

# **Presentation to the FCC's Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks**

Wesley D. Smith, Technical Director, ARINC  
Tuesday, March 7, 2006

Good Morning, Ladies and Gentlemen, Madam Chairwoman, honored members of the panel, and guests. Let me express my sincere appreciation for my invitation to speak today.

I'm Wesley Smith, Technical Director at ARINC which provides technology that enables full communications interoperability among first responders. The technology is known as AWINS™, the ARINC Wireless Interoperable Network Solutions, which is an architecture for complete communications interoperability. AWINS is based on the Internet Protocol Standard and is installed in both fixed implementations such as Emergency Operations Centers and Mobile versions such as a Mobile Command Vehicle.

I'd like to begin my remarks with our experience supporting the State of Maryland's post Katrina relief efforts.

An after action analysis followed Hurricane Isabel and led Anne Arundel County Maryland to purchase a Mobile Command Vehicle to help manage disasters, and other large events. Last summer, AWINS was installed in the new Mobile Command and Control Unit 1 (MCCU-1) and delivered to the County on August 23rd. Just 2 weeks later it was deployed in support of Hurricane Katrina Relief as part of Operation Lifeline.

While deployed in Jefferson Parrish, MCCU-1 supported communications and coordination for a series of medical clinics run by the Maryland Emergency Management Agency team. The team included resources from fourteen Maryland jurisdictions, and more than 100 doctors and nurses from Maryland hospitals. It was joined in Louisiana by seven more local jurisdictions.

With little to no radio infrastructure in place, the value of the Mobile Command Vehicle and AWINS with its powerful communications capabilities was quickly recognized. The diversity of the team also meant there was minimal commonality among their mobile radios. AWINS allowed the team to both BUILD radio coverage and create interoperability among the team members. MCCU-1 was operational within 45 minutes of arrival at Meadowcrest Hospital.

The AWINS technology within MCCU-1 also gave the MEMA team a number of unique capabilities such as:

Interoperable radio communications among all team members.

Direct communication to any radio from a VoIP phone in the MCV, PSTN phone, or cell phone.

Fully functional dispatch stations where dispatchers could create ad-hoc talk groups, look up directions for those in the field, order supplies, and perform all normal dispatch functions.

The IP based satellite connection in MCCU-1 enabled regular phone calls using VoIP and full motion video conferences took place with status reports between MCCU-1, the Anne Arundel EOC, and the MEMA EOC.

The satellite connection also provided inbound and outbound access to the PSTN, full Internet access, and access to all county computer resources back home.

An “Internet Café” provided a morale boost by allowing all of the volunteers to call home or send emails to check on family and businesses. During the 15 days it was operational, the medical team saw approximately 6000 patients at the 7 medical clinics they deployed.

Keeping in mind that the vehicle had not gone through acceptance testing, and the staff had not yet been trained, Chief Ron Blackwell from the Anne Arundel Fire Department summed up MCCU-1’s mission and first *real* test in this manner:

*“There are always some questions in your mind, will it do what we’ve been told it will do when it’s most needed ... this unit has passed that test with flying colors”*

It is from this point of view and with the lessons learned during this and other missions that I wish to share five insights for the benefit of the committee.

### **1) Operability:**

During the initial meeting of this panel, we heard a lot about Operability.

Operation Lifeline would not have been achieved without the ability to create an operable radio infrastructure. The ability to quickly fill a gap in the infrastructure when it is destroyed or disabled is a key success factor. The mobile nature of the vehicle allowed for its deployment where it was needed most. The fact that it is mobile allowed it to be out of harms way or to be moved speedily to a crisis area. MCCU-1 was specifically designed with that in mind.

## **2) Interoperability:**

The variety of resources for any mission of this nature “assumes” there will be a diverse set of radios. The crunch on resources also demands that people bring and use their own equipment when ever possible. The ability to communicate on demand requires a flexible standard capable of interconnecting resources on the fly; and one which does not require exchange of equipment.

Supporting visiting resources such as law enforcement, National Guard, fire and rescue, and utility companies with disparate equipment *long term* is a pre-requisite for a scalable recovery.

## **3) Policy:**

Technology is only part of the answer. Without the ability to properly utilize technology, first responders will fail in their mission. As examples, policy must be developed that supports:

- An effective communications plan with contingencies in case of failures
- Rigorous and frequent training and drills that utilize disaster plans and technology, even if it means turning off parts of your radio systems once in awhile
- Memorandums of understanding with other jurisdictions and potential outside assistance organizations such as utilities, transportation groups, highway road crews
- Predefined and preauthorized means of allowing support vendors to enter disaster zones to lend technical assistance in repairing damaged infrastructure

And of course, there are many more, too numerous to list.

## **4) Standards:**

The proprietary nature of much of today’s LMR infrastructure directly hampers interoperability while *open* standards, such as the Internet Protocol, and Voice over Internet Protocol (VoIP) allow the entire world to communicate via the Internet.

It is these same standards that enabled the Maryland team to provide its powerful communications capabilities. The robust nature of these standards means solutions can be built from commercially available products (COTS). This saves time in becoming operational, keeps cost low, makes the system easier to manage, and enables expansion and adaptation to the mission as required.

## **5) Funding:**

Federal policies such as the 700MHz rebanding and the adoption of APCO P25 are positive steps, but we must ask ourselves what we can do to adjust or amend these initiatives to make them timely enough to meet the communication challenges our first responders face today.

The APCO Project 25's recent adoption of using a gateway in the interim to link disparate two-way radio systems is an example of how a long term initiative can be amended to support short term needs. Pairing this kind of forward thinking with SAFECOM's Federal Grant Guidance that specify Gateway requirements for network to network communications accelerates the implementation of interoperability technology.

However, the Federal Grants intended for public safety do not adequately address operational costs for post implementation support such as network connectivity, hardware maintenance and other "day 2" requirements for which many jurisdictions do not currently have budget.

In summary, a standards based approach provides the means to deliver on the promise of interoperability. The ability to reach out using all communications means at hand is the first and most important requirement for successful disaster response. Operability among local first responders is the initial priority, with ad-hoc interoperability a very close second requirement for the addition of outside assistance. For long-term recovery, a comprehensive plan for sustained interoperability must be developed.

Organizations must practice their communications response plans regularly.

Long-term technical initiatives must have an incremental implementation with appropriate alignment of the grant funding.

I'd like to thank the committee and honored guests for their time; I appreciate the opportunity to share our emergency response experiences.