



CASE STUDY Cobb County, GA 800 MHz Frequency Rebanding

CUSTOMER PROFILE

Cobb County, Georgia is located in the Atlanta, Georgia metropolitan area. Within the county, 24 tenants share the radio communications system. Additionally, 35 public safety agencies have the Cobb County radio system Talkgroup resources on their radios. Adding to this, Cobb County has interoperability requirements with a total of 7 jurisdictions. Cobb County is also a member of the Atlanta Area ITAC group, Urban Area Security Initiative (UASI), and the InterOp Area 7 group.

TECHNOLOGIES

Cobb County's rebanding involved Motorola SmartNet and a digital SmartZone Astro P25 systems as well as MOSCAD fire alerting system. In addition, the project required maintaining interoperability with other Motorola trunking systems in the region and the Atlanta Area ITAC conventional radio channels.

CONTEXT OF ASSIGNMENT

The Cobb County rebanding implementation is one of several planned for the region and requiring wide-area planning. The project was complex since it involved Motorola SmartNet and SmartZone Astro P25 networks within the County. In addition to maintaining regional interoperability, the rebanding plan had to address migration of SmartNet subscribers to the SmartZone P25 network. This assignment involved working closely with the Motorola Rebanding Project Manager and the Cobb County representatives in order to inventory subscribers and Fixed Network Equipment (FNE) affected by rebanding. Other tasks included the analysis of new frequencies for intermodulation problems, the determination of modifications to Cobb County's subscribers and radio networks required for rebanding, and the planning for subscriber updates needed for others in the region to maintain interoperability throughout the cutover.

COMMDEX SOLUTION

CommDEX started the process by researching and documenting the existing infrastructure and subscribers for both systems, a task that required reading existing subscriber radio templates. A full system inventory was conducted to collect Fixed Network Equipment (FNE) and Subscriber Equipment data. Based on the data collected, rebanding analysis was conducted to determine if these items needed to be re-tuned, reprogrammed, or replaced. This process included reviewing existing frequencies to identify the control vs. voice channels, the identification of Failsoft channel requirements, and the verification that the licenses matched the frequencies in use. This information was analyzed to determine the satisfactory operation of the proposed frequencies on the existing transmit combiners and the receiver multi-couplers to eliminate any intermodulation problems. A Suitability Assessment for all equipment was performed to determine if any equipment required re-tuning, reprogramming, or replacement. CommDEX then developed new equipment lists for the replaced equipment.

Once equipment requirements were defined, CommDEX prepared an implementation plan that addressed the migration of the existing subscribers to ensure continuous interoperability. The cutover and fallback plans for the FNE were developed to ensure that the equipment always had a recovery plan for all cutover stages and also to ensure minimal impact on critical communications during the migration. Pre- and post- radio system tests were developed to verify that system performance was comparable after rebanding. A Final Acceptance Test was included to guarantee that no system functionality was lost.

CommDEX also developed a detailed Scope of Work and a project timeline for the project, stating the responsible party for and timeline for each task and the timeline allocated for completion. These were submitted to all entities sharing the system and their concurrence obtained for the plan.

The planning effort began in August, 2007, and the implementation is scheduled to conclude March, 2011.

COMMDEX ROLES

CommDEX served as the field project and technical engineering lead for the rebanding effort, working closely with the Motorola state project manager and the Cobb County representatives. CommDEX analyzed the existing communications infrastructure, designed, scoped and priced the technological migration path for the existing systems, communicated with representatives and clients, and successfully negotiated rebanding funding for all involved parties.