

Operation Iraqi Freedom

SMDC Space Professionals Supporting Joint Warfighters

By **LTG Joseph M. Cosumano Jr.**



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Operation Iraqi Freedom (OIF) is demonstrating as never before the importance of Space to the Army and Joint Warfighter. Although Operation Desert Storm is often called the first Space war, Space-based resources during OIF were demonstrably more capable, more abundant, and more integrated into all phases of combat operations.

The immense combat capability of the U.S. Army, fighting as part of the Joint and Coalition effort, has been facilitated and enhanced at every step by Space professionals leveraging Space products and services for Joint warfighters. The extraordinary capabilities of the soldiers, civilians, and contractors of the SMDC team have been instrumental to this process.

The lessons of SMDC's support during OIF are still being collected and the history of our contributions is being updated on a daily basis. However, I believe it is important to recap for you at this point some examples where Space assets have helped to create the historical successes achieved in OIF. This process is an iterative one, but we have done much to this point with the conduct of formal OIF Lessons Summits and the rigorous DOTMLPF (doctrine, organization, training, materiel, leadership, personnel, and facilities) analysis of our capabilities, contributions, and areas requiring further work. Detailed action plans will ensure we institutionalize the necessary changes.

I strongly encourage you to review the articles elsewhere in this edition of the Army Space Journal. The firsthand experiences by the Space soldiers who provided the support and were either deployed or remain on the ground in Iraq and elsewhere in the U.S. Central Command (USCENTCOM) theater provide extraordinary insights for all Space professionals.

Success was Achieved Because of Our People

“The ability to link closely and share intelligence and

reconnaissance through an effective command and control structure gave U.S. forces the ability to operate with enormous speed and with unprecedented flexibility,” stated General Richard Myers, Chairman of the Joint Chiefs, in April 2003. He went on to observe, “The enemy was decimated and dispersed with incredible speed.”

Detailed planning and synchronized execution, facilitated by Space-based systems, occurred to such a degree that enemy forces were literally reduced to ineffectiveness even before they had awareness of being targeted. This success, however, arose not only due to superior technology. Success was achieved because of trained and professional Space soldiers, civilians, and contractors.

Army Space Support Teams (ARSSTs), supporting the Coalition Force Land Component Command (CFLCC), V Corps, I Marine Expeditionary Force (I MEF), and Office of the Coalition Provisional Authority (OCPA), brought Space products, services, and expertise directly to our Joint warfighters. Additional Space-trained soldiers and liaison officers supported the Special Operations Command and other deployed units. Soldiers with the Joint Tactical Ground Stations (JTAGS) provided early warning of enemy missile launch activity in theater. The Regional Satellite Communications Support Centers (RSSC) and the Defense Satellite Communications System Operations Centers (DSCSOC) provided reliable and responsive satellite communications support. Finally, the SMDC Operations Center, working on a 24/7 basis, maintained situational awareness of deployed elements, responded to hundreds of requests for information, and provided the essential reachback system of connectivity with technical and operational professionals. Clearly, it took everybody coming together to make that happen.

Many Firsts

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*— General Richard Myers,
Chairman of the Joint Chiefs
April 2003*

Operation Iraqi Freedom extended to SMDC the extraordinary opportunity to achieve many firsts, most notably the first-ever combat support to Special Operations Forces and a Marine Expeditionary Force, split-based support by an ARSST in combat, and Phase IV (SASO or Security and Stability Operations) support. Additionally, Space Control operations were conducted during combat on a sustained timeframe for the first time during OIF. The Space Support Element Toolset-Light (SSET-L) and Joint Tactical Ground Station (JTAGS) also demonstrated their technical capabilities during combat operations.

Responsive Support by Multi-skilled, Multi-component ARSSTs

The 1st Space Battalion and 193rd Space Support Battalion, Colorado National Guard, deployed ARSST soldiers to Southwest Asia to provide Space capabilities to Army and Marine forces. Moving with their maneuver headquarters, these soldiers were at the “tip of the spear,” sharing the same dangers and living conditions with their supported units to ensure provision of Space-based products and services.

“The ARSST provided a window into capabilities that we did not even know we had,” noted one primary staff officer serving with CFLCC. Equipped with their own SATCOM bandwidth via the SSET-L, the ARSSTs provided division and corps commanders a variety of wideband accessed, Space-based products, and spectral products. The ARSSTs were the on-the-ground Space experts, pulling down imagery and intelligence data, forecasting Space weather impacts on SATCOM, projecting the health of the Global Positioning System (GPS) and other satellite constellations, and providing responsive Space support to their units. Space-based products and services also included assistance in the areas of missile early warning and Blue Force Tracking. The ability to

rapidly delivering large data files to the ARSSTs and their supported units was particularly noteworthy since the supported units’ limited wideband communications assets were not taxed to provide the support.

The SSET-L, developed in response to an urgent operational need for organic communications capability, was fielded to provide supported Joint and Army units access to wideband SATCOM. The system was rapidly developed and fielded in less than 3 months, providing a robust set of Space applications software together with the networked broadband communications necessary to collaborate with other Space forces and/or reachback to advanced image processing sites in the rear and in CONUS.

The ARSSTs’ responsiveness and relevancy in supporting current and planned combat actions have been specifically cited in multiple occasions. In one instance, the 4th Infantry Division (ID) learned the added benefit of ARSSTs when the 4th ID Main, while occupying the Tikrit Presidential Palace, came under enemy fire. Responding quickly, ARSST 14 provided imagery of the palace complex and surrounding area to G-3 staff planners. The Division G-3 tore the military map from the table, slapped down the imagery, and continued planning. The security forces subsequently identified the enemy dispositions, and then planned and executed a successful counterattack, resulting in the elimination of the enemy fighters.

In another instance, a fire support planner with CFLCC provided to ARSST 3 a request for quick turnaround spectral imagery. Within a matter of only a couple of hours, the ARSST supplied imagery that identified possible targets for subsequent non-kinetic attack. The habitual relationship the ARSST had developed with the supported staff officer coupled with their demonstrated

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ability to deliver quality products in a responsiveness manner proved key to getting the right information — at the right time — into the hands of the warfighters.

Secure, Reliable SATCOM Support Enabled Operational Commanders to See First, Understand First, Act First, and Finish Decisively

Even before the start of ground operations on March 19, 2003, the operators of the Defense Satellite Communications System (DSCS) steadfastly fulfilled their around-the-clock mission of ensuring reliable, robust, and continuous worldwide SATCOM support to U.S. warfighting forces, strategic military users, the intelligence community, and the National Command Authority. Primarily supported by B and C Companies, 1st Satellite Control Battalion provided planning expertise and operations support for the DSCS that supported the USCENTCOM theater. Multi-service RSSCs met all assigned theater requirements.

The operational impact of the reliable satellite communications was profound. Coordination of expanded commercial SATCOM multiplied critical operational communications capability and Situational Awareness, e.g. imagery and reachback, by a magnitude of 23 times over what was available during Desert Storm. Control of DSCS communications infrastructure also enabled launch orders to Tomahawk missiles, Naval C4I (command, control, communications, computers, and intelligence) afloat, and support of ISR (intelligence, surveillance, and reconnaissance) missions, including those involving the unmanned aerial vehicles, the Predator and Global Hawk. In the words of LTG David McKiernan, Commanding General, CFLCC, “The technology advances

in our military today...allowed me to talk via tactical satellite communications and other means across a battlespace of hundreds of miles. It allowed us to make decisions and then execute those decisions faster than any opponent.”

Enhanced Theater Ballistic Missile Early Warning Capabilities

Army Space warriors manning Joint Tactical Ground Station (JTAGS) detachments monitored enemy missile launch activity and other infrared events of interest in the USCENTCOM and USEUCOM theaters. Designed, developed, and fielded within 4½ years, JTAGS demonstrated SMDC’s “fast track” capability to support Joint Warfighters.

Capable of receiving and processing direct down-linked data from the Defense Support Program (DSP) sensors and tied directly to worldwide and in-theater communications systems, JTAGS worked as designed, serving as a vital component of the redundant missile warning and alert capability. Immediately upon detection of a ballistic missile launch by Space based sensors, JTAGS crews were able to identify the type of missile, predict an impact point and time, alert Patriot and other missile defense forces, and warn units in the expected impact area of the impending attack.

Space-Based Blue Force Tracking

One of the most important Space Force Enhancements capabilities during OIF was the increased Situational Awareness provided by Space-based Blue Force Tracking (BFT) devices and the support by the Mission Management Center (MMC). Transmitting data over secure communications assets, BFT devices employed GPS technology, a low probability of intercept/detection

waveform, and other capabilities to provide a continuous, near real-time, beyond line-of-sight tracking and reporting capability for critical and deep attack assets. The Army Space Program Office’s streamlined acquisition process was critical to making this happen.

Hundreds of Grenadier BRAT (beyond line-of-sight reporting and tracking) systems were put into the hands of Special Operations Forces soldiers and mounted in V Corps attack helicopters in Iraq. These devices, reporting via SATCOM through the BFT MMC in Colorado Springs, provided enhanced situational awareness for commanders, and were key to the prevention of fratricide. Reflecting on the impact of Space-based BFT, one CFLCC staff officer noted, “I’m a big believer in Blue Force Tracking. It really works.” The success of these devices to provide combat identification and location capability will have a great impact on how BFT will be implemented in the Future Force and the Joint community.

Timely Spectral Products Provided Significant Force Enhancement to Combat Commanders and Warfighters

As with Operation Enduring Freedom in Afghanistan, Space-based spectral imagery products were used extensively to provide information on the terrain and areas of interest. The Spectral Operations Resource Center (SORC) (Forward), equipped with the Spectral Exploitation Cell - Transportable (SPEC-TR) down-linked commercial imagery, providing for Joint Warfighters invaluable spectral products for which to make crucial operational decisions. Rather than waiting days, the deployable SPEC-TR was able to deliver detailed image products in many cases in only a few hours from request.

During OIF, the SORC delivered hundreds of imagery based spectral products, including those used for identification of terrain hazards, drop zone analysis, and route reconnaissance. Interviews with officers who served during OIF cited multiple instances where spectral products supported OPOD briefs, hung in the tactical operations centers as standard maps, and were referred to in planning counterattacks. SORC-provided spectral products also enabled production of imagery maps for a unit before they arrived in-theater to facilitate in their operational planning.

Spectral products furnished Warfighters invaluable change detection information on water levels to assist them in navigating otherwise impassable terrain. As the Coalition forces consolidated their positions after the end of major hostilities, spectral products provided the Office of Reconstruction and Humanitarian Assistance (ORHA), later renamed the Office of the Coalition Provisional Authority (OCPA), locations of mass graves of men, women, and children killed during Saddam Hussein's repressive

and brutal regime. ARSST 13, still deployed in Baghdad, continues to provide a wide range of image and mapping products.

Integration of Space into all Phases of Joint Warfighting

To an extent never seen before, Operation Iraqi Freedom is serving as a clear example of the vital role that Space contributes to all phases of Joint operations. SMDC, providing Joint support in everything that we do, has been fully integrated with land, sea, and air-based capabilities to provide the information demanded by the Joint warfighters.

The SORC, crewed by Army and Air Force personnel, processed and delivered unclassified commercial imagery used for USCENTCOM press briefings. Joint Army-Navy teams, staffing the RSSCs at USCENTCOM and elsewhere, were instrumental in providing direct support for Joint warfighters. JTAGS, supported by Army and Navy personnel, provided 24/7 theater ballistic missile (TBM) early warning to our forces. This system, linked directly to the TBM architecture, was vital to providing protection

from enemy TBMs. The Army Tactical Exploitation System (TES), combining all the functionality of the previous Tactical Exploitation of National Capabilities (TENCAP) systems into one baseline, significantly increased interoperability for ISR and targeting. Army TES successfully demonstrated its capability to send real-time targeting and intelligence information directly to Air Force assets. Moreover, throughout this time, the ARSSTs were seamlessly integrated on-the-ground with Joint Forces, supplying responsive Space products and services.

Conclusion

As you read this issue of the Army Space Journal, I hope that you will reflect on the experiences, observations, and emerging lessons that are provided...and prepare yourself for the future. In the words of General Peter J. Schoomaker, the new Chief of Staff, "Leadership is dealing with change. You can't manage change. You have to lead it." Clearly, there is only one constant, and that constant is change. To be prepared for that change you have to be relevant and ready. Secure the High Ground!

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A: Army Space Program Office came through for us on the equipment side, with low cost receivers, providing a way to transfer large files of data through a trusted agent to mobile forces. Being able to transfer images and geospatial products to your forward elements is huge. A huge benefit, that is, the actual equipment was only the size of a small card table.

Q: Did you see any evidence that the Iraqis employed Space assets or attempted to counter our usage?

A: No command complained of degradation of Space assets due to either enemy action or the weather.

Q: In line with your earlier response defending Desert Storm as a conflict using Space extensively, it has often been called the first Space war. You said you'd served as a targeting officer during that conflict. Can you comment further as to the differences between what Space supplied then, and its contributions to Operation Iraqi Freedom?

A: You might expect me to say the equipment, but, although there are of course vast improvements in what there is to offer, I'd have to come down on the side of the integration of Space assets with the tactical ground maneuver forces. Giving ground forces a deep look at what

they're getting into, and being able to synchronize space operations in advance of fast moving ground forces enables a layered approach. The investments in money and training are paying off.

Q: Any comments on ARSST 5 specifically?

A: Maj. Cockerham was a good choice to send as team leader. He was extremely professional and insightful and always ready to offer help with Space-based abilities. His team provided a valuable service to us, ensuring we had communications and data with which to perform analysis. We were glad to have them.