Tactical Space Tiger Team - Successes from the Field

Focus on 3rd Infantry Division Space Support Element

"I want Space operations involved in every offensive operation we do."
— COL Charlton, Division G3 first six months of rotation

"[The SSE] is right on the money, right between the curbs." [The SSE] is "a good and functional plug [to a division headquarter]."
— COL Burch, Chief of Staff

"I can't tell you how valuable this is [using commercial imagery to debrief EPWs]. It's worth its weight in gold."
— COL Grimes, Fires and Effects Coordination Cell Chief

By LTC Jim Rozzi, Bill Coffey and Bob Zaza

This is the first edition of the Tactical Space Tiger Team Successes from the Field column. The column's purpose is to inform readers of recent vignettes in which Army Space Forces, in particular Space Support Elements, solved planning or operational challenges. In addition, it provides comments from key leaders about Army Space Forces. This edition focuses on the 3rd Infantry Division (3ID) Space Support Element, the first element to be fielded in the Army, during its first rotation in Iraq as a modular headquarters. Future columns will focus on other units, so please note that similar challenges may generate different solutions depending on Mission, Enemy, Terrain, Troops Available, Time, and Civilian Considerations (METT-TC).

The process of developing Space Support Elements included an assessment of the ability of a Division Headquarters to perform Space tasks both with and without a Space Support Element. The baseline for comparison was the 1st Cavalry Division staff's performance of Space tasks prior to being fielded a Space Support Element. 1st Cavalry Division was able to perform 24 percent of Space tasks without a Space Support Element in Operation Iraqi Freedom 2, while 3rd Infantry Division performed 76 percent of them with a Space Support Element in Operation Iraqi Freedom 3. In Operation Iraqi Freedom 2, 1st Cavalry Division was able to conduct reachback to 34 percent of the available Space resources, while 3rd Infantry Division was able to conduct reachback to 81 percent of the available Space resources in Operation Iraqi Freedom 3.

3rd Infantry Division, Space Support Element Camp Victory, Baghdad, Iraq May 7, 2005

L to R: MAJ Cliff Hodges, PFC Orry W. Estelle (3rd Infantry Division Augmentee), SGT Jennifer Swift (Army Space Support Team Augmentee), SSG Ronnie Anglin, SGT Tobias Mitchell (Army Space Support Team Augmentee), MAJ Jim Rozzi. (Not pictured, LTC George Andary who was on full-time Liaison Officer duties to Multi-National Corps-Iraq.) *Courtesy photo*

Commercial Imagery

The SSE provided a "basic load" of commercial imagery, which they used to support the staff and subordinate units. The great value of having this basic load was speed of access and use. Commercial imagery was the SSE's second biggest area of support. US Cells supporting the Iraqi Security Forces were the main consumer. The SSE provided hard and soft copy in true color, mostly from Quickbird. The SSE maintained a good working relationship with the Geospatial Information and Services Cell, and got most of the updated unclassified imagery from the Strategic Command Measurements and Signatures Intelligence Advanced Geospatial Intelligence Node over the Space Application Technology User Reachback Node (SATURN); the SATURN's fast data transfer capability made it possible. Tactical Human Intelligence Teams used commercial imagery in debriefing enemy prisoners of war (EPWs) to enhance and expedite target development and precision engagement. The SSE also provided large amounts of commercial imagery, largely in hard copy, to Military Transition Teams.

Periodic Updates to Global Positioning System (GPS) Devices

All military GPS devices need to be updated annually for encryption and bi-annually for GPS timing (keeping in mind that some commercial GPS devices use military GPS components). These GPS device maintenance issues are typically coordinated through the G6 offices. Army Space forces support the planning of such updates to ensure that critical GPS applications and effects are not interrupted during critical operations. The SSE provided assessments and updates on FBCB2, MTS, MTX, Satellite Tracking System, TALON Reach, Precision Lightweight GPS Receiver, and Iridium Tracker to the Division G6 to enhance all activities reliant on GPS, including resolution of GPS electromagnetic interference issues.

Blue Force Tracking (BFT)

BFT was the main support effort for the 3ID SSE during its rotation. 3ID technically and operationally integrated over 1,000 Force XXI Battle Command Brigade and Below (FBCB2) (L-band) devices, as well as numerous Movement Tracking System (MTS), Grenadier Brat, Mini Transmitter (MTX), and MTX II devices. In taking charge of this key area in terms of both architecture and logistics, the SSE increased the Operational Readiness Rate of BFT devices from 57% to a steady 93%. The increase was largely due to the conversion of Enhanced Position Location Reporting System FBCB2 to L-band. The SSE worked with the Division G6 and PM FBCB2 to determine the right BFT architecture for 3ID. The SSE also developed Field Standing Operational Procedures to use the BFT "combat message" text capability to transmit emergency "911" messages to support Personnel Recovery and other combat operations.

The Tactical Space Tiger Team consists of LTC Jim Rozzi, Bill Coffey and Bob Zaza.

Rozzi is a Space Operations Officer with U.S. Army Space and Missile Defense Command's Future Warfare Center, and serves as the TACSPACE Tiger Team Trail Boss. He has served in numerous command and staff positions, including TACSPACE Tiger Team Chief, 3rd Infantry Division Space Support Element Deputy Team Chief, Army Space Program Office Advanced Plans and Fielding Officer, Combined Joint Task Force-180 Army Space Support Team Leader, and Combined Intelligence Watch Commander, Cheyenne Mountain Operations Center.

Coffey has been a member of the TACSPACE Tiger Team since February 2003 and has served in the Space and Missile Defense Battle Lab since 1993. A retired Army Military Intelligence Officer, he served in various tactical and strategic assignments to include 2nd and 4th Infantry Divisions, V Corps and Northern Command. He served in Iraq and Afghanistan in 2006 conducting assessments of Theater Space Operations. He is currently a Senior Space Operations Analyst with CAMBER Corporation.

Zaza has been a member of the TACSPACE Tiger Team since February 2005. An FA40 LTC in the Army Reserve, he has served in various leadership and staff positions, including Combined Joint Task Force-180 Army Space Support Team Leader; S-2, 4th Brigade, 4th Infantry Division; Observer/Controller, 1st Brigade, 91st Division; and Antiterrorism and Force Protection Officer, J2, U.S. Southern Command. He is currently a Senior Space Operations Analyst with CAMBER Corporation.

Former Secretary of Defense Donald Rumsfeld looks on as SPC Russell Smith of the 49th Missile Defense Battalion (GMD) briefs his duties as a weapons operator. *Photo courtesy 100th MDB (GMD)*

which would destroy an ICBM re-entry vehicle on collision. Three test failures were followed by a success in 1986, destroying a Minuteman re-entry vehicle with a closing speed of about 6.1 km/s at an altitude of more than 160 km. The technology was absorbed into the Strategic Defense Initiative, next step in the developmental chronology.

President Ronald Reagan was the driving force behind SDI, which quickly became known as "Star Wars." In response to Soviet first-strike capability, Reagan proposed a robust, multi-tiered system that would defend against an all-out attack, versus the limited scope of earlier programs. SDI involved Space-based laser battle stations, X-ray laser satellites and extremely sophisticated command and control systems.

Political debate waxed furious — with detractors questioning the program's feasibility and whether the concept was strategically sound. SDI advocates prevailed, and, in 1984, the project was funded. The fall of the USSR, signaling the end of the Cold War, effectively removed the enemy the system was designed against, and momentum for progress in the ballistic missile defense arena collapsed.

The end of the Cold War, initially hailed as ushering in an era of lasting peace, soon devolved into rising fear of terrorism and rogue states that moved into the 'threat status' left vacant with the demise of the USSR. Uncertainty about the security of existing nuclear missile stocks and increasingly developed technology that made "suitcase bombs" a possibility created an entire new playing field in the 1990s and early 21st century. Missile defense goals of that time period segued into preventing the United States from being subjected to nuclear blackmail or terrorism.

The first Persian Gulf War and the success, although limited, of Patriot missiles bringing down Scuds renewed interest in the "hitting a bullet with a bullet" concept. President Bill Clinton gave qualified support to continued development of such a system, saying in September, 2000, "an extra dimension of insurance in a world where proliferation has complicated the task of preserving the peace."

Funding and emphasis, however, lagged, and development proceeded at a commensurate pace.

Then came the horrific events of Sept. 11, 2001, which, with a new "day of infamy," proved conclusively to this generation of Americans that they too can be attacked on their home soil.

A presidential directive issued in December of 2002 by President George W. Bush required the nation to rapidly field a missile defense system. The directive, a direct response to the events of Sept. 11, effectively sped up the process for a system in development since the 1990s, but with roots in the "Star Wars" initiative of the Reagan years.

The system, now named the Ground-based Midcourse Defense System, is part of a concept of layered Ballistic Missile Defense, the latter which will eventually target threat missiles in all stages of their trajectory. The GMD portion of the system is aimed at destroying incoming missiles in Space during the midcourse of their flight, with an Exo-Atmospheric Kill Vehicle using non-nuclear kinetic warheads. The system is considered to be in "spiral development," deployed while simultaneously being tested and improved.

On June 15, 2002, ground was broken for the

The Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) is a tethered aerostat equipped with a sensor suite which includes surveillance radar and precision track and illumination radar. From its position above the battlefield, it provides detection and tracking capability of incoming cruise missiles allowing them to be engaged by surface-based air defense systems even before the targets can be seen by the system. The JLENS achieved the first live, over-the-horizon engagement using an elevated platform on April 4, 2000. The Forward Pass demonstration, which proved the joint interoperability of the system, also saw the first handover of a missile flight to an external radar to intercept a low-flying target. Image *Courtesy SMDC Historical Office*

Missile Defense Complex at Fort Greely, Alaska — home to future interceptors. The post was brought back from near extinction after a base realignment and closure. A small group of Soldiers began training on the system in Colorado Springs, Colorado, future location of the 100th Missile Defense Brigade (GMD).

A successful intercept was achieved by a ground based interceptor launched from the Ronald Reagan Ballistic Missile Defense Site in October 2002. It destroyed a mock warhead 225 km above the Pacific.

On Oct. 16, 2003, an activation ceremony was held at Peterson Air Force Base, Colorado Springs, Colorado that 'stood-up' the 100th. The brigade is staffed largely by active Colorado National Guardsmen in their time-honored role of defending the homeland. A nationwide hiring search drew the best qualified Soldiers from across America, who then became Colorado Guardsmen and women. A small contingent of Active Duty Soldiers makes the unit multi-component.

On Jan. 22, 2004, the 49th Missile Defense Battalion (GMD) was activated at Fort Greely. The battalion is completely staffed by Alaska National Guardsmen, hired in a similar nationwide search.

On July 22, 2004, the first interceptor was emplaced at Fort Greely, and on Dec. 10, 2004, an interceptor was emplaced at Vandenberg Air Force Base, Calif. — the first for this location, which would be primarily used for testing.

Since 2002, the U.S. has been discussing the possibility of building a third missile site in Europe, which would enable defense against different missile trajectories than those provided by Alaska and California. Talks are, today, ongoing.

Two failed interceptor tests, in 2004 and 2005, were due to anomalies and support malfunctions, rather than the concept or main technology of the system. The failures fueled detractors of the program, who are legion, as was historically the case with all such systems.

The summer of 2006 was fraught with high-level political tension, as North Korea advertised their plan to test a long-range ballistic missile, in defiance of world opinion. In July, the ground-based midcourse system was brought to full operational status in response. The Korean launch of July 4 failed, but the Soldiers and interceptors of the nation's missile defense system were ready to perform as they had been trained and designed to do.

On Sept. 1, 2006, an interceptor launched from the California site successfully intercepted and destroyed a target launched from Kodiak, Alaska.

The future of Ballistic Missile Defense will/may include the integration of sea-based, Space-based, laser and high altitude missile systems. Each military service has a role in its deployment, from satellites and radars, through the sea-based Aegis Ballistic Missile Defense System. The current limited defensive capability of the Ground-based Midcourse Defense System is a beginning…

Today, the 100th Missile Defense Brigade (GMD) stands ready, proud and able to defend the United States against ballistic missile attacks.

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