

Defense News

June 7, 2004

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## Data-Mining Tool Kit Could Speed U.S. Intel

By Jason Sherman

The vision of making real-time intelligence widely available to military operators is within closer reach than previously thought, according to U.S. defense officials.

Pentagon leaders are so impressed with the results of an 18-month-old joint military intelligence experiment that they want to replicate its techniques across the services.

Dubbed Project Morning Calm, the experiment pairs new technology with new ways of using data.

“Things that people were expecting in 2012, we’re doing now,” said James Heath, senior science adviser to the Army deputy chief of staff for intelligence and a driving force behind the project.

Proponents believe the experiment could be the basis for a joint intelligence network that links theater command posts with national agencies, allowing them to share data and collaborate in real-time.

Stephen Cambone, undersecretary of defense for intelligence, wants the capabilities spread to the U.S. Central, European and South commands.

“We’re supportive of globalizing the concept,” said an official in Cambone’s office.

And other players in the defense intelligence community — such as the National Security Agency, the National Geospatial-Intelligence Agency and National Reconnaissance Office — are moving quickly to support this effort.

U.S. Joint Forces Command is also getting involved to examine policy and doctrine implications of the new intelligence effort.

### **Exercise in Korea**

The first phase of the project, conducted by the Army's 501st Military Intelligence Brigade in South Korea, culminated by focusing from December to February on North Korea's winter training cycle — a massive military exercise that allowed one of the U.S. military's best-equipped intel brigades to be put through its paces.

Col. Mary Legere, 501st Brigade commander, said that the results of the experiment — most of which are classified — demonstrate an “exponential” improvement in operations.

In one case, a single analyst cranked out 20 times the amount of relevant reporting in one 8-hour shift than eight other analysts in the same time period using standard procedures.

“We were able to show, with certain classes of information, two orders of magnitude improvement right off the bat,” said Heath. One order of magnitude is a factor of 10.

U.S. military leaders in South Korea are “very pleased with the results to date, and anxious to move on to the next phase,” Legere said in an e-mail response to questions. “We saw vast improvement in our ability to support our commander's warning and intelligence needs.”

In addition, Project Morning Calm capabilities promise to improve situational awareness for combatant commanders across the theater and to provide other national intelligence agencies — such as the Defense Intelligence Agency, National Security Agency and CIA — with access to an instant regional view, she said.

While the U.S. military operates the world's most sophisticated collection of databases and sensors, generating staggering amounts of information daily, many intelligence agencies and systems by design do not routinely share data, which precludes rapid collaboration. The result: Critical information is lost or arrives too late to be useful.

The U.S. Army's Intelligence and Security Command at Fort Belvoir, Va., linked up in 2002 with the Pentagon's Office of Force Transformation and hatched Morning Calm to tackle this challenge.

### **Building the Tool Kit**

The objective was to create a system in which a single analyst could sift through all available intelligence without waiting for each service or joint headquarters to process the data.

With \$2 million in seed money from the Office of Force Transformation, the Army assembled a tool kit of data-mining technologies from other intel projects.

The hardware and software kit allows users to rapidly ingest data of all sources, then sort it by categories into "enhanced geospatial displays that layer data, show relationships and allow analysts to prioritize, collaborate, and understand," according to an Army white paper on the project.

The result is a pool of information drawn from data normally housed in wide range of isolated places.

Joining the 501st in the experiment were elements of the U.S. Air Force, other defense intelligence agencies and Korean intelligence.

Among the sensors included were the Guardrail Common Sensor, U-2, Airborne Reconnaissance Low, data from Korean sensors and databases in Hanguk.

The 501st Military Intelligence Brigade was able for the first time to merge instantly huge quantities of streaming and static data.

“Freed from the time-consuming frustration of having to deal with stove-piped intelligence data stuck in single disciplined and segregated databases, our analysts moved easily through massive amounts of multi-disciplined data with great results,” said Legere. Commanders used visualization tools that plotted the data on two- and three-dimensional maps of the region, she said.

Cambone, the Pentagon’s intelligence czar, earmarked \$44 million to fund Project Morning Calm for five years.

The first allotment, \$15 million, is in the 2005 budget request now before Congress. The funds would be used to harden the prototype technologies used by the 501st and extend the intelligence sharing capabilities across U.S. forces in South Korea. The funding would also begin to establish such a capability at the Hawaii-based U.S. Pacific Command.

In addition to propagating this capability, officials involved in Project Morning Calm said they have identified a number of policy issues that impede data sharing and must be addressed.

“As we move now to expand the technology and approaches across U.S. Forces Korea, and Pacific Command to joint intelligence centers and service components in this second phase, we are certain to see even more success,” said Legere.

