SPECIAL REPORT

The insatiable appetite for bandwidth

Asia pivot pushes DoD to evaluate commercial bandwidth needs and costs

BY JOHN EDWARDS AND EVE KEISER

Although the military already depends on commercial suppliers for the vast majority of its communications bandwidth, it is expected that industry-supplied bandwidth will play an even greater role as U.S. foreign and military strategy pivots toward Asia and communication needs grow.

"The use of the commercial bandwidth is really going to explode in the next several years," said Matt Collins, advanced programs manager for Harris Corp.'s government communications systems division in Melbourne, Florida. "The mission needs it; everybody is demanding situational awareness and a lot of data at the edge."

Two key tactical network programs make "robust use" of commercial satellite bandwidth providers: the Warfighter Information Network-Tactical (WIN-T) and the Blue Force Tracker (BFT) efforts, said Paul Mehney, chief of strategic initiatives at Army Program Executive Office Command Control Communications in Aberdeen Proving Ground, Maryland. "All WIN-T programs were designed to use commercial bandwidth [Ku] as well as military bandwidth [Ka], based on availability," he said. "The BFT1 and BFT2 systems both use commercial L-band satcom."

To date, WIN-T bandwidth has been primarily available only from commercial satellite providers, Mehney said. But that situation is now changing. "With the deployment of the Wideband Global SATCOM [WGS] System, military Ka and X bands have started to be used for operations and, in some cases, used in training," Mehney said. "Although, military Ka time is still a limited resource until WGS reaches its full capacity, and access to it is governed by mission priorities, cost constraints have made military time more attractive in order save significant amounts of funding that can be used for other priorities."

Due to the rapid growth of BFT fielding and related factors, including size, weight and power, the system continues to rely on commercial satellite bandwidth. "Studies have been conducted for use of X band and [ultra high frequency], but neither can fully meet the BFT requirements," Mehney said.

ASIA PIVOT

With U.S. policy now pivoting toward Asia, the DoD is considering its bandwidth options and costs. Yet, as planners begin searching for commercial bandwidth to serve troops in the region, they might

COMMERCIAL VS. MILITARY SATELLITE BANDWIDTH

C4ISRNET recently contacted Darren Friesz, chief of the long haul branch at the Army's NETCOM Operations and Plans Directorate to gain his insight into the benefits and challenges of using commercial bandwidth for tactical applications.

C4ISRNET: What are the potential benefits of using commercial bandwidth for tactical communications?

FRIESZ: The benefits are varied. There might not be enough government satellite bandwidth available in a particular area of the world we are deploying tactical assets to so you would need to use commercial satellite bandwidth to augment the government bandwidth.

The second benefit to using commercial bandwidth is to free up tactical assets for reuse in other deployed areas. Many of our satellite tactical entry points have been equipped with commercial satellite terminals enabling tactical units reach back to garrison (location or home station) from which they deployed. Producing and outfitting the standing Army with new satellite packages that include commercial capabilities has been a major

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The Army prefers to use military satellite bandwidth to keep costs down but depends greatly on global commerical providers. The Asian satellite market, however, is dominated by national and regional service providers, making bandwidth there harder to acquire.

find only limited amounts of commercial satellite bandwidth available.

Skot Butler, vice president of satellite networks and space services for Intelsat General , noted that the Asian satellite market is currently dominated by small national and regional service providers, a situation that discourages global operators from dedicating satellites to the region. "If the demand in the Pacific were to spike anything like what it did in Southwest Asia, it would be much, much harder for the commercial satellite industry to have that sort of capacity available overnight," he said.

Mehney, however, feels that the situation will be manageable using existing service contracts. "The DISA Future Commercial Satellite Communications Services Acquisition contract offers emergency line item numbers that could provide global satcom coverage within days of the contract modification," he said. "This was employed recently in support of Operational United Assistance, when Blue Force Tracker 1 and 2 capability was quickly needed in West Africa."

TRANSITION PLANS

Meheny said that to control costs the Army would prefer to use military satellite bandwidth whenever possible. "Although [a] commercial approach does allow for greater flexibility ... it remains costly to employ, with some programs having to execute a logistics plan to account for use of hardware for both commercial and military bands," he said.

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WIN-T will continue to utilize both commercial and military satellite times as needed, Mehney said. "Although, use of military Ka band is relatively newer to some units, the likely usage will increase over time as familiarity with processes, procedures and network performance increases," he said. WIN-T is also working with various Army organizations to facilitate the transition, on a larger scale, from commercial to military bands use, Mehney noted.

The BFT program has managed to reduce overall L band outlays and continues to implement efficiencies, Mehney noted.☐

Army goal for several years. The Program Management community has focused a significant amount of effort in streamlining the procurement process to make these systems and the transport fusion work.

C4ISRNET: What challenges do you face when adopting commercial bandwidth?
FRIESZ: Cost, speed, security and responsiveness are the majority of the challenges. Whether we are talking about commercial satellite bandwidth or terrestrial bandwidth, all have to go through the competitive contracting process, which takes time. Within the Army we have attempted to mitigate the contracting timelines by procuring pre-provisioned commercial satellite bandwidth for our tactical satellite entry points but trying to procure enough commercial satellite bandwidth to support deployments on a global basis is a challenge and also cost prohibitive.

We procure satellite bandwidth in the "hot spots" where we are currently deployed, but as new hot spots break out in different parts of the world the satellite footprint of our pre-provisioned bandwidth may or may not provide the required coverage.

C4ISRNET: How widely is commercial bandwidth being used?
FRIESZ: It depends on the circumstances of the tactical deployment; but many deployment plans include a commercialization phase where the tactical communications is displaced with commercial communications, thereby freeing up the tactical assets for deployment elsewhere.

C4ISRNET: What is the outlook for commercial bandwidth?
FRIESZ: We believe commercialization will continue to be a consideration of any deployment planning cycle. How and where that data comes from and how it gets to the deployed units is changing. Reach-back to garrison and/or large CONUS-based data centers allows tactical units to deploy with much less gear.

C4ISRNET: How are service level agreements (SLAs) created and maintained?
FRIESZ: Most contracts for satellite capability are contracted, provisioned and supported by Defense Information Technology Contracting Organization a subordinate agency of Defense Systems Information Agency.

— John Edwards and Eve Keiser