POWERING THE FUTURE: CASE STUDY

Oncor Uses MDM Data
to Boost Operations, Customer Satisfaction

Landis
Gyr+

manage energy better

Since a Texas utility in the final stages of one of the largest, fastest and most advanced smart meter deployments in the U.S. synced its meter data management system (MDMS) and outage management system (OMS), it has been leveraging billions of pieces of interval data every day to improve outage management customer service.

Oncor, the largest regulated transmission and distribution utility in Texas, has made inroads in leveraging AMI data and proving its value to utilities. It has demonstrated success in using AMI and MDMS in tandem with OMS to improve operational efficiency and the consumer experience.

Smart Texas

Oncor delivers power to some 3 million homes and businesses and operates some 117,000 miles of distribution and transmission line in Texas. As part of its Smart Texas smart grid deployment, Oncor set out in 2008 to merge the functions of multiple information technology systems. The goal was to collect and use 15-minute-interval electricity consumption data. Since then, Oncor has installed Landis+Gyr smart meters in much of North Texas — most of its customer base. Deployment of smart meters for all Oncor customers was completed by the end of 2012. In 2009, Oncor deployed Ecologic Analytics' MDM software integrated with a Landis+Gyr

smart meter system. At the same time, the utility deployed Intergraph's OMS.

"There was a lot of siloed thinking at the time," said Mark Carpenter, Oncor senior vice president of transmission and distribution system operations and measurement services.

The tools were designed originally for future integration with each other, but they were owned by different internal teams and used independently.

Importance of Integration

The utility recognized the importance of leveraging meter information from its MDMS to augment utility OMS data so it could pinpoint areas with outages more accurately. But with widely varying opinions swirling around the company about the value of AMI data, would Oncor be able to integrate systems and meet its objectives? Oncor's distribution operators were skeptical. They, like many others in the industry, were under the

impression that AMI generated too many false positives. The focus of the integration team was to design a system that would eliminate false positives, optimize the number and quality of alarms, prioritize system messages, and reconcile AMI and OMS data. Working with IBM as system integrator, Oncor developed a plan to link its MDMS and OMS more closely. IBM helped all the players involved understand the commonalities of the systems and establish consistency. The result was a system of systems. Each component was designed to derive valuable data. Now, Oncor dispatchers can use push-reads to validate power restoration after large storms and perform verifications with a single click.

A New Approach to Outage Management

Between March and April 2012 — within the first six weeks of completion of the system integration project — the AMI system generated more than 1,400 notifications that signaled unusual events

at smart meter locations. Of those issues that were outages, more than half were restored before customers reported them. In addition, some notifications identified failing distribution equipment, which provided the utility the opportunity to initiate repairs before an outage occurred. Although 100 percent of these events were validated as actual, only 35 percent resulted in customer calls or complaints. Most of the issues were actual outages, and others were power quality issues created by bad connections or opened neutrals. In many cases, repair technicians had visited the locations of the issues in the past, but had not identified the problem.

Oncor chief operating officer, Jim Greer, called the new approach a game changer.

"In the past, we didn't know about an outage until a customer reported it," he said. "Now, we are able to use the information from our advanced meters to diagnose and fix many issues on our system before they cause problems."

Oncor is beginning to recognize clear patterns in its data that help it address problems before they occur. There is no longer a need to wait until a customer discovers a power outage, so the utility can provide customers with significant improvements in service restoration.

Progress

Greer said the progress made by the utility since integrating the two systems is just the beginning of possible efficiencies and service improvements from the use of AMI data.

"Using this new information, we can continue to make adjustments and address issues on our grid, as needed, to ensure that our customers are receiving the quality of service they demand and deserve, and our advanced meters are helping us deliver on that promise," he said.
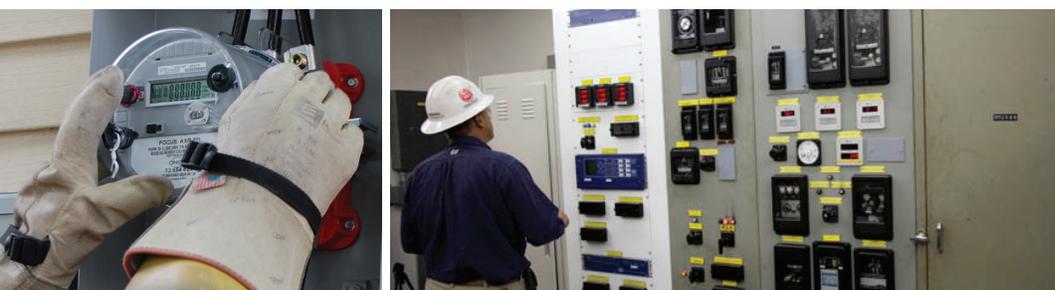
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