

Case Study: DNP3 Protocol Master/Slave for Solaris Gateway

Provider Name : KALKI Communication Technologies (P) Ltd.
Client Name : US Utility Integration Solutions Major
Project Title : DNP3 Master and Slave Protocol Driver for Solaris

The Problem

The client, a Major US Utility Integration major and working closely with ISO's, required to integrate their out-station RTU's with the central SCADA system. This required the implementation of a gateway system that will collect out-station Rtu data using a DNP3 Master over a serial interface in a multi-drop mode and provide this data to the central SCADA using DNP3 over TCP/IP. This was implemented using DNP3 SCL implemented on Solaris platform.

The Solution

The stated protocol was developed using the following Resources:

1. SUN Solaris System
2. DNP3 specifications
3. Standard Device profile for the Slave and Master was supplied by the customer

The said gateway shall act as an intermediate host collecting data from the out-station RTU's and supply the same to the central SCADA over DNP3 TCP/IP. The gateway program also supported data aggregation, database interface and a web-based configuration interface for configuring the gateway functionalities.

The application was developed using ANSI C compliant DNP3 source code libraries. The project was implemented in an Off-shore mode, with the majority of development happening from our off-shore development center in Bangalore, and the integration, commissioning and handing over done onsite at customer premises.

Tools Used:

- GCC Compiler on Solaris
- DNP3 ANSI C Source Code Library
- DNP3 Test Simulator