WHITE PAPER

Paving the Road to Smart Grid Success: Enhancing the Focus on Smart Customer Communications

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Executive Summary

The energy industry has experienced significant changes in recent years as a result of smart grid initiatives moving from planning and development stages to deployment of technology and the introduction of products and services never before possible. The road to smart grid success has reinforced what utilities learned in other technology projects; people, processes, and systems must share the same high level of priority in order to ensure acceptance and achievement of benefits.

With an aging electric infrastructure, pressing environmental concerns, and ever-increasing demands for electricity, the consensus among energy stakeholders like utilities and regulators is that smart grid technologies must be deployed.

There are many definitions of smart grid throughout the energy industry. The general concept of smart grid is to add or improve monitoring, analysis, control and communication capabilities to the national electric grid in order to ensure reliability, maximize throughput, increase energy efficiency, encourage consumer participation and provide various generation and storage options.

The most common element of smart grid programs is the installation of automated meters. However, smart grid initiatives include more than just Advanced Metering Infrastructure (AMI) and Meter Data Management (MDM) initiatives; they include upgrading and integrating complex systems spanning any one or all of the following:

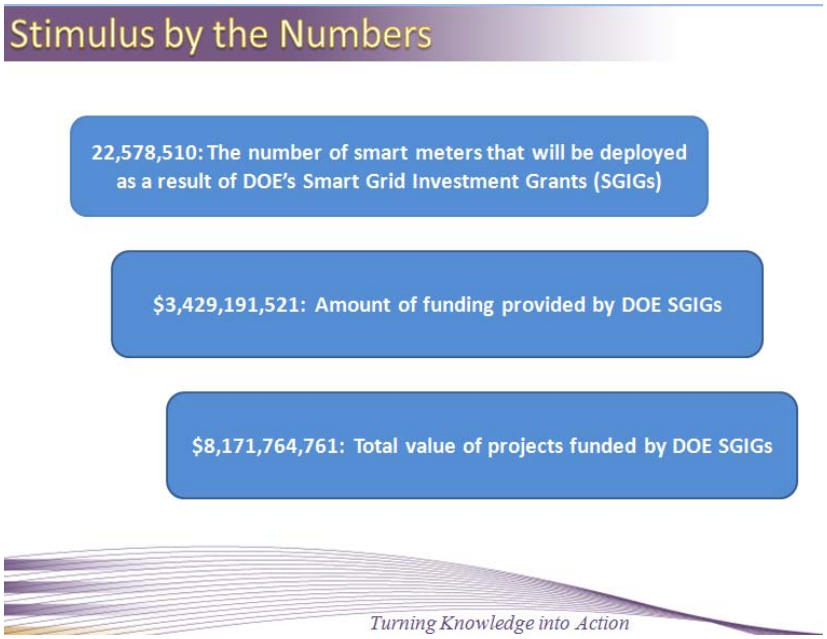
- Wide Area Network (WAN) – satellites
- Neighborhood Area Network (NAN) – transmission lines, street lights
- Local Area Network (LAN) – power lines from the grid to premises
- Home Area Network (HAN) – premise, electric car
- Personal Area Network (PAN) – laptop, cell phone

This white paper looks at the current state of smart grid initiatives, how the increase in knowledge and experience sharing is accelerating improvements in North America, the challenges that the industry will tackle as it deploys smart grid solutions, and provides a case study of how E.ON UK and HP addressed local demands and interests in developing a solution to the changing environment resulting from smart grid initiatives. This case study highlights an increasing focus in the energy industry on smart customer communications as a critical path to achieving the goals and objectives of smart grid initiatives.

The "State of the Industry"

The Smart Grid Investment Grant (SGIG) program funded by the American Recovery and Reinvestment Act of 2009 (ARRA) has certainly been a stimulus to smart grid activities. The SGIG program will see the Department of Energy (DOE) invest over $3.4 billion into 100 smart grid projects. The Recovery Act stimulus money will be matched by recipient contributions for a total public/private investment of more than $8 billion. While the SGIGs were initially planned to be awarded over three phases, the first phase was so oversubscribed that the DOE decided to award all of the SGIGs in the initial phase.

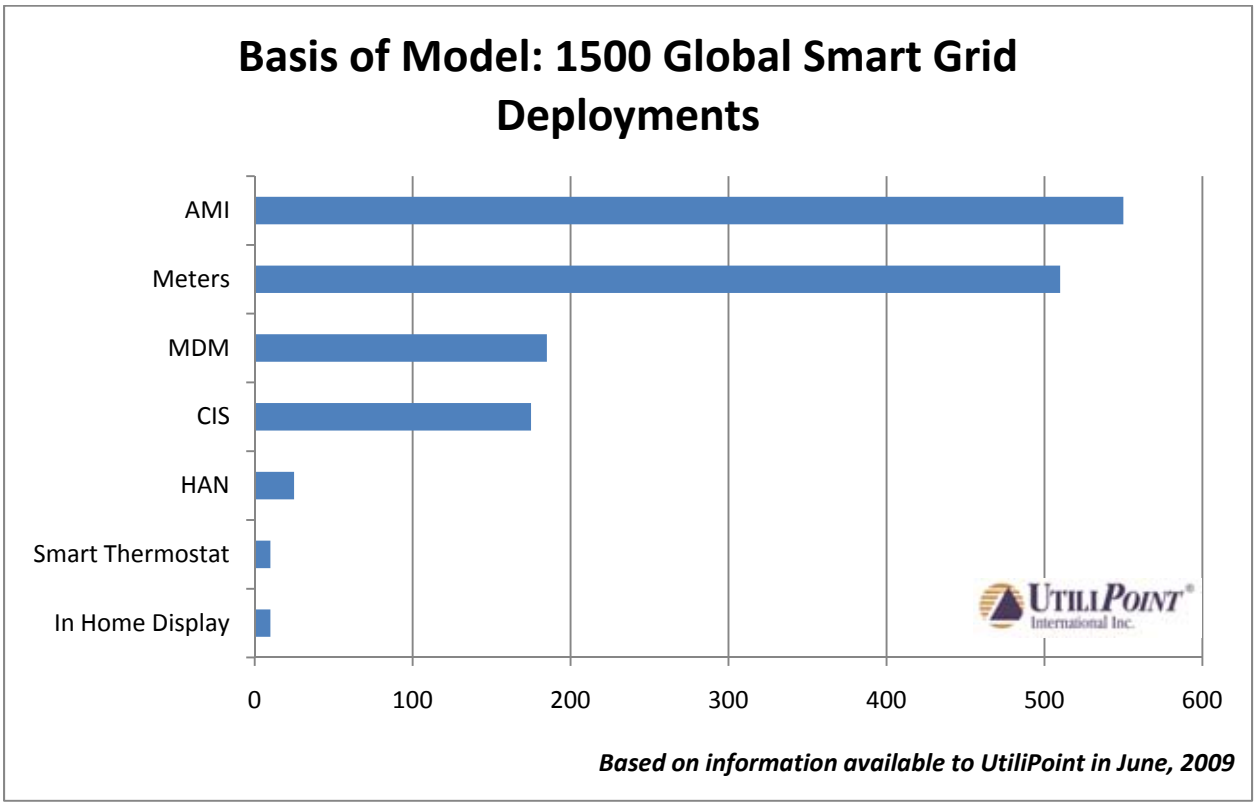
The overall purpose of the SGIG is to accelerate the modernization of the nation's electric transmission and distribution systems and promote investments in smart grid technologies, tools, and techniques to increase flexibility, functionality, interoperability, cyber security, situational awareness, resiliency, and operational efficiency.



The DOE requires grant recipients to report pre-defined results back to it on a regular basis to ensure the taxpayers' dollars realize intended benefits. The DOE created guidelines for tracking the performance indicators that must be reported back to it as part of funding requirements. These guidelines have helped standardize the type of data collected and reported among utilities with smart grid initiatives.

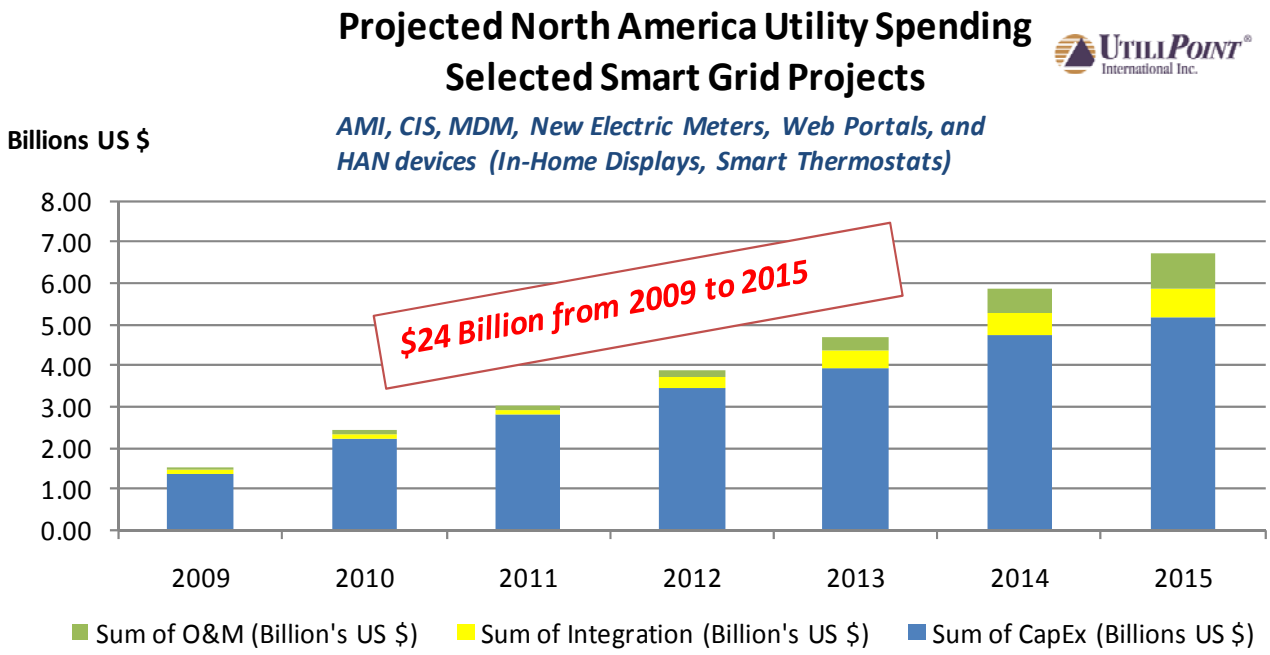
The DOE also created Smart Grid Workshops that focus on enabling consumer participation, accommodating generation and storage, enabling new products and services, providing power quality, optimizing asset utilization, anticipating and responding to system disturbances, and operating against physical and cyber attacks. These workshops facilitate the sharing of ideas, issues and resolutions of smart grid initiatives nationwide.

UtiliPoint tracks smart grid initiatives globally and maintains that information in a database that can be used for modeling current deployments and creating projections. The following chart provides a comparison of the deployment of various aspects of smart grid initiatives.



Many energy industry sources estimate the smart grid market will grow from $6 billion per year in 2009 to $17-$20 billion per year by 2014. This estimate is based on energy industry initiatives designed to provide better sensing and control systems and help integrate more renewable energy into the U.S. power supply. The forecast applies a compound annual growth rate (CAGR) of 21 percent growth per year over 5 years. Globally, the market for smart grid technologies is forecasted to grow to about $171 billion by 2014 (with a CAGR of nearly 20 percent), up from approximately $70 billion in 2009.

The UtiliPoint model shows spending in North America for selected smart grid utility projects could increase by $24 billion from 2009 to 2015.



Several smart grid trends are emerging in 2010 that help predict where the industry is going operationally in the near future. There is increasingly more interest in learning lessons from early adopters. Many working groups meet regularly to share updates on progress, what works, and what could be done differently. Conferences, webinars, newsletters, and other energy industry outlets are saturated with smart grid speakers who can share information about their experiences and knowledge. The sharing of information between utilities will continue to increase as more experience is gained in smart grid implementation projects throughout North America and the world.

Utility-Side Benefits of AMI/Smart Grid

From the utility perspective, the smart grid will enable them to enlist consumer demand as another resource, offsetting the need for additional power generation. With help from customers, utilities will be able to help balance supply and demand and ensure reliability by modifying the way they use and purchase power.

The smart grid will be able to exploit technologies to optimize the use of utility assets such as power plants, substations, and other critical infrastructure. These improvements will result in more power flowing through existing assets as well as giving utilities more precise insight into the need for additional power plants. Operational improvements will range from improved load factors to lower system losses. This will result in a net reduction in utility costs, and maximization of efficiencies throughout the system.

By performing continuous self-assessments, the smart grid will be able to prevent disruptions rather than simply react to them, and act faster than operators ever could in resolving dynamic problems.

The smart grid will also be able to supply varying grades of power quality with a variety of pricing options. It will also detect and correct poor power quality before its effects become significant, dramatically reducing customer losses due to power quality issues (currently estimated at $25 billion per year by the Pacific Northwest National Laboratory), and increasing overall quality control of the grid.

At a minimum, a smarter grid offers utilities operational benefits (outage management, improved processes, workforce efficiency, reduced losses, etc.) as well as benefits associated with improved asset management (system planning, better capital asset utilization, etc.).

Utilities can send information directly to and receive information from the thermostat or other in-home display. Utilities can also confirm that load-shifting signals were received in customers' homes by tying demand response into the smart grid. This means utilities can use the information to adjust their strategies and actions to achieve overall load-reduction goals.

The smart grid also allows utilities to automate many manual processes. For example, utilities can phase out manual billing reads. Utilities can also phase out manual service order fulfillment. The typical types of service orders that can be eliminated include on/off orders, pro-rated in/out reads, etc.

One of the highest preventable costs utilities have is for field orders to disconnect meters, only to reconnecting days later when customers pay their bills. With smart metering a remote reconnect procedure can be handled by Customer Service Representatives (CSR) once customers make payments. This results in a significant decrease in field order costs to utilities.

Many utilities identified outage management as a key application in the move toward the smart grid. There are three ways outage management can interact with the smart grid. AMI data can be integrated with Outage Management System (OMS) data, advanced applications can be used for supporting outage management, and Supervisory Control and Data Acquisition (SCADA) can be integrated with Distribution Management Systems (DMS) and OMSs.

Implementing outage management and using it to link customers with outage issues paves the way toward increased customer and grid interactions. Costs for handling outage and emergency calls are reduced as a result of streamlining and improving processes with smart grid enhancements. CSRs have significantly more information on the nature of outages, coverage areas, possible restoration times, etc. GIS systems allow CSRs more access to information to provide more, better, and faster information to customers.

There are several other ways AMI data can improve the outage management process. First, if the AMI meters and communications are suitably equipped, the OMS can receive outage notification messages from the meter when it loses voltage, indicating an outage has occurred at the premise. This notifies the OMS of outages when no one is at the location to report it or if everyone is asleep during the power failure. The outage notification can reduce customer interruption times and result in a more efficient dispatch of repair crews.

Second, with the proper interface between the OMS and AMI system and the right communications infrastructure and meter, a message can be sent from the OMS to query if a meter is in service. This is sometimes referred to as "pinging the meter." The meter can be pinged directly or the Meter Data Management (MDM) system can be pinged to determine the status of a meter by a CSR or an operator.

Many customer outage reports are results of problems on customer sides of meters. Utilities commonly report that 50 to 67 percent of single location outages are caused by problems on the customer side of meters and not the responsibility of utility. If utilities can ping a meter to determine it has voltage despite reports of no power, then time and cost to dispatch repair crews can be reduced.

Customer-Side Benefits of AMI/Smart Grid

The smart grid will empower average energy consumers to a degree unimaginable just a few years ago. It creates a dialog between utilities and their customers that previously never existed.

Given new awareness, understanding and tools, customers will be able to make choices that save money, enhance personal convenience, and improve the environment. The smart grid will enable customers to see what electricity they use, when they use it, and how much it costs. For the first time, residential customers will have the same types of demand response options that many commercial and industrial customers enjoy today.

Once improvements are deployed, utility customers have access to programs that were not possible to provide prior to the introduction of smart grid technologies. Smart grid capable utilities are introducing on-demand bundling and cross selling of products and services. Turn on/off requests can be tailored for lifestyle demands. Seamless integration with third-party providers can be an option. Personalized and customized appliances, orbs, and solar panels can be installed in homes and businesses.

The implications of smart grid technologies extend further than the programs and services offered customers, into the premises and devices used by consumers. Smart meters and smart circuits are installed at the premise. Inside homes and businesses are smart appliances and orbs. The utility can offer premise monitoring and control to maintain or decrease energy usage or the time of day of usage.

Customers will have the necessary tools to transition to a smart energy customer with the capability to control usage terms, curtailments, manage energy services, utilize self service tools, increase interaction, and access multiple delivery channels.

Smart meters allow for smart products that communicate and share information in a HAN. A HAN is used to connect products like thermostats, appliances, light switches, electrical outlets, solar panels and other energy consuming devices together. Devices in the HAN may connect to a LAN or computer network to allow customers to manage schedules, monitor electricity consumption and access the home remotely.

While any device plugged into an outlet can be connected and managed as part of the HAN, the largest benefit to customers is the ability to manage their high electricity-consuming devices such as washers,

dryers, refrigerators, and electric furnaces with a HAN. The most effective method for connecting and communicating with devices in a HAN is by using the existing power wiring already existing in homes.

HAN products must be easily mixed and matched to suit the homeowner's individual needs. Therefore, it is important to the HAN industry that products are compatibility between vendors. This is accomplished by suppliers of HAN products supporting open industry standards. These standards include a robust protocol that is incorporated in nearly 100 million intelligent devices, including more than 28 million smart meters globally. Customers benefit from these standards and protocols deployed throughout suppliers.

Advanced in-home displays offer greater flexibility and versatility compared to simple visual prompts or even smart thermostats. In-home displays can provide billing and usage data, as well as charts and graphs to synthesize the data and present it in a way that is easier for customers to understand. They can also suggest actions for customers to take in order to improve energy efficiency and meet load-reduction goals.

To ensure customers achieve intended and potential benefits, utilities must deploy changes in call center processes to communication the benefits of smart meters. It is very important to establish greater customer communication from the start so customers realize the benefits smart devices can provide. Utilities must help customers understand how this can benefit them long-term in reducing their energy usage and lowering bills.

Utilities are finding they must address and eliminate fears that this is just another way for a utility to monitor and control what their consumers are doing at their homes. This means utilities invest more in educating their customers and creating a positive customer experience as they start implementing smart metering programs. Education requires using all channels of communication like call center, web, IVR, bills and inserts, television channels, newspaper advertisements, etc.

As utilities roll out new demand response programs coupled with time sensitive pricing models, adequate business processes need to be in place for notifications to customers to reduce usage during peak periods. This means effective and timely communications to customers, their acceptance to participate, and enhanced billing processes to handle the event. Appropriate deployment of this process can go a long way in customers managing their bills.

The major challenge facing utilities is not just to educate and engage customers on programs and applications that result from AMI deployment, but to inform and educate them at an even more basic, rudimentary level on how energy is generated and then moved (transmission and distribution) to their homes, as well as how their usage is measured and what things in their homes use relatively how much electricity. If AMI programs are to stand a reasonable chance of enabling utilities to meet state and federal peak and overall consumption reduction goals, they must develop a comprehensive smart customer communication approach to education.

The benefits of a smart metering program for an enhanced customer experience are apparent, but utilities need to establish new procedures to reap the benefits. The key is to create a smart customer communication plan across multiple channels to increase customer satisfaction, improve service quality, lower utility costs and manage energy demand.

AMI/Smart Grid-Enabled New Utility Offerings

The capability of the smart grid to facilitate two-way communication, interval metering, and time-based billing make dynamic pricing an option for all classes of utility customers.

Dynamic pricing reflects hourly variations in retail power costs, furnishing customers the detail necessary to manage their utility bills in a variety of beneficial ways. Three principal categories of dynamic pricing include:

- Real-time pricing – rates are based on hourly fluctuations in wholesale markets, which enable consumers to plan their electric use to coincide with low prices.
- Critical-peak pricing – prices can increase by 500% during peak periods, limited to a small number of hours per year. Customers agreeing to reduce usage in such hours will pay slightly lower rates for the remainder of the year.
- Peak-time rebate – the traditional blended rate applies, but customers can realize healthy rebates for reducing load during peak periods.

With the smart grid utilities will be in a position to provide net metering programs to their customers. Net metering can serve as an important incentive for consumer investment in distributed energy generation, enabling customers to use generation on their premises to offset their consumption by allowing their electric meters to turn backwards when they generate electricity in excess of their demand. In some states, this offset means that customers receive retail bill credits for the electricity they generate themselves, rather than buy from the system.

A great deal of potential for the smart grid also exists in plug-in electric vehicles (PEVs), including plug-in hybrid electric vehicles (PHEVs). Although the vehicles will be producing the savings rather than the smart grid, only smart grid technologies will allow utilities to tap their full potential. The idle production capacity of today's grid could supply 73% of the energy needs of today's cars, SUVs, pickup trucks, and vans with existing power plants. Additional benefits include the potential to displace 52% of net oil imports (or 6.7 million barrels per day) and to lower CO2 emissions by 27%.

Challenges to the Utility Company

The smart grid opens a whole new channel of communication between utilities and consumers, but this new communications channel is fundamentally different from the past. Transmission is conducted real time. The need to broadcast pricing alerts to smart thermostats, email addresses, and text messaging devices happens instantaneously. Responses from customers can be immediate, as in the case of a consumer who pushes a "budget button" on a thermostat or website to inquire about their charges-to-date.

Legacy system platforms were not designed to handle real time events such as the ones noted above. They were designed to operate on regularly scheduled cycles of batch processes. From a utility's perspective, modifying or replacing those old reliable cycle-and-batch systems is an incredibly daunting prospect.

Another challenge that utilities face is customer recruitment. Most demand response (DR) programs will be opt-in programs. Utilities need to reach out to eligible customers and convince them to participate. Eligible customers might be defined as customers with central air conditioning or all residential customers, depending on the nature of the DR program. This will require new software functionality to handle DR recruitment, enrollment, customer management, as well as DR program management.

Utilities will also need to re-examine how they provide customer service to smart metering customers. The utility call center will need to be able to effectively work with customers to take advantage of more detailed information on energy use and spending and how to apply it to customer concerns. This includes performing customer education needed to increase the understanding of smart metering and reducing the fear and distrust of the changes.

Call center representatives must also have a strong understanding of the end-to-end business process and changes. Once the systems and processes are implemented, the utility must be prepared to answer and handle a complicated set of questions and issues. This requires call center agents to have training and access to the applications and information to provide quality responses.

In addition, utilities will need functionality provided by some meter data management (MDM) systems: management of communications to field devices, tracking of devices and their relationships to customers and premises, and provisioning of devices upon installation. The new software will have to be able to scale, allow multiple users, and interface with the DR call center, an integrated voice response unit, and the Internet. It will also need to interface with the billing system, MDM, the DR equipment installation company, and various DR communication systems.

Case Study

E.ON is the world's largest investor-owned energy company with over eight million electricity and gas accounts. E.ON's United Kingdom utility operation noticed the adoption of smart grid technologies caused an increase in the demand for more personalized customer communications. Additionally, the continuing push for utility companies to be more energy-efficient and environmentally friendly remained strong. E.ON UK knew it needed to align its communication strategy with the future smart grid initiatives and set out to create a smart customer communication program.

Case Study – E-ON and HP Exstream

"HP Exstream has now enabled us to respond to our research findings and reach out to our new customers in a more efficient and personalized way than ever before." Louise Pearson, fulfillment delivery manager, E.ON

Case Study Summary

Objective: Respond to customer needs and a competitive market by incorporating marketing messages and campaign management to create customized communications.

Approach: Use HP Exstream to produce a one-piece, full-color fulfillment communication with individually tailored messages that respond to exactly what each customer requested.

IT Improvements:

- Reduced external coordination resulting in fewer errors by bringing document development and production in-house.
- Saved training and labor costs with ability to migrate complex mainframe document applications to UNIX without extensive programming.
- Reduced complexity and time utilizing HP Exstream's object-oriented environment, provided reuse of content so changes can be automatically replicated across all documents.

Business Benefits:

- Document production lead times reduced from up to ten weeks to days allowing E.ON to react to customer requests and get key messages to market faster.
- Consolidated 40 different inserts into a single print stream with mail sorting capabilities, resulting in postage savings of nearly $739,000 (£500,000) annually.
- Improved document effectiveness utilizing flow charts, diagrams and images while combining all utility charges for each customer into one statement.
- Decreased call times with clearer communications which resulted in contact center savings.
- Reduced the amount of paper used with environmentally friendly results.

E.ON UK started by focusing on incorporating marketing and promotional messages into its routine customer communications as ways to differentiate itself from the competition, gain a competitive advantage, and to attract new customers. E.ON UK initially looked at its customers' monthly statements as nothing more than an operational document with a list of transactional information. Most of the company's efforts to promote, cross sell, and up sell products and services were through inserts within the monthly statement or separate direct mail pieces.

E.ON UK commissioned a research project which held focus groups with 80 customers from a broad demographic as well as all service process segments. This outreach included mobile phone companies and mortgage providers to learn what kind of fulfillment document each of the customer groups liked best. Two options were offered – the traditional black and white statement (including an insert or pamphlet) or a four-color, composite document. The survey results found that overwhelmingly, consumers preferred information in a single document instead of separate billing statements with multiple inserts.

As a result of its research, E.ON UK developed the "OneBill" program, which combines all utility charges for each customer into one statement for greater clarity, and moved forward with selecting the technology to help achieve all its communication goals.

HP Exstream was selected in 2001 to migrate complex mainframe document applications to UNIX without extensive programming, saving E.ON UK training and labor costs. The technology solution had to be easy to understand and implement. HP Exstream significantly reduced development time, allowing E.ON UK to get to market faster with critical customer communications.

"IS staff found HP Exstream to be easy to use, and its capability for targeted messaging ensured every customer document was personalized and relevant," recalls Louise Pearson, fulfillment delivery manager for E.ON UK. "We knew that we wanted a product that would allow us greater flexibility with marketing messages and campaign management in the future. So, when it came to meeting our latest business requirements of targeting new customers more effectively, HP Exstream was the right solution in place."

HP Exstream now provides a comprehensive smart customer communications solution from a single software platform. From one easy-to-use design environment, E.ON UK can create all of its customer communications and deliver them through any channel—including print/mail, the web, email, SMS, and interactively. The customer data remains safe inside the firewall, and as new content is generated and collected, it can be dynamically used to create new messages and documents.

Designed to work with legacy systems, HP Exstream natively pulls from and writes to virtually any data source, including Customer Information Systems (CIS), Customer Relationship Management (CRM), MDM, web services, and other applications. This made HP Exstream an immediate, comprehensive solution, and offered complete control over all communications, not just bill print and messaging.

As an added benefit, E.ON UK can spend more time focused on reacting to customer requests and getting key messages to market faster with its document production lead times being reduced from up to 10 weeks to just a matter of days. Because materials are now prepared in-house, there is reduced external coordination and therefore less margin for error. Additionally, HP Exstream enabled E.ON UK to create more targeted, customized communications that use the customer's name throughout the document and detail individual pricing and payment structures.

Previously, there were approximately 40 different inserts that had to be split into separate print streams and many different postal runs. Instead of sending a traditional letter and insert, E.ON UK now produces a one-piece, full-color communication with individually tailored messages that respond to exactly what the customer requested. Even more beneficial, by using the white space on the bill and consolidating multiple inserts into a single document, E.ON UK was able to reduce its overall paper usage and become more environmentally friendly in the process.

Pearson explains: "HP Exstream is very object-oriented, providing reuse of content so we don't have to invest vast amounts of time when it comes to making changes. We can change a content component in one place and it is automatically replicated in every application where it appears."

"A key driver in initially selecting Exstream was its modularity that gave us the flexibility to easily implement new ideas in the future," said Pearson. "HP Exstream has now enabled us to respond to our research findings and reach out to our new customers in a more efficient and personalized way than ever before."

Using the Case Study

Responding to customer requests goes beyond the contents and layout of the billing statement. It's also about the way customers receive their statements. Knowing, understanding and responding to customers' preferred channel of delivery is of equal importance when considering customer retention and acquisition. HP Exstream's dozens of utility customers, like E.ON UK, can choose between standard print and mail or paperless billing. Each month, customers that choose paperless billing receive an e-mail and are directed to a web self-service portal site hosted by E.ON UK where customers can log-on any time to directly view their monthly bill as well as their usage chart(s) and other personalized data.

As the energy industry continues to evolve, utilities with smart communication capabilities will already have the flexibility to quickly and easily respond to any future trends and customer-preferred delivery channels (e.g., text messages, Web TV, etc.) by keeping the design of customer communications independent of delivery and channel restrictions.

With HP Exstream and the data available from smart meters, utilities would be able to be proactive, responding to outages more quickly and even preventing impending outages. Utilities could detail customers' usage of certain appliances, such as heating and cooling devices, during peak hours, and use the opportunity to consult with them to understand both why peak hour usage costs are higher and how small behavior changes can lead to substantially lower usage and costs.

HP Exstream can help utilities avoid outages by getting information to customers quickly. For example, when Smart Meter data indicates a spike in power usage, HP Exstream can be triggered to automatically deliver a message requesting customers' help in avoiding an outage. Messages can be delivered through the customer's preferred email, voicemail, text, or other message channel, and could encourage customers to adjust their thermostats, either while at home or over the Internet. For homes with remote-controlled thermostats, utilities could send messages requesting control over the thermostat, or messages advising customers that you have changed their thermostat settings.

Smart Meter data can trigger HP Exstream to alert customer consultants when opportunities arise to change customer usage habits. Consultants can contact customers with high peak time usage, for example, and help them see their spending in real time. Customized energy efficiency programs can be developed and delivered for individual customers based on their consumption data.

HP Exstream's Interactive capability can support transforming CSRs into customer consultants. HP Exstream Interactive, or "Live," documents are intelligent templates that are integrated with back office workflows and eliminate cumbersome manual document processes. Live documents are designed within the same environment as other HP Exstream applications and are housed in a central repository where they can be retrieved, edited, approved, and finalized using a customizable workflow.

Customer consultants and other front office workers can be guided through the Live document with context-sensitive help and interview pages, which reduces the time spent completing documents from hours to minutes. This means that with less time spent handling problem calls, customer consultants can be proactive, access AMI data, and work with customers to find an energy efficiency program or demand response pricing option that's right for them.

With HP's Remote Collaboration, content experts can easily create customizable messages and offers triggered by AMI-collected data that are inserted into documents. Content experts can respond quickly to market and environmental changes by creating personalized, targeted messages. Content experts can receive automatic email alerts when components are ready for review and approval according to established workflow processes.

For example, before an expected heat wave, content experts create a message intended for customers with high air conditioning energy usage. The message features text and graphics demonstrating that the customer's usage is higher than the average usage in the area, and encourages the customer to adjust their behavior. An incentive for the purchase of a high efficiency air conditioner may also be included, depending on the amount of available white space. Once created, the messages are ready to be inserted into communications—such as bills and correspondence—almost immediately and are delivered to only those customers whose smart meter data indicates usage above a predefined threshold.

Conclusions

For many utilities, AMI is already a critical component of an evolving smart grid strategy. Among other benefits, AMI allows utilities to measure, collect, and analyze meter data on-demand through two-way communication with the meter, which also opens the door to two-way communication with customers.

The rapidly advancing deployment of smart grid technology creates the necessity for utilities to develop a strategy to manage and utilize the massive amounts of data received daily, hourly or even more frequent intervals, reporting on the energy usage of each customer. Going forward, the challenge of monitoring and communicating the benefits of better, faster and more accurate information as a means of driving customer behavior looms large.

Utilities throughout North America are unanimous in the conclusion that smart grid initiatives must have a strong, comprehensive smart customer communication plan. Constant, clear, and effective communication is critical to the successful deployment of new programs and services and any effort to realize customer benefits. Customer concerns must have the same priority as technical concerns.

The voice of the customer is always powerful and has been part of strategic planning and program implementation initiatives for years. Whether through new rate plan pilot programs, focus groups, or surveys, customers expressed their concerns when asked. Customers must be recruited to engage with the utility and take action in order to realize the benefits AMI and smart metering promise. Utilities and customers are becoming mutually beneficial partners in the mission to conserve energy and better manage the electric grid.

Utility must make the transition for customers as simple as possible. Early feedback from AMI initiatives reinforced that customers do not want the learning process and the effort to participate to be like "taking another job". The frequency of updates and selected communication methods must be clearly planned in advance. Value propositions must be clearly understood. Pricing structures must be easily comprehended. Demand-response events need to be easily communicated and executed.

Included in a comprehensive smart customer communication plan should be real-time consumption and savings recommendations to make decisions easier for customers. Additional analysis utilities can provide to customers may include personal savings statements, quantification of the societal benefits customer participation has generated, and real-time pricing benefits.

Any utility that thinks the old way of communicating can be maintained going forward needs to think again. According to data collected from nearly 100 North American utilities, approximately 58 percent of payments are received via mail in 2008. By comparison, reports indicated that utilities received 71 percent of their payments via mail in 2005. This trend shows that fewer bills are mailed to utility customers each year. Therefore, bills and inserts cannot be the only form of communication. A smart customer communication plan must embrace all current and future forms of communication and have the flexibility to adapt to the changing environment and challenges of achieving smart grid success.

For more information about enhancing the focus on smart customer communications please feel free to contact UtiliPoint or visit our website.

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For more information about HP Exstream enterprise document automation solutions or the case study shared in this whitepaper please contact HP or visit their website.

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