

## Unifying diverse PLCs and RTUs under a single SCADA HMI

### The story of Lake Worth, Florida

The City of Lake Worth, Florida, nestled halfway between West Palm and Boynton Beaches on the sunny Atlantic coast, is steeped in history and has a thriving population of 35,000 residents.

To provide clean water and sewage management services to these residents, the Lake Worth Utilities department maintains a network of water management facilities, including 26 lift stations and a water treatment plant. In 2002, after installing a Digital Control Corp. (DCC) pump controller network, the City faced the task of creating a central point of communication with these new devices and their existing DataFlow Systems (DFS) lift station RTUs. Neither DCC, nor DataFlow Systems, was able to provide a communications interface to access both networks from the same application and so the Utility turned to Trihedral Engineering Limited and VTScada™, a software product developed specifically for this type of application.

VTScada has the unique ability to provide synchronous monitoring and control for numerous telemetry devices, including DCC controllers and DFS RTUs, within a single application, running in a Windows environment.

Trihedral provided a VTScada application to communicate with both pieces of hardware, and placed the application on a server located in the water treatment plant. Doug Lovelace, a plant staff member, designed the display screens using the VTScada drag and drop toolset. "What I was able to do was to consolidate everything onto one screen with jump boxes to screens for the individual sites. This has been much more functional than the screens that the vendors provided. This has made a great improvement in the speed of interpreting the system data."

He also used the software's integrated area-partitioning capabilities to divide the application into two separate interfaces; one for the collections system and one for the water treatment plant. The application included hot-backup redundant server support, remote configuration and control client interfaces, and a VTScada Internet server. Automated alarm call-out features were utilized by late-shift plant operators to inform them of alarm conditions while away from the control room.

Since the initial installation, the Utility's telemetry system has continued to grow. The VTScada application now monitors the alarms and status of the backup power generators that have been added to the water treatment plant and some of the wet wells. Also, new monitoring and control hardware has been integrated including Bristol Babcock and Motorola RTUs and Allen Bradley PLCs. These devices have been integrated into the existing VTScada system by independent integrators. The City continues to expand its software system, adding new clients and features as new requirements arise.



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