

Tuesday, April 20, 2010

Utility consultant tells how to know when MDM is overkill

Enspira Solutions executive explains workarounds

Utilities installing smart meters have an important choice to make, a consultant specializing in meter-data management (MDM) systems told us yesterday: whether to install MDM or try to achieve its functionality through software built into most AMI meters. The software in most smart meters can handle some advanced functions but an ongoing

debate asks whether that software is sufficient for smart grid purposes, said David Elve, vice president of Enspira Solutions.

“The bottom line: if your state’s PUC requires hourly or 15-minute interval data, or you are implementing TOU rates, the answer is overwhelmingly yes, you need an MDM system,” Elve said. “Smaller utilities should follow this rule of thumb: if your PUC doesn’t require functions that can only be supplied by an MDM system, you don’t need one,

so long as you have fewer than 200,000 meters.”

Reprising the panel discussion he led at DistribuTech last month, Elve explained the debate over the future of MDM systems and lessons learned from MDM system installations. He was referring to MDM systems from major vendors such as EMeter, Oracle, Itron and Ecologic Analytics. More recent entrants into the “very, very competitive” market for such software include Telvent, OSIsoft and Energy ICT that Elster bought in the fall (SGT, [Sep-04](#)).

MDM systems serve as the conduit for all meter data flowing across a utility’s network, Elve said. One ongoing question is whether meter-makers’ so-called head-end software, that comes with the meters at little or no added cost, or a customer information system (CIS) -- in place at most utilities already -- can accomplish the same tasks as MDM.

For example, MDM systems simplify cutting off service at a residence -- doing a final reading, sending a final bill and enrolling a new customer at the same address, even over a weekend. But a CIS could achieve the same results, he added.

“So this is where the lines blur,” Elve said. “Again, it depends on the system size. Most folks with bigger systems are going to want an MDM system.”

Another debate is whether CIS will eventually become part of most MDM systems or vice-versa. “It’s a 50-50 split as to whether the MDM system will be a

[Continued on page three](#)

As Comverge decries rampant hype, most utilities are buying gear

More than 100 attendees at a major smart grid show last month expressed widely varied -- and somewhat pessimistic -- opinions on when the benefits of the smart grid will materialize. An informal survey of 102 utility executives and managers by energy-management firm Comverge, of Atlanta, showed a third of respondents (27%) thought measurable benefits are one-three years away.

Roughly the same number (29%) thought benefits are 10 years away, according to respondents interviewed at DistribuTech. The predicted lag would happen despite energy-management budgets that grew for 77% of the respondents.

Comverge CEO Blake Young

called this year “a year of incredible hype, with start-ups and new entrants with grand expectations but limited experience, muddying the waters,” he said in a prepared statement. “Yet if we heard one thing loud and clear from attendees, it was that questions persist around how to turn the promise of the smart grid into reality.”

Asked about investment priorities for the coming year, 89% of respondents listed smart meters and 48% listed smart thermostats. Lower on the list were in-home displays and smart outlets -- an indication, said Comverge, that utilities are focusing on infrastructure first. No margin of error for the survey was supplied.

[\[Comments\]](#)

GE heralds opening of Chinese smart grid demo center

The Chinese city of Yangzhou opened its Smart Grid Demonstration Center yesterday, GE told the press. “With worldwide adoption of smart grid technologies growing as a way to ensure adequate clean, affordable energy, solutions showcased at the center will serve as a model of smart grid success for utilities across China,” the US firm added.

GE plans not just to build a smart grid demonstration center in Yangzhou but also to install smart grid technology throughout that city of 4.5 million, GE said early this year (SGT, [Jan-19](#)).

Executives from government, utilities and technology firms got a firsthand look at some “technology breakthroughs GE is deploying around the globe,” GE said, noting that the center is verifying how GE’s technologies can help China improve the reliability, efficiency and carbon footprint of its energy delivery.

“China is emerging as a world leader in understanding the enormous benefits of readily-available, sustainable energy as an economic growth tool,” Bob Gilligan, VP of GE’s digital energy business, said in a prepared statement from China.

“The efficiency, communications and carbon-reduction deliverables of GE’s smart grid technologies demonstrated here will help China’s government and industry meet their aggressive environmental and business objectives.”

The center includes “a huge array of GE products that affect energy in homes, on power lines and in a utility’s network control center,” such as AMI smart meters that feature dynamic pricing, home energy management systems, smart appliances and DR systems, GE said. Grid infrastructure and control

technologies in the demonstration include automated outage identification and restoration software, field-force automation and deployment systems and grid-wide network management software.

Visitors to the center will also be able to see how home-based charging stations for plug-in hybrid electric vehicles (PHEVs) work.

[\[Comments\]](#)

Colorado governor signs clean air, clean jobs law

Colorado Gov Bill Ritter yesterday signed into law the Colorado Clean Air-Clean Jobs Act, which the governor's office said gives other states and the nation a new roadmap to a sustainable energy, economic and environmental future. "This law is a template for tomorrow that allows us to transform our energy portfolio, our economy and our environment by working strategically and collaboratively," Ritter said in a prepared statement.

Xcel Energy CEO Dick Kelly was at Ritter's side, even though the picture of Xcel's SmartGridCity project in Boulder -- meant to be the leading US example of utility technology and digital networking (SGT, [Sep-10](#)) -- is fuzzy.

A Strategic Decisions Group partner we interviewed recently labeled Xcel's smart grid initiative in Boulder -- which is turning out to be much more expensive than expected -- a "train wreck" for the smart grid industry (SGT, [Apr-07](#)).

The Colorado PUC's December move to heighten its scrutiny of the project does not reflect mistrust of the utility or its project, a PUC spokesperson told us in February, after a *Boulder Daily Camera* story asserted that the PUC enlarged its oversight "in response" to Xcel's starting Jan 1 to recoup the "skyrocketing" costs of SmartGridCity from its customers through a rate increase (SGT, [Feb-09](#)).

Efforts to reach a governor's office

representative for comment by press time were unsuccessful.

The act requires Xcel to cut nitrous oxide emissions by up to 80% from several coal plants by the end of 2017. Xcel will work with the Colorado Department of Public Health & Environment to submit by Aug 15 a plan for retiring or retrofitting 900 mw of coal-fired capacity, the governor's office told the press. Xcel will give primary consideration to replacing or repowering those plants with natural gas, renewables, greater efficiencies and other cleaner energy sources.

The federal Clean Air Act requires Colorado to submit a plan to address regional haze by early next year or the EPA will write its own plan for Colorado, the governor's office said. The Clean Air-Clean Jobs Act will let IOUs such as Xcel help craft their own plans for how to meet new regional haze guidelines, plus new mandates for ozone, mercury and CO2 in one comprehensive analysis that will lessen costs and maximize emissions reductions.

"This legislation brings economic, energy and environmental benefits together in one package," the governor said. "It will set a national example and serve as the exclamation point on Colorado's new energy economy, which now also features a 30% 'renewable energy standard'."

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Telkonet wins contract for energy efficiency at military base

Energy-management firm Telkonet, of Milwaukee, sold a \$1.2 million energy-efficiency system to an undisclosed East Coast military base, where it will adjust and maintain the temperature of over 3,000 residential rooms, the firm told the press yesterday. The nine-month contract is Telkonet's largest military win to date, it said in a statement.

Telkonet's SmartEnergy product is PLC-based and uses occupancy sensors and self-contained HVAC units, often known as packaged terminal air conditioners. An energy-management controller maintains the resident's preferred room-temperature setting while the room is occupied. When the room is vacant, the controller adjusts the temperature and when the resident returns, the temperature is readjusted within a predetermined time.

The firm was chosen for the contract due to the energy savings SmartEnergy yields, it said in a statement. Telkonet did not return calls seeking further details. The nine-month contract, awarded in March, is part of an energy-efficiency program at military bases "across the East Coast," Telkonet said in a statement.

The firm moved to Milwaukee from Germantown, Md, earlier this year (SGT, [Dec-22](#)). Its products control temperatures in over 180,000 rooms, it said.

[\[Comments\]](#)

Texas PUC staff's draft DG rules support green power goals

The Texas PUC staff submitted a proposal Friday aimed at boosting DG's contribution to the state's 500 mw renewable energy target for non-wind resources. The rules would let renewable DG owners avoid having to register as power generation firms or self-generators.

The rules would set up renewable energy credits (RECs) to serve as an incentive for a 500 mw renewables target and set up an alternative

compliance program for the new energy credits. The 500 mw target is expected to be hit in 2015 with at least 100 mw coming from new solar panels. In the years from 2011 until then, it ramps up annually by 25 mw for solar and 100 mw for other resources.

The decision sets up three tiers of RECs for the 500 mw target: tier one is for solar resources built after the start of this year, tier two is for a non-wind or non-solar resource and tier three is for

older solar or non-wind resources.

Storage devices could earn a renewable energy credit from any tier if they retire one as they charge up. Power from biogas is eligible for tier two or three RECs depending on how efficient the plant is.

Retailers can make alternative compliance payments if they do not have enough of the prorated mwhs to meet the statewide 500 mw RPS.

[\[Comments\]](#)

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From page one

standalone program in five years or part of a customer-care or billing system,” Elve said. “I don’t know who will swallow who.”

Can MDM handle outages?

Also discussed at the DistribuTech panel was whether MDM systems can handle the massive flood of outage notifications created during a major

incident, Elve said. Some said a dedicated outage-management system is more capable of handling so much data.

“The concern was whether the MDM system is intelligent enough to take a sampling of the notifications that is big enough to give it a clear picture of what’s happening but not so large as to overwhelm it,” he added.

The panelists included Mark Carpenter, CIO at Oncor; Radha Swaminathan, director of IT business solutions at Florida

Power & Light; Rick Potter, a senior manager at Alliant Energy, and Anthony Hawkins, a director at CPS Energy.

Alliant’s MDM system is “pretty much up and running,” while FP&L is still getting its set up, Elve said. Oncor’s is perhaps the most complex, since it has to deliver 15-minute interval data to the system operator ERCOT (SGT, [Mar-31](#)).

MDM can offer new tools

Among the lessons learned from using an MDM system, some panelists said, are that it offers new capabilities including detecting theft -- which takes place in 1-3% of all accounts, Elve said. MDM systems allow the detection patterns of power use that suggest theft is taking place. For example, the lack of power use recorded at a home between 6 pm and 7 am every day implies the owner is disconnecting the meter while at home, he added.

MDM systems may be capable of replacing the aging, complex billing systems in place at many utilities, though that capability may be rudimentary, Elve said.

One piece of advice Elve imparted is that utilities should install an MDM system before smart meters, though many are doing it in the opposite order.

“Ideally, MDM would go in first and that was the consensus at DistribuTech, but it depends on the pressure utilities are under to get meters out there,” Elve said.

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2 stories in 1 minute

Elster sells water

meters in Kuwait: Elster is set to deliver 170,000 water meters equipped with “future-proof connectivity and interface systems designed to meet the demands of future smart grid and AMI projects -- for use in homes, government buildings and other facilities throughout Kuwait,” the firm told the press last week. Elster is working exclusively with Al Khatla, its partner for all projects in Kuwait, to deliver the meters that are designed to withstand temperature ranges from over 90 degrees to below freezing, as well as violent sand and dust storms. “Our smart metering solutions are ideally suited for desert conditions across the Middle East,” Jerry Lauzze, an Elster executive VP, said in a prepared statement.

IEEE to certify HD-PLC, HomePlug co-existence:

The IEEE will work to coordinate PLC standards with those for home wiring, the group told the press. IEEE’s Standards Assn will create a joint certification program between the HD-PLC Alliance and the HomePlug Powerline Alliance, it said last week. Co-existence will let devices run without interference if they comply with variants of IEEE’s P1901 standard. To expand the market for IEEE P1901-compliant products and “contribute to an accelerated smart grid rollout,” Michimasa Aramaki, president of the HD-PLC Alliance, said in a statement.

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ABI predicts US will lead plug-in vehicle infrastructure roll-out

Plug-in vehicles are set to hit the consumer market at the end of 2010, and will achieve widespread distribution in 2011, said ABI Research. There is no doubt that electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs) are coming to market, it’s just a question of when they will reach widespread acceptance, said ABI. “Once these plug-in vehicles go on sale, expect rapid development of public and semi-private infrastructure to follow.”

The study from ABI Research, “[Plug-in Vehicle Infrastructures](#)” projects a

fast-growing market for charging station infrastructure with worldwide revenues reaching \$11.75 billion for the installation of 3 million charging stations by 2015, up from just over 20,000 stations installed in 2010.

The US leads this market, given the country’s strong purchasing power for EVs and PHEVs -- and the willingness of both public and private entities to invest in infrastructure build-out projects.

ABI Research expects the US to represent just over half (54%) of the world market of installed charging

stations by 2015, followed by China (23%) and the rest of the world (23%).

“Infrastructure supporting electric vehicles and plug-in hybrid-electric vehicles is on the cusp of a rapid and sustained growth curve,” said Research Director Larry Fisher. “The charging infrastructure technology is here. We’re just waiting for the release of these vehicles into the market. Given the limited range per charge, however, early adopters will need to keep their journeys relatively short.”

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