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UCAN Sets the Standard for 800 MHz Rebanding

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- *Steve Proctor, Executive Director, Utah Communications Agency Network*

Situation: Rebanding UCAN's 18,000 user radios

The Utah Communications Agency Network wanted to help its member agencies quickly comply with the FCC's mandate to reband radios that operated on specific 800 MHz public safety frequencies. At the same time, UCAN wanted to ensure that users of its mission-critical statewide system experienced uninterrupted communications during the transition.

Solution: Collaboration, communication, and standardizing the process

UCAN pulled together a rebanding team that included representatives from its member agencies, the FCC's Transition Administrator, Sprint/Nextel, Motorola, ADCOMM Engineering, and suppliers. Together the team negotiated a realistic reimbursement model and developed a standardized rebanding process. The UCAN team then held informational meetings with its members and offered to manage the process to help accelerate the transition and reduce disruption.

Results: Reduced interference, better communications

With Stage 1 rebanding (clearing channels in the 806-909 MHz and 851-854 MHz spectrum) nearly complete, agencies are well on their way to significantly reduced interference, a better communications system, and access to a contiguous block of spectrum adjacent to 700 MHz.

Benefits

- Standardize the rebanding process
- Accelerate the transition
- Reduce disruption and interference
- Improve commuications

"I can't think of any UCAN meeting we went to where there was opposition about what was taking place and how the rebanding would move forward. It all went smoothly and without a hitch."

- Tim Slocum, Correctional Technology Administrator, Utah Department of Corrections

Meeting the FCC mandate for 800 MHz rebanding

Successfully resolving challenging problems nearly always begins with identifying and collaborating on a common pain point. For the Utah Legislature, the initial problem was providing interoperable communications for the state's public safety agencies.

The Legislature formed the Utah Communications Agency Network (UCAN), a quasi-state agency whose members represented its radio user base, to build and install a statewide interoperable radio communications system. Since its inception in 1997, UCAN has grown to support over 18,000 users representing over 100 member agencies throughout the state. The Motorola 4.1 digital capable SmartZone wide area system provides instant interoperability for State and Local Law Enforcement, Fire, EMS, Public Works, and Corrections, enabling them to work together during emergencies as well as on a day-to-day basis.

The system's first major test was providing communications for the 2002 Winter Olympics in Salt Lake City where, in the course of 17 days, more than 10 million radio transmissions were successfully processed. The interoperability of the UCAN system proved especially critical for Weber County, Utah, where the giant slalom event was held.

"Weber County borders six other counties; three are on the UCAN system, three are not," says Sheriff Brad Slater, Weber County Utah. "UCAN gave the six counties, as well as the ski patrol, the ability to seamlessly communicate in order to conduct joint search and rescue operations."

The second challenge arose in 2004 when the FCC ordered the reconfiguration of 800 MHz frequencies to help reduce interference from commercial wireless carriers on public safety systems. The rebanding effort was complex, time consuming, and required potentially having to touch every radio multiple times. For UCAN, the largest communications system in Utah, this meant transitioning approximately 18,000 radios to the new frequencies, while maintaining the current high standard of service for its users.

UCAN steps up to lead the charge

True to form, UCAN followed the same successful formula that had served them well during the early days of developing the statewide public safety system – collaborating and communicating with its member agencies.

"Everyone was concerned about how to pull it off," says Steve Proctor, executive director, UCAN. "We knew it would take a bite out of our every day operations of maintaining and expanding the system, as well as the cost associated with the rebanding effort."

Proctor wanted to find a way to get through the process as quickly and easily as possible and with the least disruption to UCAN's users.

"We made the decision to be first in line and wanted to make sure the funding was there," Proctor says. "We wanted to be a trend setter and hopefully, through our experience, provide some leadership and guidance to others facing this transition."

Proctor pulled together a team consisting of Motorola, ADCOMM Engineering, representatives from UCAN's user base, Sprint/Nextel (who was funding the transition), and the FCC's Transition Administrator (TA) to fully understand the process, impact, costs, and develop a comprehensive reconfiguration implementation schedule. Concerned that the FCC's reimbursement model did not take into account the true labor involved, Proctor invited the TA and Sprint/Nextel representatives to his service centers to observe a set of radios actually going through the rebanding process.

That demonstration not only ensured that the reimbursement aligned with the reality, it also set a standard so that the need for continuous negotiations was significantly reduced.

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– Gary Lancaster, Consultant, ADCOMM

The rebanding begins

Once the negotiations were complete, UCAN began communicating with users several months before beginning the rebanding process. UCAN's rebanding team, including Motorola and ADCOMM, travelled to each region and held town hall meetings to ensure that users understood what had to happen, explaining how and when the process would take place, and listening to their concerns. UCAN then offered the rebanding team's services to guide its members through the implementation,

Although some agencies had initially planned to do the rebanding themselves, they quickly realized that working through the negotiations process, managing the level of detail involved, coordinating the vendors who would perform the rebanding, and taking all of the other necessary actions would be overwhelming.

ADCOMM began the process by helping each agency identify and inventory which radios could be rebanded and which would need to be replaced, and entering that information into the Frequency Rebanding Agreement for approval. The next step was to then deliver the radios to a warehouse for distribution to regional rebanding depots that had been set up and staffed by Motorola technicians.

"Accountability can become a big problem when you're dealing with thousands of radios at a time," says Gary Lancaster, consultant for ADCOMM. "Having everything shipped to the central warehouse gave us much better accountability for the equipment. Then having the technicians set up in regional depots accelerated the process dramatically versus having to go to each agency's location to do the upgrade."

However, the rebanding team understood that it would be impractical for some agencies to send their radios to the depot. For those agencies, Motorola sent a team of technicians out to the site.

"When you take a fire truck out of service, you're also taking fire fighters out of service, so we went to them," Lancaster says. "Same with the Department of Corrections. We did the rebanding at night when the inmate population is locked down for the night and they have the least amount of radio traffic."

Stage 1 of the rebanding initiative is focused on clearing channels in the 806-909 MHz and 851-854 MHz spectrum, also known as the 'lower 120.' The bulk of UCAN's Stage 1 licensees that are unaffected by the state's border areas have completed the physical reconfiguration. Stage 2, the relocation of the public safety NPSPAC channels 821-824 MHz and 866-869 MHz, is currently in process.

"A huge positive all the way around"

Once the rebanding is complete, public safety users will experience significantly reduced interference and access to a contiguous block of spectrum adjacent to 700 MHz.

"It's really a huge positive all the way around," says Proctor. "Some of our agencies that were using older equipment that could not be rebanded received new equipment through this initiative. In many cases, the new radios were actually better than what they originally had and the FCC bench check to have them brought up to spec again was a tremendous benefit."

Meeting the FCC mandate for rebanding through collaboration, ongoing communication, and taking each agency's needs into consideration, Steve Proctor and his rebanding team made what could have been a very challenging, very costly initiative much easier and more cost effective.

"UCAN's number one goal is to make sure the communications they provide to 18,000 users is uninterrupted," says Tim Slocum, correctional technology administrator for the Utah Department of Corrections. "Most of the time it only took about an hour from the time a radio arrived at the depot to the time it was out the door."

Lessons learned and keys to success

For those facing the rebanding effort, Proctor offers the following advice:

- Make sure you understand the real costs and use that as the basis for negotiation
- Inform your users up front about what's happening and how it will all play out
- Have your consultants and suppliers present to address questions
- Sit down with your vendors one-on-one and make sure they understand the process
- Hold weekly team meetings to review what's been done and what happens next
- Have spare radios available for users in case there is a problem
- Set up a warehouse for collection/distribution of radios
- Have your vendor set up regional rebanding depots

"I can't think of any UCAN meeting we went to where there was opposition about what was taking place and how the rebanding would move forward," Slocum says. "It all went smoothly and without a hitch."

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Motorola, Inc. 1301 E. Algonquin Road Schaumburg, Illinois, 60196, U.S.A.
www.motorola.com/secondnature 1-800-367-2346