

TAKING LEGACY HARDWARE & INTEGRATING IT INTO A CONTEMPORARY PLATFORM FOR A WATER UTILITY

"Speak, friend and enter" - *Gandalf the Grey*

Industry
Utilities

Sector
Water & Sewerage

Segment
Sewage

Project

The Client is a water and sewerage utility responsible for managing over \$2bn worth of assets. The Client developed a SCADA roadmap to move their legacy CitectSCADA systems to ClearSCADA and identified that in their networks over 50 legacy Elpro RTUs needed to be migrated but they did not support the preferred DNP3 communications. Rather than replace the RTUs a more cost effective solution was identified, develop a communication gateway and test it on a system with a small number of RTUs to prove the concept then roll it out to the remaining sites as required.

Cromarty were engaged by the client to develop, implement and test an Elpro RTU to DNP3 gateway.

Solution

The solution needed to allow parallel operation of the existing CitectSCADA system while the ClearSCADA gateway solution was implemented and tested. Cromarty selected a Red Lion Graphite Edge controller because of its proven performance with DNP3 and ability to develop custom serial protocols drivers. Works included:

- Review and analyse Elpro interface protocol
- Develop read/write serial interface to Elpro RTU
- Develop Elpro traffic serial pass through to/from Citect for seamless integration to existing system
- Develop bi-directional data interface to DNP3 points
- Develop and execute comprehensive factory test plan
- Develop and implement comprehensive site test plan
- Ensure the solution was scalable for 50+ Elpro outstations on the same radio network

Outcome

The solution was implemented in parallel with the existing CitectSCADA system, this allowed testing of ClearSCADA and DNP3 communications to be performed whilst being operated from the existing control system. This significantly reduced the risk of the migration and provided a benchmark for testing. Going forward upgrades to the existing telemetry network were not required, no changes were needed at the existing outstations which significantly reduced the risk of the overall Citect to ClearSCADA migration and the solution was scalable to accommodate the 50 Elpro RTU outstations.