are key command and control nodes. PACAF commands two of the five CSAF-designated "Falconer" AOCs around the world. We have a permanent one in Korea, and it is unarguably the most developed AOC we have in the Air Force. The processes are mature,

although we constantly upgrade the equipment and the software. Our other AOC is deployable and located at Hickam AFB. We call this the Pacific AOC or PAOC. Where the Korean AOC is focused on conflict on the Korean peninsula, the PAOC supports crises or conflicts in the rest of the AOR. The personnel in the PAOC are capable of planning and executing thousands of combat support sorties daily. They can orchestrate detailed airspace deconfliction between hundreds of aircraft and conduct simultaneous time critical targeting. But what really makes this staggering is that we plan on doing all of this — thousands of miles away from the battlespace. To do that, we must have uninterrupted and secure communication and bandwidth. Where we require the most help from you is managing our data to maximize existing bandwidth, and also to help us increase our bandwidth.

On another note, many of our PACAF C2 networks have been developed as ad hoc, nonstandard systems consisting of stovepipe connectivity. These limit our capability to provide C2 across the command. As a result, we created a C2 Network Modernization and Revitalization plan. We will upgrade and expand the network infrastructure supporting C2 systems at all nine main operating bases. Our blueprint calls for growth and modularity for future upgrades, expanded bandwidth and bigger switch port capacity.

In the communication and computer area, we implemented a server consolidation at all nine of our bases on the classified and unclassified sides. You helped us be the first major Air Force command to do that. We moved the command to WIN2K directory architecture. Additionally, we created a secure Web portal with collaboration capability. And you helped us be the first Air Force MAJCOM to do that as well. Currently, all our functional areas are populating the portal to make it a world-class tool.

We've begun our first command-wide personal computer replacement program, which will aid every combat and combat support mission area. Our networks have evolved into command and control systems with the Defense Messaging System and the way we use e-mail. Soon, all PACAF bases will regularly backup over 10 terabytes of data. Now, I don't know a terabyte from a pterodactyl, but our IT experts tell me that it's a boatload of ones and zeroes! Without a doubt, every combat sortie and virtually every action taken by PACAF forces has one thing in common: They all rely on IT to get the job done. From desktop computers to GPS to tactical data links — IT is an integral part of every PACAF mission area.

Lastly, what does the future hold for IT in PACAF? As recently as five years ago, few could have predicted: a Global War on Terror, record setting OPSTEMPO, and Operations Iraqi Freedom and Enduring Freedom. The asymmetric terrorist attacks demonstrated that some of our adversaries do not require standing armies or a vast industrial base to inflict harm on American people. We've all witnessed what a few evil and deluded men can do. And the dangers have not passed. Today, we face threats from weapons of mass destruction and global terrorism, wielded by state and non-state actors. We live in an era of highly unpredictable threats. That is why we need robust and flexible IT that can rapidly adapt to any contingency. We are just beginning to fully leverage IT to help us improve our readiness and boost mission performance.

Our future emphasizes an integrated space and C4ISR architecture. This will streamline the power of IT for better predictive battlespace awareness and better real-time targeting. Horizontal integration of intelligence, surveillance and reconnaissance assets with striker as-

sets on a network-centric environment integrated with the AOC is a top priority. In this respect, I want to highlight three areas. First, as mentioned, AOC standardization is becoming a reality in today's Air Force. We will soon baseline all of our AOC Weapons Systems to the same standards — a common configuration. Furthermore, at the Korean AOC we will soon upgrade the supporting communication infrastructure, secure systems upgrades and field a new data wall. All of these capabilities will speed our decision-making processes and command and control capabilities.

Second, we are considering a possible force buildup at Guam. One piece of this initiative includes the possible bed down of Global Hawk UAVs at Andersen AFB. However, while the launch and recovery will be executed from Andersen, the mission control elements would be based at Hickam, and the feeds would stream into our new Distributed Ground Station, DGS-5. In other words, the personnel launching and landing the Global Hawks and those processing and analyzing the intelligence collected would be separated by over 4,000 miles. But to the commander, that tyranny of distance just won't matter. Data links, UAV streaming video and collaborative tools in our ISR Ground Stations are all examples of ongoing engagement chain improvements.

And lastly, our future emphasizes advancements in smarter, smaller and more accurate weapons. That's why we equipped all of our F-16s on the Korean peninsula with GPS-guided Joint Direct Attack Munitions (JDAM). JDAMs, in combination with laser-guided munitions, give us the flexibility to engage various targets in multiple scenarios and in all weather. We need to integrate all of these systems, new and old, to provide information rapidly, speed the decision processes — and prosecute the enemy quicker. Our imagination is the only limit, OK, dollars may be the limit, but many of our recent initiatives have paid for themselves and will save money and personnel for years to come. We must continue to develop seamless joint and combined operations, systems connectivity and interoperability. We must be trained and equipped to fight as one force.

IT should be transparent to users. The real trick is to make sure we have the right information provided to the warfighters at the right time. Users don't want to be burdened with the magic that goes on behind the scenes. The warfighter just wants to push to talk or point and click, and be confident that he has secure and reliable communications. Recently, Secretary of Defense Rumsfeld asked the U.S. Senate Armed Services Committee to consider this, "Imagine for a moment that you could go back in time and give a knight in King Arthur's court an M-16. If he takes the weapon, gets back on his horse and uses the stock to knock his opponent's head, it's not transformational. Transformation occurs when he gets behind a tree and starts shooting." The mutual progression of technology and our Tactics, Techniques and Procedures (TTP) is an absolute essential.

The U.S. Air Force is unquestionably a Service born of technology and transformation. The Wright brothers realized the impossible 100 years ago. What's over the next horizon? We are a nation of doers and thinkers. Much of our attitude about technology is a direct result of the close bonds the warfighters share with scientists and engineers — great men and women like you. These ties are deeply rooted in our Service culture. I look to this audience to help mold and shape our future. Your collective knowledge is priceless in effectively applying leading-edge technologies. □