

**Client : Electricity Distribution Company**

**Project: Monitoring and Control of OHL & Underground Cable Protection Equipment**

Technology Integration has been developing Monitoring & Control Systems for over 20 years. Our solutions are architected in-line with client’s target system requirements. The Power Distribution system, like most industrial systems, is built on a collection of closely integrated series of application and sub-application that facilitate the operation and management of the distribution network and its assets.

Our proposed solution was a Core Power Distribution SCADA System architecture. The main feature of the design was its scalability both horizontally and vertically to accommodate new devices, new DMS application, and adding extra operators stations.

The proposed architecture included a full design and integration of a series of hardware platforms with a series of software applications. The result was a complete system that is scalable both horizontally and vertically as mentioned.

The main development environment was NI’s Graphical Development System. It is at the core of the application architecture. The head-end communication system is based on Kepware Technologies Power Distribution Suite, that supports all the required protocols for both communication with the SCADA Main ( device drivers ), and other applications in DMS ( OPC server ) as needed in the future.

The suggested hardware for the servers and the operator workstation was of the high reliability class machines that included all the required features that contribute to the uptime time of the systems and the architecture as whole.

The internal network of the system was based on a high speed Ethernet to handle high data transfer speed, while maintaining a very good reliability feature.

To best describe the architecture, it was divided into three sections which are:

1. The head-end Communication System.
2. The Application Server System.
3. The Client Application System.

