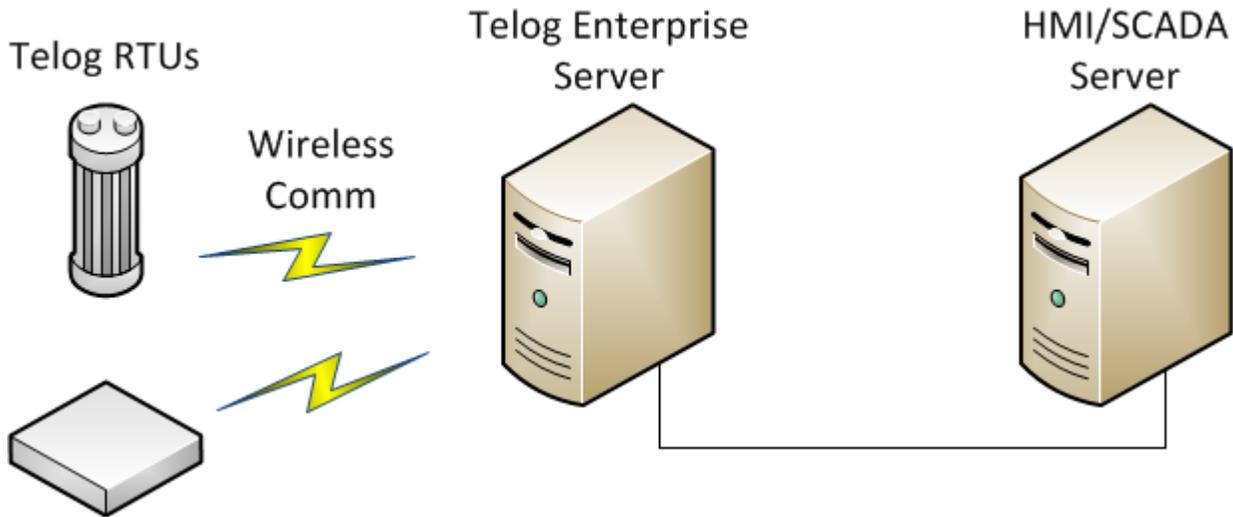




Telog Enterprise & SCADA Interface



Overview

This document gives a conceptual view of how Telog Enterprise remote data acquisition systems can interface a HMI/SCADA system. Four methods for transferring data from Enterprise to a HMI/SCADA system are described in this document plus one for transferring data from a HMI/SCADA system to Enterprise; all are low cost and relatively simple to implement.

Telog Enterprise data are stored in a Microsoft SQL database - MS SQL Server 2005, 2008, 2012, MS SQL Express 2005, 2008 or 2012. All data from the Telog remote RTUs are first brought into the SQL database and then shared through Enterprise via the Telog Web Module, Enterprise Client or third party software via one of the methods below.

SQL Queries

Our most popular automated method of data transfer is via SQL queries. This method is the most flexible and allows users to extract precisely the data they need. Telog provides all the necessary information to successfully query an Enterprise database. Telog provides the database schema, sample database and sample query for customers choosing this method of data transfer. Our customers simply setup SQL queries for their HMI/SCADA database which transfer the desired data from the Telog Enterprise database to their HMI/SCADA system using the information Telog provided.

ModBus Interface

Enterprise software will respond to ModBus queries using the Telog ModBus Emulator (TME). If the HMI/SCADA software can communicate using ModBus over an Ethernet (MBE) connection then you can poll the Telog TME. The TME will emulate ModBus tags and registers for each Telog recorder channel in your Telog System.

The TME will maintain the most recent readings for each of the recorders and store them in the appropriate registers. To the SCADA software it will appear as though it is talking directly to the remote units.

OPC

The OPC driver uses industry standard OPC protocol; it allows SCADA software to collect Telog RTU data from the Enterprise database. In this method, an Enterprise OPC Server makes data available to the HMI/SCADA system application. These data are updated during each communication with a remote recorder. OPC is a more flexible interface protocol than the TME but less so than SQL queries.

Export Feature

Telog Enterprise software has an export feature which enables users to manually export data into CSV files. Data are selected using the Enterprise Client application or Telog Web Module. One chooses the desired measurements and timeframe and then employs an export feature which converts the chosen SQL data to CSV format and stores in a user named file. These data can then be imported into the SCADA database using its CSV import capabilities. The data export can be invoked manually or scheduled for automatic exportation.

Importing SCADA Data into Enterprise

Telog's *SCADA Module*

The Telog *SCADA Module* allows data that are captured by a SCADA system to be imported and stored within Telog Enterprise. Because most organizations are concerned about maintaining the security of their SCADA system, data transfers from SCADA to Enterprise are strictly on a push basis.

Typically Telog customers have a firewall between their SCADA system and their Enterprise software. That firewall is configured such that communications can't be initiated from outside the firewall. Telog's *SCADA Module* will never initiate SCADA data transfer; it waits for data to be pushed to it from the SCADA system. This design helps maintain the security of the SCADA system by blocking attempts to access the system that are initiated from outside the firewall.

Because of the security architecture, there are two main components to the Module. One component is software which resides within the SCADA network that collects and pushes the data to the firewall. The other component is software that waits on the other side of the firewall for the pushed data; when those data appear the software then imports the data into the Enterprise database.