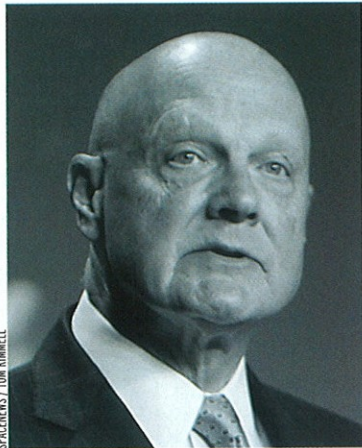


# Safeguarding the ultimate high ground

When it comes to securing the U.S. military's satellite advantage, would the Defense Department be wise to fly commercial?

◀ DEBRA WERNER ▶

The U.S. Defense Department is at a crossroads when it comes to maintaining its hold on the ultimate high ground. Key satellite constellations are aging and military leaders must decide whether to continue to build extremely large, capable and costly satellites or to adopt a new approach.



SPACENEWS/TOM RIMMEL

James Ellis

**“Maybe we take a little less capability and a lot more resilience and, at the same time, draw much more heavily on the capabilities that are resident in the commercial sector,”**

said retired U.S. Navy Adm. James Ellis, who recently completed a National Academies study on military space systems.

The question is how to do that. For two decades, industry executives have been urging military leaders to work more closely with them to integrate government and commercial satellite networks, with lackluster results. Recently, however, Defense Department and Air Force leaders have begun to show genuine interest in melding commercial, allied and U.S. government communications networks due in part to concern that the current approach of relying heavily on a few prized spacecraft means potential adversaries know precisely what to attack.

**“For a long time we have been building [space] systems that were essentially operated as a utility,”** Winston Beauchamp, deputy under secretary of the Air Force for space, said Sept. 13 at the AIAA Space 2016 conference in Long Beach, California. “We never thought that someone might try to make it go away. We find ourselves in a different world today, unfortunately, where folks are seeking to deny us the benefits that come from space.”

That concern is prompting the military to approach commercial satellite service providers in new ways. In December, the Air Force plans to begin working with industry to explore various ways to satisfy its broadband communications needs instead of simply expanding its



SPACENEWS/MAITE PATTERSON

Winston Beauchamp



Wideband Global Satcom fleet.

"There is universal acceptance that there will be commercial aspects of that," said Rebecca Cowen-Hirsch, Inmarsat senior vice president for government policy, strategy and outreach. **"The opportunity lies in engaging with commercial industry to learn what capabilities we are investing in so that it becomes an intentional forethought on what the architectural concepts could be."**



Rebecca Cowen-Hirsch

Commercial firms are launching high-throughput satellites that promise to dramatically increase available bandwidth as well as constellations of small satellites to provide global internet access. Companies also are building satellites with impressive surveillance and weather capabilities, said Myland Pride, Intelsat General Corp. director of legislative and government affairs.

**"When I was in the Pentagon and intelligence community, commercial capabilities were not like they are today,"** said Pride, who previously worked in the National Reconnaissance Office and on the Pentagon's Joint Staff. "The government realizes the improvements in commercial capability and is trying to take advantage of them but they are working in a very difficult bureaucratic environment."

Congress is likely to take steps to streamline the bureaucracy. Rep. Mike Rogers (R-Ala.), chairman of the House Armed Services strategic forces subcommittee, is promising major reform in the 2018 defense authorization bill.

**"While we certainly have great leaders within the space enterprise the structure is set up such that far too many people are able to say, 'No' without the consequence for the delay and the cost they create,"**

Rogers said Sept. 27 during a hearing on national security space.

At that hearing, John Hamre, former deputy defense secretary, said military space responsibility should be focused in a new defense agency or a unified command.

**"You need to have somebody who is going to work every day and that is their job,"** Hamre told the House panel.

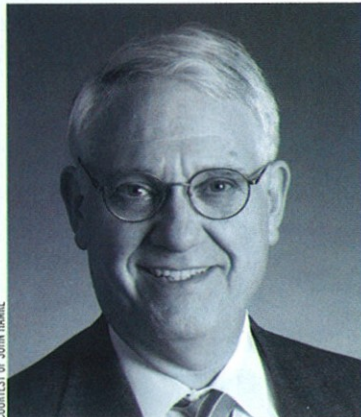
Ellis said the first step in taming the bureaucracy would be appointment of a strong and capable undersecretary of defense for space, who could then plan and oversee



Myland Pride



Rep. Mike Rogers (R-Ala.)



John Hamre



organization changes.

Leadership changes, however, will not address another problem plaguing national security space: an unwieldy acquisition process. During the many years it takes for space systems to move from a written requirement to launch, technology changes and threats change, but requirements remain fixed.

**“Although the DoD has experienced severe budget pressures these past few years, we still see a reluctance by some in the space community to accept less than gold-plated solutions,”** said Rick Lober, Hughes Network Systems Defense and Intelligence Systems Division vice president and general manager.

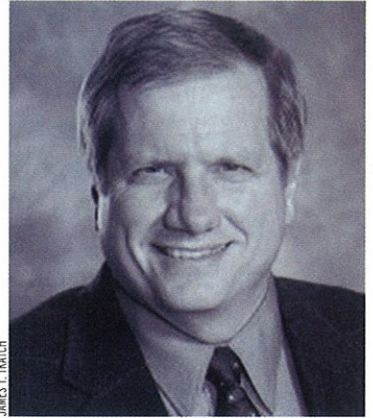
Still, there is some optimism in government and industry that the wideband satellite communications Analysis of Alternatives the Pentagon kicked off this fall is a prelude to closer cooperation. While certain missions demand

unique government-owned and -operated satellites, many others can be satisfied by existing commercial satellites or new commercial satellites designed specifically to meet the government’s needs, said Philip Harlow, XTAR president and chief operating officer.

**“In less than five years, I need to replace my satellites, which means making decisions on features, capacity and coverage,”** said Harlow, a former British Army Royal Signals officer. “Without understanding where we fit in the architecture, it’s difficult to make a case for specific features, including security.”

Instead of buying commercial capacity to fill gaps in military satellite coverage, the military should consider turning to commercial industry to satisfy day-to-day communications needs and reserve military satellites for specific missions, surge capacity and “really-bad-day” scenarios, said Cowen-Hirsh, who previously led efforts to acquire commercial satellite capacity for the Defense Information Systems Agency.

That would be a dramatic change from the military’s current method of owning, operating and controlling its own space-based networks and using commercial satellites to fill in gaps, but it would make networks more affordable and resilient, Cowen-Hirsch said. Potential adversary would be hard pressed to dismantle a robust communications network that includes many satellites distributed in different orbital belts and controlled by numerous ground stations, she added. **SN**



**Rick Lober**

JAMES T. IMBICH



**Philip Harlow**

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