IT keeping U.S. military ahead of game

June 23 2006

As contractors Lockheed Martin and Boeing compete for deals with the U.S. military to create a joint tactical radio system, while IBM and Sun Microsystems work together for thin clients, information technology and communications network in particular are key to keep the armed forces always prepared.

It's also good business too for military contractors and technology giants alike. The trade shows hosted by the Armed Forces Communications and Electronics Association in Washington earlier this week, for one, attracted about 350 participating companies, and was a prime venue for corporate executives to promote their products on the one hand, while government officials scout out the latest advancements on the other.

For instance, John Ventry, a senior systems engineer for iDirect Technologies, said his company's satellite communications system improves former satellite communications systems, and is being used by the National Guard. He pointed out that satellite communications provide a network to locations lacking a fixed line capability, which is the case in combat zones. iDirect's innovation differs from other satellite communications systems by using time division multiple access technology instead of single channel per carrier technology.

"It's (SCPC technology) basically one satellite one remote, that's it. Basically it's point to point," Ventry said. "With (time division multiple access), it allows multiple remotes to share the same carrier."

Meanwhile, Boeing is using network communications in military

operations. Andrew Perez of Boeing said their joint tactical radio system program fully links every component of a battlefield on a network, which allows land, air and sea operations to register into a system and share various information. He added that ground troops could discover more about their surroundings by signing into the network with a portable device and receive information sent from aircrafts.

"Because when it comes to fighting a war, situational awareness is paramount in making sure you have mission success," Perez said.

Like iDirect's technology, Boeing's JTRS program connects users in any location to a network. The difference is JTRS uses software designed digital radios. As soon as a participant on the battlefield logs into the network, basic information is entered. Perez said when a pilot on an aircraft registers in the network, information such as their fuel quantity and location are automatically placed in the system.

He described a battle scenario using JTRS, where ground troops will see an oncoming brigade and send this information to a command center. The center will in turn send aircrafts to attack the enemy and afterward unmanned aerial vehicles are sent to capture the extent of battle damage.

"Network-centric operations (are) fundamentally going to change the way that a battle is fought on the battlefield," Perez said.

Thin clients are another technological advancement attracting military attention. A thin client is a small, hardware device that displays information from multiple networks on a monitor. Resembling a small CPU, thin clients connect to a monitor and network connections. Thin clients do not actually run programs. Instead users forgo a CPU while applications are run from multiple servers. The thin client enables the monitor to display these programs. Users perform computer applications without using desktop hardware that actually runs them or that can store

information.

By abandoning devices that contain vulnerable information, security is intact even if the thin client is stolen or accessed by an unwanted party. Moreover it improves older systems, which required a different CPU for every network.

Larry Bowers of Sun Microsystems compared thin clients to telephones. He said both are basic hardware devices simply connecting users to a system that actually runs communication applications, instead of running them itself. They use little power; Bowers estimated roughly seven watts. Sun Microsystems currently produces thin clients used by the Navy.

"It's an effort to eliminate multiple PCs for multiple networks at your desktop," said Brian Ziekle, a system engineer at Trusted Computer Solutions Inc., which is also producing thin clients with IBM. "It eliminates all the hardware costs at the desktop level. So this is a very cheap desktop and you keep on your servers on the back end (of the thin client)."

Ziekle said this product is ideal for the government because it eliminates threats to classified information. This program does not allow top-secret information to be cut and paste. He said another benefit is that this technology does not require upgrades.

Copyright 2006 by United Press International