Lockheed Martin Improves Wireless Communications For Highly Mobile, On-The-Move Networks

Lockheed Martin has developed a novel network simulation technology that helps plan wireless communications for on-the-move (OTM) warfighters and their networks. This network simulation technology is Communications Planner for Operational and Simulation Effects with Realism (COMPOSER), and it predicts potential bottlenecks or breakages and helps identify wireless network solutions.

Similar to civilian cell phone users, OTM warfighters may experience spotty or complete loss of communications due to factors such as terrain, distance between units, connectivity and bandwidth. COMPOSER lets planners identify potentially problematic areas before and during missions so they can take corrective action.

As military units move through the battlefield, their networks change in response to battlefield dynamics. COMPOSER lets warfighters better predict network performance and, once on a mission, respond to degraded conditions. The ability to quickly simulate, test and operationally configure the network is essential for communications reliability for highly mobile, large-scale OTM networks.

In recent tests, COMPOSER simulated a network of more than a thousand radios, many times faster than real-time.

"This means that warfighters can identify communication trouble spots and plan around them by exploring alternative network configurations or even designing more robust networks," said Carl Hein, principal investigator, Advanced Technology Laboratories. "Because warfighters can run tens of simulations in the same time it previously took to run one, they can evaluate more network designs that will better solve the communications issue."

The U.S. Army Communications-Electronics Research and Development Center (CERDEC) sponsors COMPOSER as an Army Technology Objective. COMPOSER is a technology source for a larger CERDEC program called Coalition Joint Spectrum Management Planning Tool (CJSMPT), which assesses, plans, and optimizes at-the-halt and on-the-move use of radio spectrum. CJSMPT will undergo a Joint Military User Assessment in early 2009.

Headquartered in Bethesda, MD, Lockheed Martin is a global security company that employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2007 sales of $41.9 billion.

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