Utilities – Hydro One Brampton

Background

This project is a large critical transformer station integrated protection, control and metering system developed by ESAC, completed in 2002. It was developed in tandem with a similar project for Vaughn Hydro [Now PowerStream completed in 2001]. The management of each location saw the monetary benefits of automation. With an ESAC system, management acquired the reliability and accuracy they needed in their new electrical distribution systems.

Approach and Methodology

With over 20 IEDs in the system, reliable communications are necessary. Powered with ESAC self-healing communications, each of the IEDs successfully communicates important information such as breaker position status, voltage, current, and protection status to the operator. Screens inform the operator of the current system state and allow control if authorized to do so. SER (Sequence of Events Reporting) and loading reports created by the ESAC as a key source of important operational information. The data from the reports is used to generate appropriate operational guidelines, maintenance schedules, and load growth assessments.

Key Challenges

In order to monitor their various locations closely, management requested a channel reaching each of the existing and future SCADA locations in Brampton. This channel would communicate audio, video and data signals to their central offices. Since the scalability and reliability of the system was of utmost importance, ESAC utilized a self-healing fiber-ring communication system to link all such locations around the city.

Ongoing Support

Considering maturing technologies (Software & Hardware) and changing owner's staff, ESAC has addressed system migration with additions and training. ESAC completes small projects and maintenance visits as requested with pre-assistance for technical details and budgeting.