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High performance. Delivered.

Achieving high performance in
smart meter integration for utility
retail and customer operations

• Consulting • Technology • Outsourcing

Setting the course for smart metering success

The definition of "smart grid" and "smart metering" varies from one utility to the next. Even within a utility, groups often maintain different views on what they want to achieve and why. From a customer care and billing point of view, business cases may include a range of goals—from reducing costs and enhancing operational efficiency to increasing energy efficiency and addressing conservation goals. The complexity of the business case increases as more capabilities of the integrated utility are incorporated.

As a customer care executive, the success of your program hinges on your ability to clearly define smart metering in the context of your business. As with any other systems integration effort, the most successful smart metering initiatives focus

not on technology, but on business outcomes. You must decide what you want to achieve and formulate a plan for reaching those goals. And while goals and plans will not be the same for everyone, one fact is universal: The applications, interfaces and data required for a smart metering program introduce many complex challenges. As you deploy smart metering technologies, you must embrace a thoughtful, thorough approach to systems integration.

After all, when it comes to smart metering infrastructure and integration, the stakes are high. The investment required in smart metering can be an order of magnitude greater than a customer information system (CIS) project—the current benchmark for customer operations

transformation. With regulatory and customer stakeholder groups playing key roles in these initiatives, success or failure is more visible than ever. And the resulting sense of urgency may require you to move faster than with traditional programs. Meanwhile, you must avoid deploying new technology only to discover that your business struggles as you deal with new volumes and complexities in both the contact center and the back office.

Key considerations

For your smart metering program to help you advance in your company's journey to achieve high performance, carefully consider:

- Which systems are required for your smart metering program, and in what order? Does it make sense to enable all the "smart" functionality at one time or in phased releases?
- Smart metering may represent the first time you are integrating with "beyond-the-meter" systems, and the integration is almost certainly on a much greater scale than before. How will this scope change your technical and functional approaches?
- Smart metering demands real-time—or near-real-time—data flows and processing. It also requires faster speeds and higher volumes. How will this affect your application and communications architecture?
- Data related to smart metering must be shared by different parts of the utility in new ways. How will you effectively manage this cross-enterprise view of your systems and data? Where are the connection points, and who "owns" what?
- How will smart metering affect your organizational structure? Will it result in the creation of one or more departments to handle new applications and capabilities (such as data analytics and meter data management)? Will those functions fall under retail or transmission and distribution—or should they be shared?
- How will you handle data security?
- Can your legacy assets handle smart metering, or will they also need to be replaced?
- Which of your existing processes (such as credit and collections) will change substantially, and in what ways will they change?
- With technology evolving quickly, the ability to adapt is vital. What happens when today's metering technology is replaced by the next generation?

Accenture's approach to smart metering

Despite the relative immaturity of smart grid and smart metering programs, Accenture has considerable experience in designing and implementing these solutions. We have worked with leading utilities on smart grid and smart metering programs and many more on precursor technologies, such as automatic meter reading (AMR).

Accenture views smart metering as much more than a large-scale meter deployment exercise accompanied by a handful of new systems for storing data. The technology solution must enable your business outcomes in an increasingly dynamic business environment. To help your business achieve high performance, solutions must prioritize and integrate with the needs of other stakeholders, including transmission and distribution.

Accenture's business-driven approach is underpinned by a comprehensive set of industry-specific assets, tools and accelerators. Our High Performance Utility Model incorporates leading-practice operating capabilities and is supported by a comprehensive business process model. Building on decades of consulting experience with utilities and other industries, as well as Accenture's own operational experience in utilities business process outsourcing services, the new version of the model fully supports the smart-enabled world. Depending on where you want to position yourself on the smart grid and metering spectrum, the model provides the reference framework to translate your vision into a comprehensive, integrated view of the required capabilities. These capabilities—which include support for in-home technologies, as well as residential demand response—will then drive the required technology solutions.

Building solutions to achieve high performance

Accenture can help you deliver a smart metering transformation program that can result in process improvements and operational efficiencies throughout your organization.

Accenture Delivery Methods

Accenture Delivery Methods is the heart of our Accenture Delivery Suite and is designed to support the implementation of complex systems integration solutions for our clients. Accenture Delivery Methods includes methods, tools, templates and accelerators to standardize the delivery of large, complex programs and has been utilized to deliver more than 2,000 implementation projects across the globe.

Smart metering functional designs

Our library contains more than 100 predesigned functional designs for multiple customer solution platforms, including Oracle and SAP.

Advanced metering pilot service

Accenture's hosted meter data service allows a utility to do a rapid prototype with actual meters in their service territory. The meter data management (MDM) is based on Itron Enterprise Edition (IEE) MDM and is remotely hosted as a service so that our clients can quickly field test meters without deploying a full solution.

Accenture Intelligent Networks Data Enterprise

Accenture created the patent-pending intelligent networks data enterprise as the first solution of its kind in the utility industry. The Intelligent Network Data Enterprise

comprises innovative assets and methods, such as comprehensive reference architecture, open standards-based data transport and storage architecture assets, end-user transactional analytics, and a process and blueprint for smart grid development. The Accenture Intelligent Networks Data Enterprise leverages the expertise in the Accenture Global Delivery Network and, specifically, the deep technical skills of resources from the Accenture Delivery Center in Bangalore, India.

Accenture's advanced metering operations service

This Accenture preconfigured solution stores, manages, aggregates and presents meter register and interval data. The solution is based on the Oracle Utilities Meter Data Management commercial-off-the-shelf software package, formerly known as LODESTAR.

Delivering business benefits

Accenture helps utility retail and customer operations navigate the sea of vendors and products—including meter data management systems, demand response systems, programmable controllable thermostats, load control devices, in-home displays, web portals and more. Based on research and our experiences, we understand their relative strengths and weaknesses, including how well the products integrate with each other, how they can meet your functional needs now and in the future, and even which vendors we believe will survive the competition. As with CIS systems in the 1990s, we believe only a handful will dominate. To maximize the use of your data, we have developed strategies for data analytics and reporting. We can help you mine your data to glean actionable insights you can use to drive real business benefits.

Smart metering is much more than a large-scale meter deployment exercise accompanied by a handful of new systems for storing data.



Client example: Connecticut Light and Power Company partners with Accenture on largest pilot in North America

Connecticut Light and Power Company (CL&P) chose Accenture as prime contractor on a 13-month utility rate meter pilot program, the largest of its kind in North America. Dubbed the Plan-It Wise Energy Program, the pilot used smart meters to measure the energy consumption of 3,000 residential and small- and medium-business customers. CL&P also tested customers' responses to changes in peak-time energy rates. The findings are being used to determine how to best advance the goals of the Connecticut Electricity and Energy Efficiency Act to lower peak energy demand.

Accenture was responsible for all aspects of the program, including:

- Marketing to and enrolling customers in the program.
- Implementing and managing the smart-metering infrastructure (including a variety of smart devices).
- Implementing and managing a meter data management system.
- Implementing and managing the pilot billing calculations.
- Supporting customer service during the pilot.
- Providing all data for analysis of customer response during the pilot.

The project ran from September 2008 to October 2009, with the customer behavior pilot running from June to September 2009. Mild weather in June and July led to equally mild peak events during the pilot. Even so, initial analysis shows that customers responded as predicted: those equipped with smart devices demonstrated higher demand response. While the team was able to integrate the smart metering infrastructure as expected, the integration of beyond-the-meter technologies was significantly more challenging. A key lesson learned: do not underestimate the effort required beyond the meter as the technology and standards continue to evolve.

Our understanding of key smart metering issues and trends, applicable technologies, and operational implications enables us to deliver innovative, yet practical solutions tailored to each client.

What can you expect when you team with Accenture?

You work with professionals who understand the unique challenges of the utilities industry. We see the world as you do and can help your company differentiate itself to achieve high performance. Our understanding of key business issues and trends, and

applicable technologies and business solutions enables us to deliver innovative yet practical solutions tailored to each client. We bring a breadth of skills, capabilities and assets to help utilities address our clients' business challenges, including:

Utilities industry experience

Accenture's utilities industry group has more than 30 years experience working with electric, gas and water utilities worldwide. Our group includes 7,500 utility industry people working with approximately 275 clients in 40 countries. We serve 74 percent of the utilities on the 2009 Global Fortune 500 list using our deep, global industry knowledge, people and assets to help clients develop the strategies and adopt solutions to improve performance in the dynamic utility market.

Client-ready utilities assets

Accenture has developed many utilities assets, including the High Performance Utility Model, based upon our extensive consulting, systems integration and outsourcing experience. This model helps utilities assess their performance against industry leaders, jump-start business improvement projects and accelerate program delivery.

Contact us

Accenture's approach to smart metering integration is designed to help utilities navigate through today's complex environment. We work with companies to chart a successful course to improve the way they inform and motivate customers about energy management—and to build the high-performance businesses that can compete and win in a changing environment. We would like to hear about your needs and discuss how we can work together to help your organization advance toward high performance.

Gregory S. Guthridge
+1 604 646 5043
gregory.s.guthridge@accenture.com

About Accenture

Accenture is a global management consulting, technology services and outsourcing company.

Combining unparalleled experience, comprehensive capabilities across all industries and business functions, and extensive research on the world's most successful companies, Accenture collaborates with clients to help them become high-performance businesses and governments. With more than 176,000 people serving clients in more than 120 countries, the company generated net revenues of US\$21.58 billion for the fiscal year ended Aug. 31, 2009. Its home page is www.accenture.com.

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