



Automatic Meter Reading
United Arab Emirates/Middle East

Automatic Meter Reading for a Centralized Power Meter Application

Project Background

Automated meter reading (AMR) technology automatically collects data from devices such as electricity, water, and gas meters, and transfers that data to a central database for billing or analysis.

A particular tower in the Middle East has a high density of devices and communication mediums on each floor. In addition, the control room needs to gather and monitor a great deal of information including security alarm signals, air conditioner controls, signal controls, power meters, etc. However, there was insufficient space to install serial communication wiring to connect the power meters to the control room. Since an Ethernet network was already installed, the client wanted a solution that satisfied the following requirements:

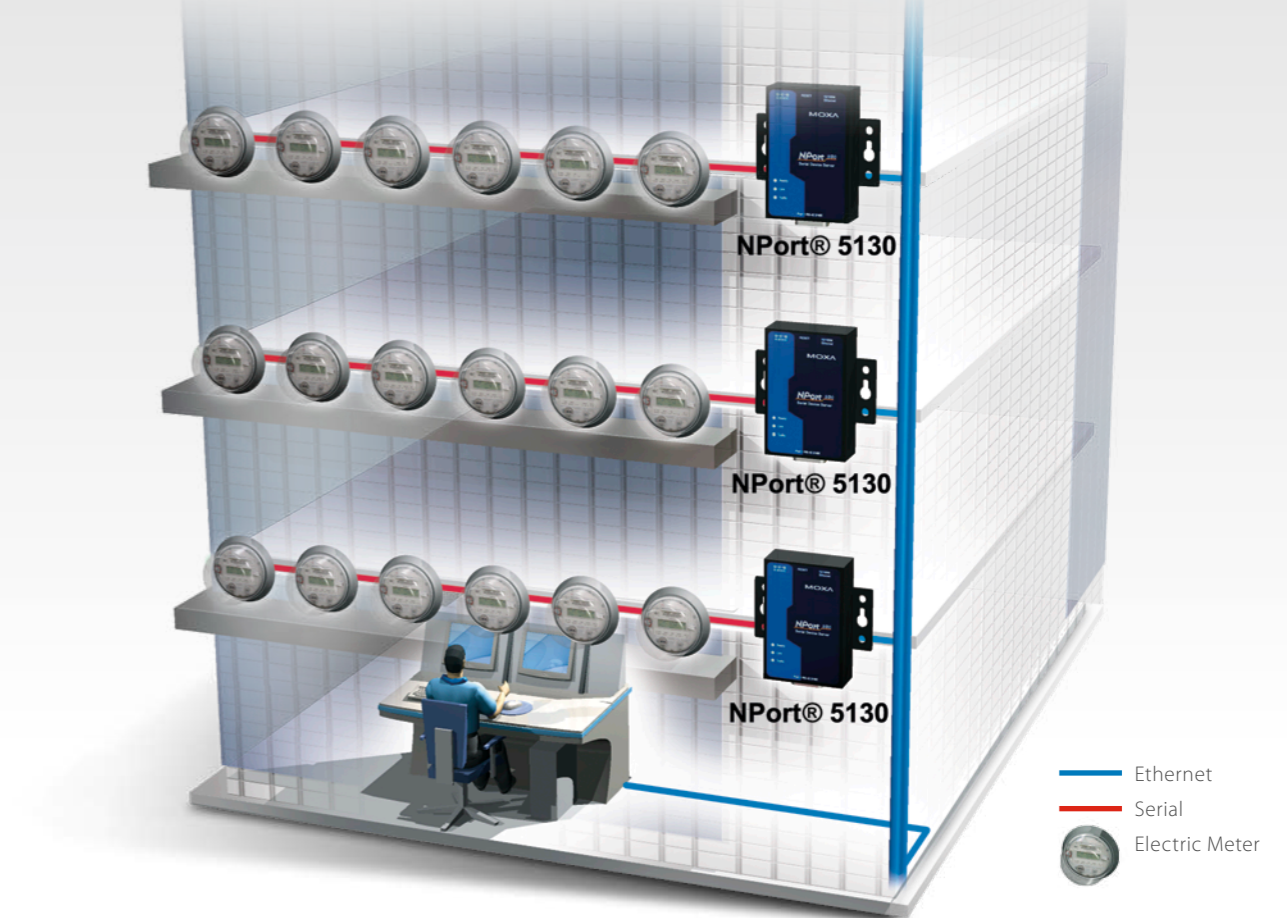
- ◆ Data transmission from each group of power meters to the control room
- ◆ Minimal additional wiring space
- ◆ Minimal additional IP addresses

Moxa's Solution

The power meters were connected to one of the NPort® 5130's serial ports, which exchanged signals with the control room via Ethernet. By utilizing the existing Ethernet network, serial signals from the power meter could be transferred without additional wiring effort. An additional advantage of the NPort® 5130 is multi-drop support for up to 31 serial devices. Thus, the control room can receive power meter data from all NPort® 5130 units in the tower over the Ethernet and satisfy the following requirements.

- ◆ Use the existing Ethernet infrastructure to transmit power meter data
- ◆ Scalable number of NPort® 5130 devices to serve all RS-485 serial interface power meters

Application Topology



Benefits

- ◆ The NPort® 5130 offers an effective serial-to-Ethernet solution for data transmission.
- ◆ No additional wiring effort or cost.

Products Implemented



NPort® 5130

- Real COM/TTY drivers for Windows and Linux
- Standard TCP/IP interface and versatile operation modes
- Easy-to-use Windows utility for configuring multiple device servers
- Built-in 15 KV ESD protection for all serial signals
- SNMP MIB-II for network management
- Configure by Telnet or web browser
- Adjustable termination resistor for RS-485 ports