



Smart grids: understanding the challenges

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Energy fuels our standard of living. We need to find ways to satisfy our appetite for power in a sustainable manner. Smart grid technologies are radically changing the business of the electrical utility. Two major elements of this change are IT security and the impact to customer experience. For the latter, many utilities are starting to feel the strain on their customer support strategies. This issue is addressed in more detail in the TELUS-sponsored IDC Energy Insights white paper, *From Customer Service to Customer Engagement: Are Utilities Prepared for the Smart Grid Experience?* available for download at www.telus.com/utilities

Cyber Security and NERC Compliance

The proliferation of digitally enabled smart grid solutions has increased the scale and impact of IT security risks for all power utilities. Consequently, IT security has become a development area for utility standards bodies. For example, cyber security is a critical priority in the framework for Smart Grid Interoperability Standards recently released by the National Institute of Standards and Technology (NIST). Standards and interoperability are key to a successful smart grid build, allowing vendors and providers to work together towards a supported services platform. To further address security challenges, the North American Electric Reliability Corporation (NERC) has created a set of Critical Infrastructure Protection (CIP) standards that ensure information and computer systems security for any entity that generates, distributes or transmits power across the grid.

The NERC standards are enforceable across the U.S. In Canada, compliance with NERC varies from province to province. With assistance from system operators in each region, the standards are evolving. With NERC CIP standards managed differently than other reliability standards, NERC CIP compliance is in its formative stages. Many utilities are trying to manage the process internally but are finding it time-consuming, expensive and a drain on employees who would be more effective if deployed elsewhere.

TELUS has leveraged our strengths in networks, IT and security to provide our utility clients with a unique NERC compliance consulting service. The TELUS NERC CIP Compliance Assessment methodology has five key steps:

1. Build Asset Inventory

Map critical systems, processes, people, data flows

2. Audit Current Environment

Documentation reviews, interviews, data collection

Assess existing controls, management practices vs. NERC requirements

3. Assess and Calculate CIP Compliance Scoring

Benchmark using NERC non-compliance levels

Identify and quantify risks

4. Communicate Scoring, Compliance Status and Risks

Benchmark using NERC non-compliance levels

Build roadmap for compliance and remediation strategy

5. Remediation

Detail remediation plan, effort, costs, priorities

Trigger remediation tasks and monitor and communicate progress

Many utilities are prioritizing IT security planning as a key element of all smart grid projects, not as a post-implementation afterthought. Integrating IT security requires alignment from Operations and IT, a cultural challenge for most utilities, but is necessary to address the growing digital domains within the energy sector.

The Utility Customer Experience

Smart grid and smart meters are changing the business of paying for, managing and delivering power. New services are redefining the customer-utility relationship - uncharted territory for most utilities, but not new for telecommunications companies. Canadian and U.S. telcos have already made the transformational journey from regulated monopolies to customer-focused competitive service providers, and lessons can be learned from this experience. As in the telecommunications industry, customer experience management and contact center solutions will be central to the customer-centric utility business of the future.

The future friendly® utility contact center is different from the typical voice call center. Consumers will interact with new technologies to manage their home energy, whether it is on a Web portal, Internet TV power widget or directly from their mobile device. An unprecedented amount of data will need to be collected, stored and transferred to systems - not just for power control, but also for delivering customer-friendly power services and enabling interactions with customers. Designing and managing a cost-effective contact center that incorporates all these new touch points and data can be a daunting task.

Many utility companies have discovered that non-core functions such as contact centers consume huge amounts of capital and management attention that detracts from their core business. They may also lack the necessary scale to deliver quality service at a competitive cost. As utilities embark on major initiatives such as system-wide smart meter deployments, they will need to look for new ways to reduce risk and lower costs, while still optimizing the customer experience. This often means going outside their core to find third-party business partners.

Developing effective customer service focused partnerships requires both parties to work towards common customer value goals and to gain confidence in each other. TELUS International has been delivering world-class contact center, IT and business process outsourcing solutions to some of world's most respected corporations for years. Our experience with one of the largest U.S. energy companies illustrates the level of partnership and depth required to meet client service targets. The work began as a 10-seat pilot in 2002 to provide customer care, sales and back-office support to electric customers and today, has grown to almost 1000 TELUS customer service representatives handling hundreds of thousands of phone and email inquiries every month.

By outsourcing a portion of its customer support, the utility was able to provide "always on" customer care via multiple channels (voice and email) over expanded hours of operation (even 24/7 if required). The utility also has the ability to ramp up hundreds of customer service representatives during peak billing seasons without making capital investments in facilities, staff and technology, and then divesting when call volumes drop.

TELUS International now handles multiple queues for the client ranging from simple customer care to complex back-office programs. Using highly-skilled, cost-effective resources, the utility gets more out of its current business while focusing on core operations and plans for new energy services and offerings.

All too often, outsourcing focuses on narrow financial objectives. But in an industry facing so many demands on its people, processes and technology, outsourcing of select functions can bring the strategic depth, best practices, and operational efficiencies required to develop the new customer-utility relationship.

***Roland Labuhn** is Vice President of TELUS Energy Solutions, a practice dedicated to serving Oil & Gas and Utility clients. TELUS Corporation is the largest telecommunications company in Western Canada and the second largest in the country. TELUS International, a subsidiary of TELUS Corporation, delivers contact center, IT and business process outsourcing solutions from strategic locations across North America, Central America and Asia.*

Online story at: <http://www.americainfra.com/article/Smart-grids-understanding-the-challenges/>