

The Homeland Security Communications Mistake

By William E. Ott

With hundreds of millions of Department of Homeland Security dollars starting to pour into state and local coffers for hundreds of different equipment needs and training projects aimed at improving our national readiness for attack or disaster, I believe we've overlooked the big picture: communications. Communications is everything.

Public safety communications is a matter of national security. We can't adequately respond and coordinate activities at even small, everyday emergencies without effective communications, and we certainly can't coordinate activities with multiple disparate agencies in a large natural disaster or terrorist event in similar circumstances.

Communications is the most important of all identified security priorities, such as chemical suits, biological and chemical detectors, training for using these devices, etc. I think the Department of Homeland Security, which now houses the National Communications Systems office (www.ncs.gov), should take the lead in proposing and developing a national public safety communications system, one that would include multiple forms of radio systems, trunked, simplex, and satellite, for redundancy.

The system should also include a private virtual private network (VPN) system of communication and data exchange. Additionally, wireless communications devices (like the RIM Blackberry, Motorola TalkAbout or wireless modem-equipped PocketPCs) would be an important part of any such system. One communication lesson learned on Sept. 11, 2001, [and again in the great northeast blackout in August 2003](#) was that the most consistently reliable method of communication that day, especially in New York and the Washington, D.C., area was

the Cingular data network—the backbone of the wireless network for most Blackberry and TalkAbout devices.

I think it's technically and financially feasible to construct a national public safety communication system if costs are shared with state and local buy-in. Such a system would allow for seamless communications among any EMS, fire, law enforcement, public health and public works in any part of the country in the event of a disaster.

Such a system would be like Nextel on steroids—an elaborate but end-user friendly trunked radio system. It would require simplex options, as well, for direct point-to-point communications not involving repeaters. Satellite communications would be a required contingency for remote areas or other special needs. The system would also offer wireless phone capabilities. It would be a private, public-safety-only phone system with no competition from civilian users during a crisis, which should eliminate the need for complicated priority override systems like the ones now being developed for traditional wireless carriers.

The data side of such a system would include new broadband wireless technologies and use a combination of Internet and private network connections to link cities together. This combination could allow immediate pictures, video and data to be wirelessly transmitted from crisis scenes, if required. This type of information could be viewed instantly in local 9-1-1 centers or emergency operation centers (EOC) and then sent upstream to the National Infrastructure Protection Center (NIPC). This would allow all levels of responders and agencies to see and communicate in real time.

Responders on scene would have access to online resources and important information concerning such factors as triage, patients and treatments could be sent as e-mail or instant messages to the EOC and area hospitals.

EOC and federal officials would be immediately aware if additional resources were needed (for instance, for decontamination). Hospitals on the network would be able to see live video feeds of the incident and communicate in real-time with personnel on scene as needed in a telemedicine videoconference. Mobile and handheld radios should include instant messaging and have e-mail capability built-in.

Many things would have to come together to make such a system a reality. A specific design would have to be developed; equipment manufacturers would have to agree on equipment specifications; and state and local agencies would have to agree to share costs. A national system would require the construction of hundreds of new radio towers, particularly in rural and remote areas. (These towers could also be used to lease antenna space to wireless phone carriers to help offset initial construction costs.) Private fiber optic network lines would need to be placed between key locations around the country. A VPN topology would need to be developed for use over the public Internet. Many egos and territory boundaries would have to be overcome, and I'm sure a hundred other things would have to be worked out, too.

All these are workable problems; it's just a matter of a federal agency taking the lead and getting everyone to the table.

The overall costs of communications should decrease once the infrastructure for this system is in place because of the massive economies of scale such a project would establish. Agencies would be able to buy equipment from any number of manufacturers because a project of this scale would have to include multiple equipment manufacturers.

Day-to-day communications would continue pretty much as people are used to. They could operate in simplex or trunked mode; they could make use of the data capabilities or not. However, when a crisis occurred, any agency could communicate with any other agency, as

required. A national directory would be established with a private number of sorts, not unlike Nextel that would be available to allow users to look up other agencies or personnel and to change their radio settings to communicate with them.

This is a project I believe we should undertake for the safety and security of the country. Communications is everything. We should get serious about creating a national public safety communications system.

William Ott is president and chief consultant of CPCS Technologies, a NC-based technology consultancy providing services to the public safety, and defense communities. He's been involved in EMS since 1981, in field, education and administrative capacities. Contact him via e-mail at ejems@cpcstech.com