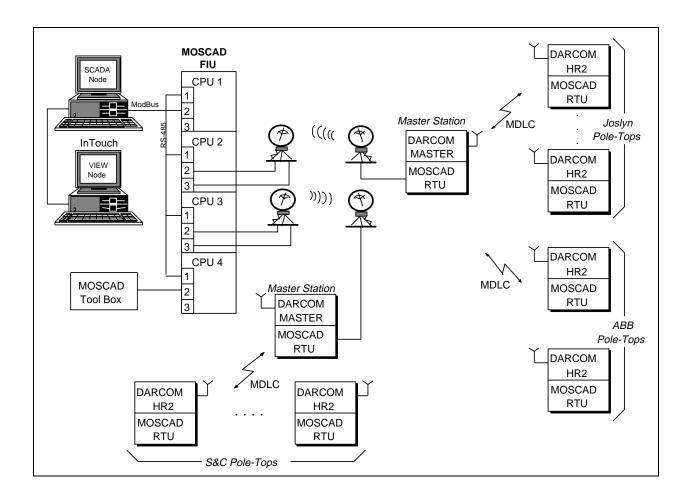


Cincinnati Gas and Electric (CG&E) Distribution Automation (DA) System

Electricity Application

Project Description



GENERAL

CG&E has placed an order with Motorola Inc. for the supply of an advanced radio communication pilot system for their Distribution Automation (DA) system. In this project, CG&E has decided to use Motorola's system in order to check three different types of switches.

The new system, based on Motorola's advanced MOSCAD RTU, monitors and controls the following three switches: ABB switch, Joslyn sectionalizer switch, and S&C SCADA mate feeder switch. Detailed analysis of the AC power is made possible through the sophisticated MOSCAD AC Analyzer.

MOSCAD & MDLC

In this pilot project, the MOSCAD RTU allows for remote monitoring and controlling of the functions available from each of the switch types.

The MDLC communication is implemented over existing 9,600 bps microwave system and 4,800 bps MAS radio system. Store & forward features are employed for those RTUs that do not have a reliable direct MAS path. The MDLC protocol supports polling and contention modes of operation.

SYSTEM OVERVIEW

The Master Control Center (MCC) consists of one main SCADA node to monitor and control the DA functions, and one VIEW node to monitor system activity. The two nodes, based on Wonderware's InTouch for Windows SCADA software, exchange information via RS-232 using NetDDE (Network Dynamic Data Exchange).

The MOSCAD FIU communicates with the main SCADA node using ModBus protocol. The MOSCAD FIU consists of four CPU modules, allowing connection to: Intouch SCADA node, microwave systems, and Programming Tool Box.

CAPACITY & FUTURE EXPANSION

The system includes 10 MOSCAD switch controllers for the three types of switches used in this pilot project.

CG&E has acquired one of the most advanced state-of-the-art switch controller. Because of the MOSCAD modular construction and capability to interface to diverse communication media, CG&E could migrate three different types of switches into one DA system. In the future, it will remain the decision of CG&E to move forward with any type of switch, based on their financial/design considerations; MOSCAD will be there to control them

FEATURES	BENEFITS
MDLC communication protocol	Optimized, efficient, and reliable data communication to handle large volumes of data over various communication media
MDLC-MODBUS connectivity	Allows connection to InTouch of Wonderware SCADA software
Multi-protocol processor based on Motorola 68302	Allows multi-tasking operation with on-line network monitoring, traffic analysis, on-line diagnostics, remote monitoring and error logging
Upload/download capability	Application program can be easily changed and downloaded to the RTUs in the field
Remote diagnostics	Permits maintenance staff to identify and correct problems at the RTUs from any site in the system

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