Leveraging today’s new grid modernization options

A Problem Worth Solving

Making the jump to smart grid can be overwhelming. It’s not just about managing new digital assets in the field; it’s about everything that comes with them:

- Field communications systems
- Applications, skills and application lifecycles
- Data models and system integration
- Hiring, compensating, retaining and developing talent
- Business process re-engineering
- Challenges in cyber-security and data privacy
- Field installation processes and standards
- Increasing demands for IT operational excellence
- Communications with consumers

Success throughout the design, build and operations stages will challenge any organization’s appetite for risk. Utility leadership may realize that having enough internal expertise to successfully implement a comprehensive smart grid program takes more effort than expected, and taking responsibility for everything is distracting them from their core mission. Utilities want to make progress, evolving their service offerings and improving safety and reliability, while managing the cost of service. But utilities and their stakeholders want to proceed prudently with a clear sense of benefits and ROI, along with a clear view of costs and risks.

This creates the conundrum of grid modernization:

- Do nothing and fall behind peers and competitors
- Move forward at the risk of overwhelming your organization while under-delivering benefits and accepting too much risk – which is bound to hit the bottom line
However, there are alternatives that reduce risk and total cost of ownership while increasing the business, operational and engineering value driven by this change.

Some leading utilities have established operational partnerships through smart grid managed services to reduce risk, transfer new technology scope to “the experts,” and invest in fixed-price capabilities. These utilities are leveraging investments in modernization to drive results that benefit their core mission instead of scattering their staffs’ focus across a broad range of technological specialties.

What are Smart Grid Managed Services?

Smart grid managed services are about more than simple data center hosting and software as a service (SaaS). SaaS generally refers to cloud-based applications that are managed by vendors or other third parties. Software updates and other software/IT operational support may be provided, but utilities must still apply, integrate and operate the software platforms. Service levels and performance commitments for SaaS tend to be limited to IT dimensions and cover server and application availability, software patching and maintenance windows.

Managed services build on the concept of SaaS, but provide for the full operational execution of systems like AMI, MDM and their associated setup, integration, business process alignment, daily operations and system management. Managed service performance commitments focus on core business objectives and operational outcomes such as meter data collection completeness, two-way command execution availability, and billing-data quality and timeliness. They focus on strong business, operation and engineering results, not on IT and raw technical metrics.

How do Smart Grid Managed Services Help?

Smart grid managed services can help utilities manage the core risks of smart grid investment.

- **Fixed-price.** The unknown or unforeseen costs, not just in the design and build stages, but in the cost of operations, have kept many smart grid projects from achieving their intended benefits. A managed service provides fixed costs and a guaranteed outcome backed by Service Level Agreements (SLA) and thus, enables modernization instead of uncertainty.

- **Risk transfer.** Working with new technologies, even if they are simply new to the utility, can bring new risks and frustrations. Managed services transfer much of the risk associated with technology gaps to the managed service partners through business and engineering SLAs. If integration is harder than expected, or radio coverage is not as strong as hoped, the gap is borne by the vendor, not the utility.

- **Rapid benefits realization.** Traditional smart grid projects spend early and take long periods of time to implement and even longer to recover the investment. Managed services allow utilities to implement significantly pre-integrated solutions, allowing for the benefits to start accruing rapidly. This improves NPV and ROI.
Utility focus. Smart grid requires enabling infrastructure and business processes to adapt and change, sometimes swiftly. Asking the internal organization to change broadly and swiftly can be a challenge to any company. More than anything else, managed services enable utilities to keep focus on their core business throughout the design, build and operations stages.

What to look for?
Smart grid managed services can help utilities move faster with lower costs and risks. However, simply signing up isn’t the answer to all questions. There are some things utilities must consider in their pursuit of smart grid managed services:

- **A real business case.** A smart grid managed service should be able to clearly demonstrate how it achieves business, engineering and operational objectives in a cash flow and revenue-positive manner. All the scope at all the cost, when the business case can’t justify it, will never work, managed service or not.

- **Culture alignment.** Managed services are not for everyone. Some utilities have made long-term commitments to investing and growing their internal technology capabilities. Some have the scale, desire for full control and are willing to acquire and retain internal talent and to fill in the gaps as needed. And some just have the scale to absorb whatever comes. To these utilities, the risks or change can sometimes effectively be carried internally.

- **Hosting is not the same as managed services.** A hosted application does a lot to reduce up-front capital IT costs, but it does not address application integration or the needed people, processes and tools to operate them. Hosting can be a flexible IT solution, but it is often not enough to help shift risk, scope and cost away from utilities looking to be results focused.

- **“Operationalization.”** The process of managing integrated, multi-platform, business process-driven change is often referred to as “operationalization.” Documenting, guiding, transforming, implementing and supporting the daily business processes across the utility can be the most intensive and challenging component of smart grid transformations, so the managed services provider should be leading the utility through this transformation.

- **Experience is the key.** Managed services are hard to get right by vendors for all the same reasons that it is hard for utilities. Make sure the partners you choose can demonstrate their success in delivering the full managed service.

How Would You Tackle the Future?
The breadth of scope involved in really successful smart grid implementations stresses utility resources, focus and risk tolerance. There is simply so much to do throughout the lifecycle of a successful program that few can go it alone and expect world-class results. Leveraging effective, experienced and proven managed services can help shift non-core burdens to capable partners and allow utilities to focus on leveraging the needed smart grid benefits related to their core mission: Safe and reliable power at the right cost of service.

How Important are Partners Anyway?
In an earlier article in this series, we talked about interoperability and explained a new concept that Elster calls “3D Interoperability.” Unlike today’s 2D interoperable systems, the 3D interoperability model emphasizes application flexibility as much as device and communications flexibility. Although the three-dimensional approach promises convenience, lower costs and increased productivity, it is much more complex than 2D interoperability. It is due to this increasing complexity that partnering is critical.

As important as interoperability is, it is just one aspect of the smart grid. There are many other complex technical and commercial aspects. The investment and promise of the smart grid drives a much larger stakeholder footprint. Beyond utility engineers, the stakeholder footprint includes utility executives, community leaders, as well as consumers. The smart grid needs to address the needs of all the stakeholders.

At Elster, we have partnership programs that focus on technology, standards, emerging solutions and commercial activities. It is through these partnering programs that we devote people and other resources to furthering effective solutions for our customers and our industry. Leidos is an excellent example of an Elster technology and sales channel partner. Leidos has decades of experience with complex systems integration, systems hosting, application development/coordination and technology consulting.

Individually we can think up many things. Together we can do many things. In the end, that is the main value of partnering … getting more done.

Pat Corrigan
Vice President, Public Utilities
Elster Solutions
United Power Taps the Power of SGS

United Power is a rural electric cooperative leveraging Smart Grid as a Service (SGS) to improve efficiency and deliver enhanced member support. United Power provides service to nearly 70,000 homes and businesses throughout Colorado's northern Front Range. "Leidos' SGS solution has allowed United Power to reduce costs, enhance efficiencies and proceed with the AMI deployment. The analytical capabilities of SGS are enabling us to better understand our infrastructure and proactively address potential problems," said United Power CEO Ron Asche.

About the Author

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Josh Wepman is a senior solution architect at Leidos and serves as the product manager for the Leidos Smart Grid as a Service (SGS) solution. He brings nearly 10 years of energy and critical infrastructure experience from numerous oil and gas and utility operations. His present work includes developing integrated smart grid and AMI solutions that empower utilities to transcend basic technology investments and instead focus on clearly understood business, operational and engineering benefits. Josh is a graduate of the Michigan State University School of Communication Arts & Sciences, Department of Telecommunication Information Studies and Media.

About Elster Solutions

Elster Solutions is the North American electricity business unit of Elster, a multi-national, 7500-person company providing electricity, gas and water meters and related communications, network and software solutions to customers in more than 130 countries. Headquartered in Raleigh, NC, Elster Solutions is focused on delivering the vital connections utilities need to achieve the greatest possible value from their meter data.

From smart meters and other grid sensors, to advanced metering infrastructure (AMI), meter data management (MDM), network communications, data analytics and pre-integrated, partner-based solutions for sophisticated grid power management, Elster's solutions unlock the data stored in electric, gas and water meters. By transforming meter data into meaningful grid performance information, Elster helps utilities and their customers improve system reliability, enhance operational efficiency, enhance customer service and reduce their carbon footprint.