

Distributed Common Ground System-Army Enterprise Expands Value of Intelligence

Brandon Pollachek

Throughout the history of warfare, collecting information has been a necessity that the Army has been quite adept at performing. The difficulty, however, was in pulling together multiple sources of information for a commander to use in building a complete understanding of the battlefield, let alone creating an enterprise to provide valuable information to any Soldier, regardless of echelon. The Distributed Common Ground System-Army (DCGS-A) has proven itself worthy of this task under the duress of battle in both *Operations Enduring* and *Iraqi Freedom*.



DCGS-A serves as a dedicated avenue for ingesting, fusing, analyzing, and disseminating information throughout the Army and associated defense agencies. (Graphic courtesy of PEO IEW&S.)

DCGS-A is designed as a dedicated avenue for ingesting, fusing, analyzing, and disseminating information throughout the Army and associated defense agencies. The road to success for DCGS-A hasn't been easy, as the concept was developed during a time of conventional battles against a regular Army, as opposed to the irregular warfare the United States has faced over the past decade.

DCGS-A replaces nine Families-of-Systems (FoSs) that previously had operated as stand-alone systems providing signals intelligence, image intelligence, terrain, weather, and moving target indicator information. Enabling these stand-alone systems to work together in a unified DCGS-A environment has presented unique challenges, which the program has worked through over the years. Now, the final solution of the DCGS-A Mobile Basic is in sight.

System Evolution

"The plan originally entailed letting the Programs of Record [PORs] run their course as DCGS-A was being developed. However, Sept. 11 put us back into a much larger threat environment where the current force systems became the systems that were deployed supporting the fight in *Operations Enduring and Iraqi Freedom*," said Samuel Fusaro, Deputy Project Manager DCGS-A within Program Executive Office Intelligence, Electronic Warfare, and Sensors (PEO IEW&S). "It became a financial challenge, not only developing the new capability but also sustaining and enhancing the current systems, some of which had reached obsolescence of parts."

Additionally, DCGS-A has accounted for various Quick Reaction Capabilities and lessons learned from more than 9 years of combat that needed to be integrated as well. "It is a fast-moving train, with the DCGS-A Version 3 [V3] and Mobile Basic teams both having to catch all of these new initiatives, along with these new air platforms that are

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pumping down extreme volumes of Full-Motion Video and other large data files that have to be processed, stored, and retrieved. So just the size of DCGS in the fight is tremendous," Fusaro said.

As DCGS-A evolves, the program is tackling the issues that come from integrating nine separate FoSs, to include dealing with various vendors, each with its own logistics tail, and meeting the challenges that dissociated programs bring—operating independently with limited ability to integrate with one another. "The Army's solution is 'let's have one.' Bring all those [PORs] under a single contract to integrate them together, so you have all the resident experts in their individual domain operating in a single environment," said LTC Scott Hamann, Product Manager DCGS-A Mobile Systems.

Version 3 and Mobile Basic

V3 and the future DCGS-A Mobile Basic are drastically changing the basic premise of how intelligence is collected and shared. Traditionally, intelligence has been looked at as an echelon asset; the level within which a person operated was directly correlated with what information was available to that person. DCGS-A is allowing units to move away from the echelon approach to an enterprise solution.

The value of, and reliance on, the intelligence that DCGS-A is currently providing extend beyond just Army and sister service users. "When we initially stood up the brain [a data warehouse], we were getting 10,000 to 20,000 hits a month, mostly from Army users,"

Fusaro said. "The number of requests has steadily increased to where now we are getting close to a quarter of a million hits a month, with people querying the [U.S.] Central Command brain for data. And the majority of those requests are from the other services and 3-letter agencies."

Currently 90 percent of the force is fielded with DCGS-A V3 systems. "DCGS-A goes to every Army unit, from Military Police companies to engineers. It is not just a military intelligence system," said Fusaro. "There are more than 1,000 points of presence in one DCGS set when you take into account all of the units that we go to."

Access to DCGS-A products will become more available in the near future, not only for U.S. users but also for coalition partners in Afghanistan. During FY10, a DCGS-A capability migrated into the U.S. Combined Enterprise Regional Information Exchange (CENTRIX) and the Afghan Mission Network, establishing a 2-way ability to push data to our coalition partners and to pull data from coalition systems.

"What we are doing is taking 50 percent of our Secure Internet Protocol Router [SIPR] systems and allocating those to CENTRIX International Security Assistance Force [CX-I], which we are doing by actually repurposing the systems with new drives to accommodate the CX-I. The only difference from a military intelligence perspective is the banner and the ability to connect to a network with a different piece of software," said Stephen Morton, Deputy Product Manager DCGS-A



DCGS-A has accounted for various Quick Reaction Capabilities and lessons learned from more than 9 years of combat that needed to be integrated. Here, Soldiers conduct DCGS-A training. (U.S. Army photo.)

Intelligence Fusion. “All of the analytics and the training a Soldier received with V3 would be the same whether you are on CX-I, SIPR, or Joint Worldwide Intelligence Communications System.”

DCGS-A has strived to maintain flexibility within the system throughout the life of the program. The basic premise has been to make as many tools available to an analyst as possible, while allowing the analyst to configure the workspace in a manner most conducive to the individual. In doing so, a concerted effort has been made to ensure that the look, feel, and operation of the system are consistent with the advanced technology to which many of the young operators who use DCGS-A are accustomed. Both DCGS-A V3 and DCGS-A Mobile Basic incorporate user input into design, with user juries that allow analysts to perform hands-on experiments dedicated to the look and feel of the system as well as its ease of use.

“Bottom line is, we try to mirror the commercial environment that our Soldiers have grown up with,” said

Fusaro. “As technology enhancements come forward such as the iPhone’s ‘we have an app for that,’ DCGS-A will have many applications readily available to the user.”

The U.S. Army, U.S. Navy, U.S. Air Force, and U.S. Marine Corps all have their own version of DCGS, with nuances that meet their individual mission requirements. Oversight comes from the Under Secretary of Defense for Intelligence, which ensures synchronization among the services.

A Significant Upgrade

Within the next few years, DCGS-A users will receive a significant upgrade with the introduction of DCGS-A Mobile Basic. “The major difference with DCGS-A Mobile Basic is that it combines all capabilities of V3 with capabilities of the existing PORs into an integrated system that allows for ingestion of information at different security levels and fusion of the information much more quickly. The information is available for processing and generating the common operating

picture and allows users to perform collaboration,” said Kamman Lok, Project Manager DCGS-A Chief Systems Engineer. “The cycle is cut down significantly, with the information at an operator’s fingertips all in one system.”

In addition to bringing all of the PORs into one system, DCGS-A Mobile Basic will be able to add other capabilities as required, such as machine foreign language translation, which previously was not provided by the PORs.

The combination of technological enhancements, along with the out-of-the-box thinking that Soldier users bring to the intelligence enterprise, will continue to ensure that the variations of how DCGS-A can be used are virtually limitless.

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