AMR AND MORE

REDEFINING AMR - FROM METER READING TO CUSTOMER COMMUNICATION NETWORK

To deliver the products and services expected by a constantly changing consumer base, utilities need to change how they view automated meter reading (AMR). The first step is to shed the old mentality that AMR is just meter reading, and begin developing creative ideas based on services that consumers demand, as well as developing processes that cut costs and increase system efficiencies. With the technology available today, metering automation can be easily transformed into a virtual energy information network used by both the energy consumer and the utility.

Ever since AMR systems came on the scene thirty years ago, utilities have traditionally thought of AMR as a tool that automated the meter reading function. Even though many types of AMR system have been developed over the years, most meters in the US today are still read by a meter reader, on a scheduled read, once a month, for kWh. Business cases built on AMR technology may justify handheld meter reading devices, which improve meter reading efficiency. One-way meter reading technology using walk-by and drive-by reads may offer improvements to meter automation. Yet today, we continue to see that AMR systems have a limited impact on helping utilities to improve their business operations and offer more services to their customers.

As an industry, we need to consider how we position technology traditionally called AMR systems. We can begin by shedding the old AMR mentality, and the first step is shedding the term AMR altogether. To stay competitive in today’s market, utilities need an energy information network that provides two-way communication with their customers. Two-way communication allows the utility to gather the energy usage information needed to develop and initiate service programmes that meet customer expectations. In turn, customers have a dedicated communication link to the energy information network that allows them to actively participate in the service programmes offered.

BUILDING THE BUSINESS CASE FOR ENERGY INFORMATION NETWORKS
Utility markets are constantly changing because of environmental issues, federal energy policy, state-by-state deregulation, power generation costs, the wholesale power market, utility co-operatives, and an ageing transmission and distribution infrastructure. These outside forces are internal drivers for utilities to contain costs and stay competitive, retain customers, deliver more customer satisfaction, and promote their public image. Unfortunately, automated meter reading systems designed to just read the meter monthly were never intended to deliver the information that utilities need to help them improve customer service and streamline their daily business operations.

Typically, market segments that have diverse consumer habits characterise an electric utility’s customer base. Additionally, the customer base and the products and services driven by that customer base are in constant transition. So how can utilities remain competitive in a market where its customer base and the products and services driven by that customer base are in constant transition?

To answer that question, we need to realise that the AMR solutions developed and brought to market over the last thirty years were meant to serve niche markets. These solutions were justified by a business case built mostly on the technology itself and the size of the market segment the technology could serve. However, the business case for using two-way communication to build energy information networks that benefit both the utility and the customer is not based solely on technology and market niches.

THE BUSINESS CASE
The business case for building energy information networks is based primarily on the benefits it brings to both the utility and the customer: more efficient business operations and improved customer service and satisfaction. But to achieve that, the network must work. It must be a symphony of products where the entire system works in chorus, is cost-effective, can deliver the benefits expected of it, and has the flexibility and adaptability to continue performing well into the future. As always, consumers will drive those value added services they desire. The reason an energy information network is so unique and offers so many possibilities is that it is one of the few automated systems that can interact with the customer.

Improving business operations is an important driver when building a business case. Two-way communication networks can help utilities streamline daily operating costs by delivering energy information that traditional AMR systems cannot provide. For example, knowing the voltage at every meter provides valuable information that utilities can use to evaluate their transmission and distribution system, and help with planning for system improvements.

Cost savings can be seen in the field also. With two-way communication networks, significant operational costs can be realised that traditional AMR systems cannot deliver. For example, when service crews are sent out to restore power to a service area, the utility can verify that power
has been restored to all customers within the area before the service crews leave the area. This eliminates the expense of sending a crew back to the area to service one or two customers who were overlooked.

DELEIVERING CUSTOMER SERVICE
Consumers will drive the products and services they expect from utility providers. But to fully realise what opportunities there are for utilities to deliver additional customer services, a real two-way communication network must be in place that is tied directly to the customer. Over the next two decades Generation Y – the second largest demographic group in the US – will become a major market segment of energy consumers. This group of consumers (5 to 20 years old) is computer savvy. They are growing up with cell phones, video games, Internet shopping, on-line banking and instant messaging. Computers and technology play a central role in their lives. This generation trusts computer automation, communication networks and related technology, so it expects to have direct communication with the companies that deliver the goods and services it demands.

Ultimately, the electricity utility industry has an opportunity to market to all consumer segments if it can identify their needs, and then deliver the service that meets their needs. But to be able to identify the needs of various consumer segments, the communication network must first be in place. One thing we already know is that consumers want information about the products and services they buy so they can make informed decisions. For example, imagine the customer satisfaction that could be generated by directly communicating to customers ahead of time when a power outage might occur because of maintenance work in their area. When customers have this information ahead of time, they can deal with and plan for the inconvenience of a temporary power outage.

SOLUTIONS THAT FIT TODAY’S MARKET
The driving force behind the development of Elster Electricity’s EnergyAxis® System (a metering automation system with new intelligent, two-way communications) was to establish a business segment in which the primary function and focus of the product was to enable electricity utilities to add value to the customer service processes they offered. Elster Electricity’s goal in the product development stage of the EnergyAxis System was to engineer a fully automated, integrated metering system with capabilities that go beyond those that electricity utilities have come to associate with AMR. In essence, we planned to develop a system that would redefine AMR, not simply read a meter once a month. Instead we wanted to develop a powerful tool that would help electricity utilities dramatically improve operational efficiencies while enhancing their customer service capabilities.

The EnergyAxis System’s fully automated, intelligent two-way communications makes on-request meter reads and server-initiated commands a reality. Its two-way communications, coupled with Elster’s new electronic single-phase REX™ meter, enable utilities not only to read meters, but to change energy demand or time-of-use rates as needed, as well as start or stop load profile interval recording, or initiate a service disconnect. To further enhance a utility’s customer service capabilities, the system can automatically receive neighbourhood power outage or restoration data, local voltage conditions, outage counts and other information.
EnergyAxis® System
Intelligent Two-Way Communications

- Unlicensed 900 MHz LAN communications
- Entirely meter-based system
- Controlled mesh network
- Repeating technology for expanded coverage
- Self-registering RF meters
- Self-healing topology

Metering Automation Server
- Two-way communications to all meters
- On-request and scheduled meter reads
- Meter functionality and rates changeable on command

Elster Electricity, LLC
800.257.9754 (US toll free) - 919.212.4800 (US) - 905.634.4895 (Canada)
www.elsterelectricity.com