Case Study

Integrated Energy Monitoring

Situation:

A leading manufacturer of energy consumption metering equipment had been successfully marketing the product line as a stand-alone sub-metering system. However, in order to broaden their market, they needed to integrate their product line with building management systems. This would enable them to market their meters for use in building energy management strategies.

Objectives:

The primary objective was to develop an interface product that would act as a gateway between the meter product line and the products of many different vendors of building management systems.

The interface product would be an optional component for the meter product line. It would be an off-the-shelf AFDtek product offered through the vendor of the metering system as well as directly by AFDtek (as FasBAC for Energy).

Challenges:

The interface needed to work with existing communications protocols supported by the metering product. The metering product itself could not be modified, updated or changed to accommodate requirements of the interface.

The interface needed to co-exist with the meter product line's workstation "front end."

Strategies and Solutions:

The strategy was to develop a gateway product that utilized the meter network's existing interface for the meter workstation. The meter workstation interface had multi-client capability. The gateway would be independent of the workstation and be able to function regardless of whether the workstation was present.

BACnet was chosen as the interface for building management systems. BACnet is a widely supported communications standard in the commercial facilities management market.

The gateway would appear to a BACnet enabled building management system as "just another BACnet device." A standardized mapping was devised to correlate BACnet objects and object properties to energy meters and their parameters.

The gateway was developed as Windows service software. It would typically be installed on the Windows computer on which the meter workstation software was installed. If the meter workstation was not provided for a specific project, the gateway could be installed on any Windows PC. The performance requirements for the PC were minimal.

Project at a Glance

Client: Carma Industries Inc.

Field: Energy Monitoring Industry

Location: Peterborough

Project: Carma Meter Manager Interface

Date of Completion: April 2004

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