idea integration

CASE STUDY

COUNTRY OR REGION:
United States

INDUSTRY:
Energy, Utility

SOLUTION

After a careful examination of the current system, Idea Integration proposed a consolidated server solution based on Microsoft Windows 2003 server. Under the new design, the essential components of the system will be consolidated in a single rack located at the Primary Water / Waste Water plant, where the original servers were located. Due to a customer requirement that stated that the Primary site has to be located in the building occupied by the SCADA engineering team. Backup site location was proposed to be at the JEA corporate server room. Even though there were no SCADA software changes, Idea Integration team proposed an upgrade to Microsoft Window 2003 Server, to increase the reliability and security of the overall system.

JACKSONVILLE ELECTRIC AUTHORITY – SCADA SYSTEM

CLIENT SUMMARY

JEA, established by the City of Jacksonville in 1895, is the largest community-owned utility in Florida and the eighth largest in the United States. With multiple generating plants and net generating capability of 2,361 megawatts, the JEA electric system currently serves more than 360,000 customers in Jacksonville and parts of three adjacent counties. JEA's water system serves more than 240,000 water customers and 186,000 sewer customers, or more than 80 percent of all water and sewer utility customers in our service area.

CHALLENGE

SCADA is the acronym for Supervisory Control and Data Acquisition. The term refers to a large-scale, distributed measurement (and control) system. SCADA systems at JEA are used to monitor or to control chemical and physical processes on Water and Waste water systems. In the original configuration, primary were located at Water / Waste Plant and consisted of Industrial SQL, an HMI (Human Machine Interface) access server and a development server. Human Machine Interface clients computers (HMIs) are located at the same plant development clients. Programmable Logic Controllers (PLCs) are located throughout the JEA water and waste water systems.

SCADA's data is duplicated with Pi, Programmable Logic Controllers monitoring and recording system. Data is being accessed and modified by Human Machine Interface (HMIs) machines. HMIs are also responsible for water and waste water pump control based on the data contained in InSQL servers.

Original SCADA infrastructure consisted of the multiple hardware components located at four different locations with no disaster recovery or fail-over servers.

Idea Integration was challenged with evaluating the current state of the SCADA system, and proposing a solution for hardware upgrade, server consolidation and disaster recovery for servers involved in Water/Waste Water SCADA system.