



STATEMENT BY

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**ON C4I INTEROPERABILITY: NEW CHALLENGES IN 21st
CENTURY WARFARE**

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Introduction

Mr. Chairman and members of the subcommittee, thank you for the opportunity to provide testimony describing Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) C4I Lessons Learned based on my experiences as the CENTCOM J-6 from June 2000 thru June 2003.

Background

Prior to 9/11, the US Central Command (USCENTCOM) Area of Operation (AOR) was an “economy of forces” theater. The mission set revolved around enforcement of UN sanctions issued after Operation Desert Storm. Force levels in the theater hovered around 25,000 sailors, soldiers and airmen. The communications architecture to support the missions was austere, consisting of tactical satellite communications and a small amount of commercial satellite support. Much of this communications equipment had remained in place after the end of Operation Desert Storm due to the lack of a suitable commercial infrastructure in the theater. The headquarters in Bahrain, Kuwait, and Saudi

Arabia were relatively small and required minimal communications services to execute their mission.

The modest funding levels only permitted limited improvements to this communications infrastructure. However, the communications infrastructure was sufficient to accomplish the mission and provide the Commander of USCENTCOM the minimum essential command and control capability required.

C4I Architecture—Operation Enduring Freedom (OEF)

Execution of combat operations in support of OEF came quickly after 9/11/2001. The operations plan that was hastily developed for OEF moved additional combat forces into the theater to locations the command had never envisioned occupying. Operational imperatives also dictated a different force mix in much greater numbers than anticipated. This force mix and C4 requirements in austere locations mandated an immediate expansion of the communications architecture in an ad hoc manner to meet these emerging requirements. Using the existing command post structure as a baseline, USCENTCOM grew a communications network to meet the minimal essential command and control requirements of Operation Enduring Freedom. As combat operations moved into their steady state in early 2002, a critical investment for a stable, long-term communications infrastructure in Afghanistan was made to support the stability operations and to sustain the remaining combat operations.

USCENTCOM, in coordination with the US Army and US Air Force, invested in a modest amount of commercial Ku- band satellite bandwidth to augment the military satellite bandwidth available in the theater. This investment allowed USCENTCOM to increase communications connectivity between key command posts that now extended into Afghanistan and Uzbekistan. The investment also gave the USCENTCOM Commander a significant increase in command and control capability.

Now, almost two years after the end of major combat operations in Afghanistan, there is a robust and resilient communications network in place to support current operations in that part of the theater.

Preparation for Operation Iraqi Freedom (OIF)

As the plan for OIF came together, it was apparent that the ground, air, naval and special operation forces would require a significant amount of satellite communication capacity using all bands across the spectrum to satisfy their mission requirements. USCENTCOM, in coordination with the Defense Information Systems Agency (DISA), the Joint Staff, and the services, took the necessary actions to move all available military satellite systems into a position that allowed USCENTCOM forces to utilize them. In addition, the services made investments in commercial Ku-band satellites to satisfy the requirements at the stationary command posts. This allowed military satellite bandwidth to be used at the mobile and more tactical command posts.

DISA invested in several long-term fiber optic cable leased lines between numerous Middle Eastern countries and Europe to reduce the dependence on satellite communications. This investment strategy reduced the cost for expensive satellite bandwidth, and improved the performance of several critical command and control software applications.

As the Army conducted an analysis of its planned scheme of maneuver, it was determined that the existing tactical communications systems would not be able to keep up with the expected speed of advance and dispersion of the combat forces. Thus, the Army developed a commercial satellite solution that could be installed on critical command and control vehicles that would give the tactical commanders the connectivity and bandwidth required while dispersed, beyond line of sight, and on the move.

Key OIF Lessons Learned from the J-6 CENTCOM Perspective

1) Beyond Line-of-sight (BLOS) Communications.

The current family of US Army communications systems was designed to support the Cold War scenario. These systems were created to operate in a European theater and based on a maneuver scheme to defeat the Soviet Military. As such, the Mobile Subscriber Equipment (MSE) system, which is currently fielded to Army forces, relies on a grid network of line-of-sight connected node centers to link command posts at all levels. In order

to ensure a command and control capability, commanders are tied to this relatively large, inflexible, and immobile infrastructure, which limits their agility, speed, and distance between command posts.

As a lesson learned in OEF, operations in Southwest Asia are highly reliant upon beyond line-of-sight communications. The distances between command posts at all levels (strategic, operational, and tactical) greatly exceed the line-of-sight capabilities of the current communications equipment fielded to the US Army and the US Marine Corps.

To ensure consistent connectivity during OIF, senior commanders utilized single channel (25 KHz UHF) tactical satellite (TACSAT) assets while on the move and fell back on military X-band and commercial Ku-band TACSAT on the halt. This hybrid solution, though heavily dependent on commercial assets, proved invaluable in providing the robust, available on demand, communications data and voice links required by the Corps Commander down to his Division and Brigade TOCs.

2) Battle Command on the move.

US forces fully expected that movement of combat formations from the Kuwaiti border to the city of Baghdad would be swift. This speed of maneuver produced distances that exceeded the capability of today's

tactical radio systems normally assigned to these formations and hindered effective communications between tactical headquarters.

The Army, in response to this requirement, fielded Blue Force Tracking (BFT), a Force XXI Battle Command Brigade and Below (FBCB2) system that would allow V Corps to execute “battle command on the move” utilizing commercial L-band satellites. L-band connectivity was chosen because it could quickly be leveraged to provide a data connectivity path to 3rd Infantry Division given the compressed time constraints and exigent requirements of Operation Iraqi Freedom.

Blue Force Tracking permits low bandwidth connectivity over greater distances than had been doctrinally perceived to be within the realm of the possible. This connectivity allows the BFT equipped units to be visible on the Common Operational Picture (COP), which makes their location visible, in near real-time, at all levels. This provides the combat forces with a high degree of situational awareness, letting the units fight digitally enabled. This also produced the positive aspect of friendly force identification on the battlefield, which drastically reduced the possibility of fratricide in this non-linear fight. The Blue Force Tracking capability was critical to the success of 3rd Infantry Division and V Corps as they moved to Baghdad.

3) Importance of Coalition Information Sharing.

Operation Iraqi Freedom was executed with both the British and Australian combat forces playing an integral part of the scheme of maneuver. Both of these nations contributed land, air, and special operating forces to the campaign. These forces were, in many cases, integrated into the US formations. This type of integration mandated a level of information sharing and interoperability to achieve success.

Coalition forces required an unprecedented amount of operational and intelligence information to ensure they maintained an adequate level of situational awareness during combat operations. USCENTCOM, in coordination with the Office of the Assistant-Secretary of Defense-Network and Information Integration (ASD-NII), developed a coalition information sharing system called Coalition Enterprise Regional Information Exchange System (CENTRIXS). This system provided a variety of command and control computer applications, and allowed British and Australian tactical forces to receive the operational and intelligence information they required to execute operations. This computer based data network was fielded down to the brigade level in British formations and made available to Australian liaison officers working in the operation centers of US forces.

Conclusion

The US Army continues to take an analytical look at the lessons learned from Operation Iraqi Freedom to determine what adjustments must be made. The Army is thoroughly reviewing the force development areas of Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) to improve our capability. The Army is continually trying to improve the force development cycle. The goal is to enable immediate changes that improve near-term combat capabilities, as well as better position itself for future success through stable longer-term research and development programs.

The Army is in the midst of a two-pronged operation that will be ongoing for the foreseeable future. Fighting the Global War on Terrorism with the current C4I systems while simultaneously over-watching the development of the Future Force, which in itself is part of the largest transformation in both Army and DoD history, and can only be successful if adequately resourced. What is clear is the need to invest in both emerging technology and emerging operational concepts that will make our forces more combat effective. The future war fighter will face a very cunning and adaptive enemy that practices asymmetric war fighting techniques more so than conventional. They will face-off on a non-contiguous battlefield separated by enclaves spread out over vast distances. The war fighter is looking to the signal community to provide a global interoperable, integrated network, which allows distributed planning and decentralized execution down to the individual soldier. The analysis that is underway within the services will

ensure that we are in a position to make improvements on the Joint C4I architecture and the systems that support that vision.