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NGA's Clapper: Early program involvement key

Mapping Agency Finds Itself A Player In Service Transformation Plans

The Defense Department agency devoted to map-making and imagery analysis is facing a growing challenge common to each of the military's intelligence agencies -- keeping up with service demands for more information.

As the military trades armor for "situational awareness" and heavy firepower for precision munitions, requirements for geospatial-intelligence increase and expected turnaround times shorten. These ambitious transformation plans put the National Geospatial-Intelligence Agency and other DOD intel shops at the center of discussions about what is feasible for the services to accomplish -- and what isn't.

"There's no restriction, no limit on how much intelligence you can demand," said retired Air Force Lt. Gen. James Clapper, who has been leading NGA for three years. But when "requirements land on our doorstep, there are costs," he added.

With only so many people and so much money, limits oftentimes must be imposed or new solutions to the problem sought.

"What we try to do is explain to them the facts of life," Clapper said in an Aug. 19 interview at NGA's headquarters in Bethesda, MD. "Given what we understand of [a] requirement, here is what the impact is going to have on us, and here is our funding profile. More often than not, they don't match."

So goes the story about the Army's plan to build a massive system of systems for its future warfighter. The Future Combat System would require substantial amounts of detailed geospatial intelligence. Officials, however, have declined to discuss costs, maintaining that no viable estimate exists because NGA and the Army are still developing the requirements (Inside the Army, Aug. 16, p1; Aug. 18, 2003, p1).

Clapper confirmed last week that NGA has developed an initial cost estimate, but said he did not want to discuss the details because the military's intelligence budget is classified.

NGA and Army officials are willing to discuss what they call great strides made in collaboration between the two.

"What I'm kind of looking toward is the Army -- which I think they're quite willing to do -- be sort of advocates for us," Clapper said.

Key to success, according to the agency director, is working together at the onset of a service initiative to develop requirements together, he said. NGA serves as an adviser to the Defense Acquisition Board, which reviews the military's major acquisition programs.

"The earlier [we] get involved in these things where there are implications for us, the better," Clapper said. Or, he said, recalling his days in the Air Force: "If you want me around when the plane crashes, have me around when the plane takes off."

Last year, joint interoperability requirements for FCS became the subject of an extensive internal study by the Pentagon's acquisition office. With the help of the Army's intelligence office (G-2) and NGA, then known as the National Imagery and Mapping Agency, the panel looked at various command and control capabilities FCS would be expected to deliver.

The top-priority issue in the area of intelligence, surveillance and reconnaissance was the need to identify the Army's geospatial intelligence requirements.

Officials said last summer that they hoped within a year or so to devise a plan for FCS geospatial intelligence, which could include a final cost figure. As of now, discussions remain under way, with a final plan unlikely to be finished any time soon. The Army recently restructured the entire FCS program, accelerating some pieces and delaying by two years the date by which a brigade-like unit of action will be fully equipped with FCS technologies.

Clapper described the evolutionary task of defining intel requirements for a long-lead program like FCS as a technical challenge in which many of the decisions are made at the lowest levels of programmatic planning. Often, what is "desirable" is

juxtaposed with what is "acceptable," and trade-offs are made, he said.

Negotiations are made tougher when a so-called "transformational" system might not come to fruition for another 10 or 20 years. Program officials must imagine the common operating environment that future warfighters will use to dominate the battlespace. NGA's role requires understanding the "geospatial situation" in these future fights.

"Well, for us that means populating the foundation data," Clapper said. But, he added, "we don't cover and not cover the earth like Sherwin Williams paint with equal levels of granularity on every point of the globe where the Army might be called upon to operate. . . . So we've had a lot of, I think, some very very healthy dialogue with the Army" about what is possible.

In addition to working with the services to develop realistic program requirements, NGA is pursuing new technologies. One principal concern is developing the ability to cope with large volumes of data.

"We are probably not spending enough, but we are spending a lot of R&D effort on labor-saving systems to process large volumes of data and to take the burden off our analysts -- imagery analysts and geospatial analysts in areas like automatic target recognition -- to automate as many of these processes we possibly can," he said.

Another emerging technology is light detection and ranging. A precise way to measure the altitude of an object that enables images to become three-dimensional, "LIDAR" could give the Army the detailed imagery it wants in less time.

"It's just physically not possible to get there from here," Clapper said, referring to NGA's current systems. "So we've got to look for some other technologies that will render that level of detail that the Army requires. And to me LIDAR is a very promising technology."

-- Anne Plummer