

Project

Municipal Utility WiMAX

City of Georgetown deploys licensed 4.9 GHz point-to-multipoint communications



Georgetown is the county seat of suburban Williamson County, Texas, United States, with a population of just over 50,000.

System upgrades required

The city's existing SCADA network is connected to headquarters via a fiber optic backbone. The challenge was to find a solution that allowed multiple remote water treatment sites (as well as other future applications) to connect to the SCADA network while minimizing the overall latency. A higher capacity solution (>1 mbs) than the existing low bandwidth 900 MHz radios being used was required.

Proposed approach to design

Waste water lift stations are routinely placed in low lying areas, and this along with the tree covered and rolling terrain of the area raised concerns for achieving adequate line-of-sight for the WiMAX system. Professional site survey and RF design services were recommended to ascertain antenna heights that maximized LOS conditions. Fortunately WiMAX has the unique capability to operate in less than perfect LOS situations.

Spectrum selection

Siemens also suggested the use of the FCC licensed 4.9 GHz frequency band. As a muni-owned entity, the water utility was granted access to these frequencies in co-shared cooperation with the City's public safety departments.

Site surveys

Rolling terrain and foliage challenges dictated the need for proper RF engineering, system design, and integration in Georgetown. This important role was sourced to Siemens experienced INWSP

Solution Partner, Alpha Omega Wireless out of Austin. Alpha Omega also assisted with obtaining the licensed 4.9 GHz spectrum for the project, ensuring interference-free operation of the system.

Conclusion

The first several sites involved were deployed and came on line very quickly and without incident. The Siemens partner handled the entire scope of the project with the utmost efficiency and professionalism, and the net result is new connectivity to remote locations that far exceeded the previous technology. Expansion of the system is in the planning stage and the higher bandwidth provided by the WiMAX system will allow for additional applications such as voice, video surveillance and mobile connectivity to fleet vehicles.

Bill of materials

- RUGGEDCOM WiN 4.9 GHz base station radios
- 90 degree directional sector antennas
- Omnidirectional antennas
- RUGGEDCOM WiN 4.9 GHz subscriber radios
- RP100 rugged POE injectors



RUGGEDCOM WiN 7200 and WiN 5200

Client:

City of Georgetown, TX

Start of Project:

June 2013

Completion Date:

December 2013 (and ongoing)

Reference:

City of Georgetown
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Project Budget:

\$25,000 Phase 1

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