



CTH Solution Story

Corporation of Delta

Background

Corporation of Delta is a city located in the lower mainland of British Columbia, Canada with a population of 97,000. The physical square area (100sqkm) is considered large compared to most other cities in the lower mainland. The city maintains and operates their own SCADA system for water, wastewater and drainage.

Challenge

The physical square area of Delta and the fact it has a bog in the middle of the city gives it some interesting challenges. It is a unique city in that most of the area is only a few feet above sea level which presents unique challenges with respect to maintaining their water and wastewater system.

Delta operates and maintains their own water system, thus having a maintenance team that works on the pump station, lift station and PRV stations. The operations team, where the SCADA group resides is tasked with keeping the water system up and running ultimately keeping its customers happy. The team's performance is based on customer satisfaction which translates to keeping the SCADA system up and running at all times, uptime is critical to the operations department.

The SCADA system is comprised of radio based communications, 900mhz to each station, Motorola RTUs at each station for monitoring and/or control and a SCADA host HMI for viewing the data back at the operations yard. The city has over 100 RTU's installed and growing, the geography of Delta and the location of the stations makes for a very inefficient and time consuming process to visit the station to perform RTU changes.

The RTU's run on a "report by event" which means they report back to the HMI on an event change, as well the RTU's are polled for historical data every 15 minutes. This type of configuration can be a burden to the RF network traffic and cause bottlenecks because of how busy the network is with the polling portion, this then may cause data to be delayed getting back to host.

Solution

"A quiet SCADA system is a good SCADA system" was the approach taken by the city. They wanted to reduce the radio airtime by reconfiguring the Motorola RTU into more of a "report by event" RTU. They set all the RTU's to bring back the historical data on event rather than ask for it every 15 minutes. Seeing the



immediate benefits from this one change they felt comfortable enough to reduce the time they performed a "poll to keep alive" from every 15 minutes to every 4 hours. This allowed them to free up more airtime for more "critical" RF data from the RTU's.

Benefits

With every change there has to be a measurable benefit for the user, in case of Delta they have seen the following improvements.

- More RF airtime means they can expand their RTU installation without having to purchase higher throughput radios.
- They now can perform over-the-air modifications to the RTU's without having to visit each site, a saving in man hours and wear and tear on city vehicles.
- They now can perform over-the-air modifications to the RTU's without having to shutdown the SCADA system, meaning more uptime.
- Less wear and tear on the radios.
- More airtime means they can now think about doing more with the SCADA system.