The Case for COMMUNICATIONS Interoperability

How can federal grant programs be interpreted to provide the most "bang for the buck"?

With $1 billion in grants earmarked for a new Interoperable Communications Grant Program to be administered jointly by the Departments of Commerce (DoC) and Homeland Security (DHS) and another $43.5 million designated for the 9-1-1 Implementation Coordination Office (ICO), an office jointly administered by the National Telecommunications and Information Administration (NTIA) of DoC and the National Highway Traffic Safety Administration (NHTSA) of the Department of Transportation (DoT) to implement the ENHANCE 9-1-1 Act of 2004, it is time to consider just how this money can best be utilized to promote public safety today and into the future. To do this, we must consider how a broad and progressive view in grant guidance can ultimately provide a superior benefit from grant dollars expended.

Before I am tarred, feathered and run out of town on a rail for barbequing the current "sacred cow" of Public Safety (federal "interoperability" grants that pay for all of those shiny new radios), let me say that I do understand the importance of first responders being able to communicate with each other in the field (this is what Tactical Interoperable Communications Grants have been paying for). I come from an "old school" where police officers and supervisors did their turns on both sides of the microphone so I have "been there" and "done that" long before 9-1-1 came to town. BUT… just as the 9-1-1 center evolved and became the domain of specialized "communicators" so must the idea of COMMUNICATIONS interoperability evolve.

Just as we are (too) slowly coming to the realization that simply "throwing money" at the Public Safety Answering Points (PSAPs) is not going to "fix" the systemic problems with 9-1-1 call delivery, so must we realize that spending lots of money on "Project 25" radios is not going to create true interoperable communications (much to the chagrin of Motorola, Macom, et. al.). Interoperable radios that allow diverse first responders to work together are important but they are going to be less than spectacularly successful if there is not interoperable communications with the public we serve via the "first first responders", the 9-1-1 centers.

The National Emergency Number Association (NENA), through its Next Generation (NG) Partner Program, has advanced the idea of an IP based Emergency Services InterNetwork (ESINet) that will provide the infrastructure required for delivery of 9-1-1 calls of all types (wireline, wireless, VoIP, multi-media, telematics, IP messaging and more) to the PSAPs (and, potentially, many others). The beauty of the ESINet is that it is a shared infrastructure that will transport not just 9-1-1 traffic (inbound and outbound emergency notification), but IP packets of all sorts including, but not limited to, radio (ahhh… interoperability), data (NCIC 2000, intelligence information, fingerprint systems, emergency management, geographic information systems, etc.) and multi-media content (think of surveillance cameras and remote sensors). By using a shared, redundant and survivable IP infrastructure, cost for transport should be reduced for all uses and users. In the NENA NG 9-1-1 model, this "managed" infrastructure is deployed and operated at the state (or regional) level, thus potentially reducing or eliminating some staffing requirements (and expense) at the PSAP level. The importance of state level coordination is also important in ICO guidelines that stress that states must have an established coordination and implementation plan.

Now is the time when federal grant programs (and the guidance for them) can make a real difference in the future of real interoperable communications. Grant guidance should recognize that the current 9-1-1 and emergency communications infrastructure system, is inadequate (see the "Hatfield Report" of 2002[1]) and that any federal money used to try to "shoehorn" additional capabilities, including Wireless Phase 2, into this system is money thrown away on technology that was obsolete the first day it was deployed. The NENA NG 9 1 1 final report from 2005[2] defines the role of the federal government in NG 9-1-1 in two sentences. "General consensus suggests that the federal government should primarily play a role of coordination and provide initial funding to states to develop emergency service IP

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[1] http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513296239

[2] http://nena.org/media/files/ng_final_copy_lo-rez.pdf

networks; states should manage such networks and coordinate 9-1-1 efforts at the state level, while 9-1-1 operations and call-taking continue to be managed at the local level" and "Moving toward IP-enabled emergency services networks and providing guidelines and funding for a national IP emergency services infrastructure that is coordinated at the state level is the most important role for the federal government." Grant guidance should advance these ideas.

This is not to say that grants should exclude radio communications equipment or other data sharing initiatives (although I, personally, do contend that grants should exclude anything that might extend the use of the current analog 9-1-1 system). That said, grant guidance should encourage development and testing ("live" pilots) of NG type shared IP infrastructure based systems that combine E9-1-1 call delivery (all types, as described above) with data sharing/interoperability and radio interoperability. Examples that I would suggest might include regional pilots of NG 9-1-1 call delivery (again, all types) over IP, data sharing initiatives using wired and wireless IP communications (including PSAP to PSAP and PSAP to mobile command post data sharing, emergency management data sharing, GIS and oblique imaging and much more) and radio system sharing (allowing remote PSAP control in disaster recovery scenarios, etc.). Pilots such as these will demonstrate true communications interoperability, from the citizen reporting the incident to the PSAP to the first responders in the field and even back to "second line" support such as hospitals and emergency management/homeland security command centers. Of course, any pilots deployed should be usable as a "foundation" or starting point for a true statewide ESINet build out, thus maximizing the value of the pilot program.

Understanding that technology is expanding and changing minute by minute, it is easy to comprehend how legislation that frequently takes more than a year to draft and pass might be "out of tune with the times" before it ever takes effect. Certainly the intent of such legislation should be clear, that being to enhance public safety. That intent, in the case of ENHANCE 9-1-1 funding, can arguably be better served by deploying and testing systems that will allow PSAPs to "leap frog" older technologies and move directly to NG systems. To take a very narrow view of the "letter of the law" ultimately does not serve the public in the most efficient and cost effective manner. Using federal grant dollars, be they "Interoperability" or "ENHANCE 9-1-1" funds (or a combination of both), via broadly interpreted grant guidance that allows immediate deployment and testing of true NG and IP based systems clearly represents the best possible use of today's dollars to enhance tomorrow's security.