ALMR INSIDER

Volume 8, Issue 2 April 15, 2014

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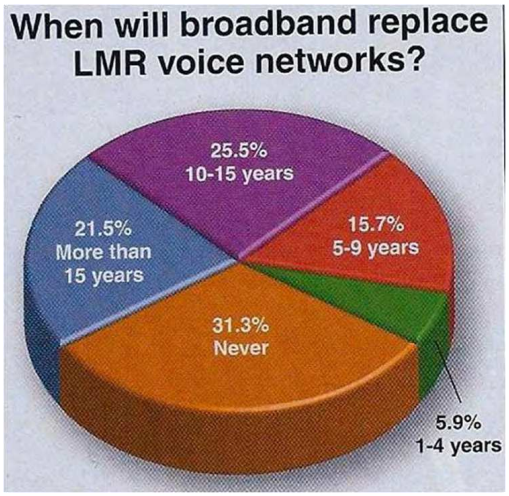

First Net is hard at work developing a business plan and an architecture model for the first Nationwide Public Safety Broadband Network (NPSBN). When this network was first envisioned, it was to be a fully interoperable data and video network designed to augment, **not replace**, Public Safety voice over existing land mobile radio (LMR) systems.

When long-term evolution (LTE) technology was chosen by the Public Safety Community, and then approved by the Federal Communications Commission (FCC), it was envisioned that the network would be used for data and video services and would be designed to provide access to and from first responders in the United States regardless of where they were. It was also envisioned that the network would be the foundation for interoperability on a nationwide basis, helping to fix issues that have been hounding Public Safety for more than 30 years due to communications failures during the 9-11 attacks, Katrina, and several other major incidents.

Long, and often contentious, discussions with Congress and the FCC finally resulted in the assignment of the 700MHz D Block to Public Safety and the formation of FirstNet with an initial $7 billion in funds allocated for the system. The use of voice on this network was not the primary reason Congress approved the re-assignment of this spectrum to Public Safety and was not considered to be an integral part of the network for many years to come. Yet even before the network is up and running, the idea that voice will be included from day one has gained momentum and now seems to be expected by many. The question is why.

One little known or acknowledged fact about the reallocation of the D Block to Public Safety is the requirement that Public Safety must return the T-Band (470-512 MHz) to the FCC for repurposing. This requirement, and the burden it is causing the eleven affected major metropolitan areas, was placed on the Public Safety community because a single vendor in the wireless broadband business (not in the LMR business) was able to convince some Congressional leaders that Voice over LTE (VoLTE) for Public Safety is just around the corner and that those now using the T-Band could easily move down into the Public Safety LTE spectrum.

The Public Safety community has often stated VoLTE will happen sometime in the future, but LMR systems need to be maintained, and even expanded, until such time. The Association of Public-Safety Communications Officials (APCO), National Public Safety Telecommunications Council (NPSTC) and others have published documents about the importance of maintaining existing LMR systems, yet for whatever reason, there is more attention than ever being placed on adding voice to the NPSBN.

Even in the upcoming Public Safety grade NPSTC report, push-to-talk over LTE is discussed and characteristics are being mapped. The Public Safety Communications Research (PSCR) group in Boulder has been very vocal with the standards organizations and has had some success placing a work item on the 3GPP standards agenda. It appears as though the ground swell for VoLTE is growing, in spite of the dangers of assuming that push-to-talk for Public Safety (continued on page 4)

Radio Programming Standardization Group Focuses on P25 Trunking

In June, 2013 the National Public Safety Telecommunications Council (NPSTC) Radio Programming Compatibility Requirements (Radio PCR) working group reported progress in its efforts to standardize information for radio programming, according to Pam Montanari, a co-chair of the working group.

The NPTSC group decided in a previous meeting to focus on Project 25 (P25) trunking system information, because conventional systems are often preprogrammed or are fairly standard across the board.

The mission of the group was to develop programming feature sets from each of the different manufacturers on a spreadsheet, then standardize the information and eventually put it in a format that automatically translates the information.

The working group received information from Thales Communications, Motorola Solutions, Harris Public Safety and Professional Communications (PSPC) and Icom America. A representative from Relm indicated their information would be submitted later.

Once the spreadsheet was standardized and all the manufacturers approved the information, the next step was to begin testing. Montanari said she hoped to have public-safety volunteers program several of the radios and test the information. She reached out to the Public Safety Communications Research (PSCR) labs in Boulder, Colo., for help with testing as well.

Another face-to-face meeting of the working group occurred at the Association of Public-Safety Communications Officials (APCO) conference in August, 2013.

Subsequent to the August, 2013 meeting at APCO and tests conducted since then, the working group finalized the design of a spreadsheet to import and export Project 25 (P25) programming data. The spreadsheet and demonstration were presented at the NPSTC March 28, 2014 meeting at the International Wireless Communications Expo (IWCE)

The group plans to request technical assistance to add the spreadsheet to the Department of Homeland Security's (DHS) Office of Emergency Communications (OEC) www.publicsafetytools.info website, Montanari said. In addition, the group will request OEC support to automate the spreadsheet.

As stated previously, the group set out to normalize different P25 vendor data for easy import/export for interoperability purposes in early 2013. The group now includes eight P25 manufacturers: EF Johnson, Icom America, Harris, Kenwood, Motorola Solutions, Relm Wireless, Tait Communications and Thales. Before the IWCE presentation, 14 public-safety practitioners from across the country conducted independent testing.

The group hopes that in future versions the importing and exporting will be automated with data digitized to eliminate errors from end users manually plugging in the information. "Fat fingers," as it's commonly referred to in the group, is when a user is typing in information and accidently hits the wrong button, which accounts for a lot of interoperability problems in the field, they said.

The spreadsheet is ideal for pre-planned events. "Right now that's probably the best use for instances that can be determined ahead of time," she said. "Once it's automated, the hope is for it to be used all the time for interoperability."

During the NPSTC presentation at IWCE, there was discussion about standardizing the spreadsheet under the P25 standards process, and Montanari said they are looking at the best way to do that. Several attendees said the spreadsheet should be part of the communications unit leader (COML) program and training. Attendees also asked if the national interoperability channels could be added in the future, something the group has been considering for a while.

Once the spreadsheet is posted early in April anyone can download it. As long as users have the software required for the different radio systems, they should be able to populate the spreadsheet with the radios' information. Some areas feature pick-lists to aid users.

The working group will continue to stay intact until the automated digitalization aspect is finalized. After that, the group will either turn it over to DHS to maintain or change the function of the working group to keep maintaining the spreadsheet.

(Article material extracted from the April 2, 2014, Mission Critical Communications Transmission Weekly News by Michelle Zilis, Managing Editor, and from Mission Critical Communications Magazine, June 2013)

The Transportable Area South (TAS) deployed to Valdez from March 26 - 31 in support Exercise Alaska Shield.

Tech Corner: Are You Ready for the Big One?

It has been fifty years since the 1964 Alaska Good Friday Earthquake, so it might be a good time to prepare for the next major event. I have heard over and over again that it is just a matter of time; so, why not be prepared? Building a disaster supply kit is a good way to ensure you are prepared for the worst case scenario. A disaster supply kit is simply a collection of basic items your household may need in the event of an emergency.

You may have to evacuate at a moment's notice and only be able to take the essentials with you. It is very doubtful, you will have the time to search for the supplies you need, or shop for them. Ensuring you have assembled your kit well in advance of any disaster and keeping it near an exit, so it can be grabbed in a hurry, is the best approach.

Even if you don't have to evacuate, you may need to survive on your own for an undetermined amount of time after an emergency. This means you should have sufficient quantities of food, water and other necessities on hand to last for a minimum of 72 hours. Local officials and relief workers will be on the scene quickly after a disaster, but they cannot reach everyone immediately. You might get help in a few hours, or it might take days.

Additionally, basic utilities and services such as electricity, gas, water, sewage treatment and telephones may be cut off for days, weeks or even longer.

Your supply kit should contain items to help you manage during these outages.

A "basic" emergency supply kit should contain:

- One gallon of water per person/per day for at least three days (for both drinking and sanitation)
- Prescription medications and glasses (watch expirations dates and rotate medications regularly)
- Food - at least a three-day supply of non-perishable items. (Ramen noodles may not be your first choice for a meal, but they store well and will provide you with a hot meal, if you have a heat source and cooking utensils)
- Battery-powered, or hand-crank, radio and a NOAA Weather Radio with tone alert and extra batteries for both
- Flashlight with extra batteries
- First aid kit
- Whistle/mirror to signal for help
- Dust masks to help filter contaminated air
- Plastic sheeting and duct tape to shelter in place
- Moist wipes/towelettes, garbage bags and plastic ties for personal sanitation
- Wrench or pliers to turn off utilities
- Manual can openers for food
- Local maps
- Cell phone with chargers, inverter or solar charger

Consider adding the following important additional items:

- Infant formula and diapers, if necessary
- Pet food and extra water for your pets
- Cash or traveler's checks (remember your debit and credit cards may not be good until the power is restored)
- Important family documents such as copies of insurance policies, wills, identification and bank account records in a portable, waterproof container. You can use the Emergency Financial First Aid Kit (EFFAK) developed by Operation Hope, FEMA and Citizen Corps to help you organize your information
- Emergency reference material such as a first aid book
- Sleeping bag or a warm blanket for each person (consider the Alaska cold-weather climate)
- Complete change of warm clothing including a long sleeved shirt, long pants, socks and sturdy shoes
- Household chlorine bleach and medicine dropper (When diluted, nine parts water to one part bleach, bleach can be used as a disinfectant. In an emergency, you can treat water using 16 drops of regular household liquid bleach per gallon of water. Do not use scented, color safe or bleaches with other added cleaners)
- Fire extinguisher
- Matches in a waterproof container
- Feminine supplies and personal hygiene items
- Mess kits, paper cups, plates, paper towels/napkins and plastic utensils
- Paper and pencil
- Books, games, puzzles or other activities for children

I, like many Alaskans, have a recreational vehicle (RV) where I maintain most of my emergency supplies year round. It is located within walking distance of my residence and is our designated meeting place in case our residence is uninhabitable. It is always stored with a full tank of gas and propane, and my wife and I both keep a set of keys handy. We're ready, are you?

A follow-up discussion regarding personal backup generators will appear in the next issue.

(Article submitted by Mr. Rich Leber, Operations Management Office Technical Advisor, with excerpts taken from FEMA "Building Your Basic Disaster Supplies Kit," Last updated: January 28, 2014)

Why the Rush to Voice over LTE? (continued)

will, in fact, become a reality sooner rather than later over the Public Safety LTE network.

Over time, all of these issues will probably be addressed and resolved, but for now it is not wise to bet the farm on that fact and within a certain timeframe. Instead, the smart course of action is to place the NPSBN into operation as a data/video only network, learn how to manage the available network capacity and see what types of applications are needed and which are used. From that, and with some careful gathering of metrics, we should then be able to determine if, and when, the network is capable of supporting voice and, if so, what type of voice services should be offered.

One thought is to use PTT voice over LTE, interconnected to the LMR voice networks only for improving Public Safety voice interoperability, but keeping true dispatch and field operation on existing LMR channels. Wireless technology is advancing at an amazing pace, but those passing laws and making decisions about the future of wireless only know about their handheld devices, tablets and perhaps laptops connected to commercial broadband wireless networks. They don't know that voice communications are the lifeline of the first responder community and MUST be available no matter what.

If first responders cannot communicate via voice, even if they have interoperable data and video, they are putting their lives and the lives of all citizens at risk.

To those who believe VoLTE will be able to replace LMR Public Safety voice anytime in the near future, "Will you bet your life on it?"

(Excerpts from Real World Wireless Intelligence e-newsletter by Andrew Seybold, January 2014; pie chart taken from Mission Critical Magazine, 2014 Reader Survey Highlights, Paula Nelson-Shira, February 2014)

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FACTOIDS

First Quarter 2014

System Voice Calls (cumulative)
3,331,227

System Data Allocations (cumulative)
955,925

Subscribers (end of March)
18,575

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