The Fog of War

By George Cahlink
Government Executive magazine

The Army and Marine Corps work together to battle one of their worst enemies - friendly fire.

Army Ranger Pat Tillman, a pro football player who gave up a small fortune to serve his country, turns out in death to symbolize not only his own heroism, but also the tragedy of friendly fire.

Also known as fratricide or "blue-on-blue" deaths (the color of friendly forces on computer tracking screens), these incidents are attributed to the confusion of military engagements and usually go unpunished. No one was found at fault in Tillman's case, after investigators determined he was shot by a fellow Ranger who mistook him for the enemy during an Afghanistan gun battle with insurgents in April.

"We did better in Operation Iraqi Freedom statistically [in reducing fratricide]," Navy Adm. Edmund Giambastiani Jr., commander of the U.S. Joint Forces Command, told the House Armed Services Committee last fall. "However, one is too many."

The Pentagon estimates that about 11 percent of the 115 U.S. military deaths in Iraq before major combat operations ended on May 1, 2003, were the result of U.S. soldiers accidentally killing fellow soldiers. In the 1991 Persian Gulf War, 24 percent of all deaths were the result of friendly fire. And a Pentagon study found that between 1990 and 1999, 97 percent of fratricide victims were ground troops.

To guard against fratricide, troops use devices that range from reflective tape on uniforms that shines brightly when viewed through night-vision goggles to sophisticated battlefield intranets with color graphics and real-time updates. During Operation Iraqi Freedom, the services used as many as nine different anti-fratricide tools, but all were flawed and they couldn't communicate with one another.

This spring, the Pentagon directed the Army and Marine Corps to develop a single system for tracking ground forces. The two previously relied on separate battlefield intranets, called blue-force trackers.

The most common anti-fratricide system in the Army is the Force XXI Battle Command Brigade and Below. It uses rugged laptops, communications software and links to satellites to create a digital battlefield map. About 1,200 Army and Marine Corps vehicles were outfitted with the system in Iraq and Afghanistan. It was praised for tracking fast-moving troops, updating friendly-force movements every 10 to 15 seconds. But soldiers complained that bandwidth limited their ability to send messages, taking too long to update enemy movements. The system also is expensive, at $15,000 per vehicle.

The Marine Corps' Data Automated Communication Terminal, like the Army's system, uses a battlefield intranet that regularly updates troop movements. It is secure and has enough bandwidth to move large chunks of information in Iraq and Afghanistan. However, it relied on line-of-sight towers rather than satellites, which meant that fast-moving forces often outpaced the system.

"We want to get all of the systems under one single manager," says Ray Montford, the Army's program manager for Force XXI. He now heads the single-system project, which will use the best attributes of the two existing ones. For example, the Army's rugged computers and satellite communications will be a feature, while the Marines' software will provide more information.

Still, developing the ideal system will be a challenge. Army Brig. Gen. Phillip Coker, director of capabilities and developments for the Army's Futures Center at Fort Monroe, Va., said recently, "If you look at the environment in which we have fratricide, it's normally a distance, in a reduced visibility circumstance, [and] it's often across boundaries between units."

Indeed, military developers are facing an age-old adversary - the fog of war.