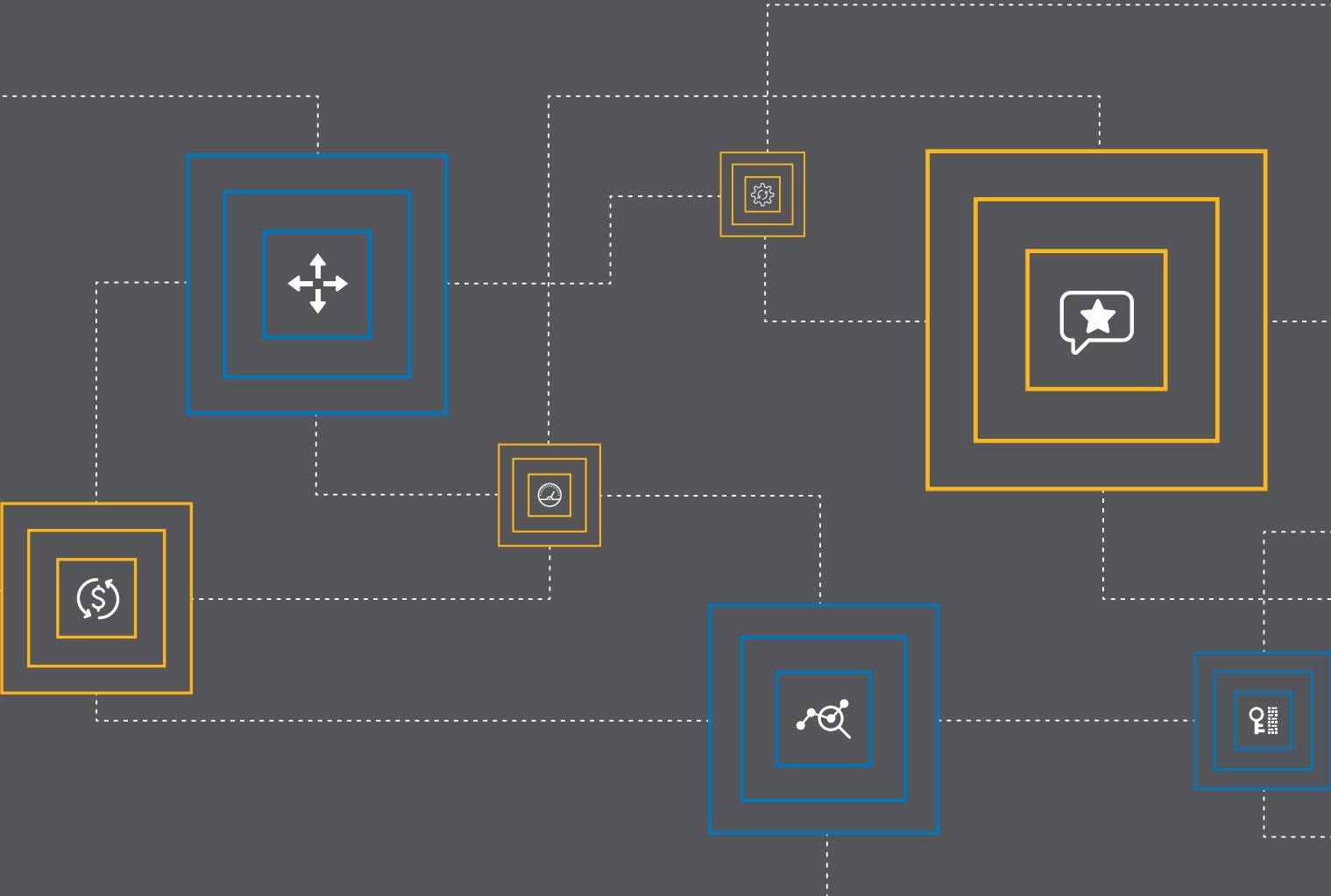


Nothing's out of reach.



CUSTOMER SUCCESS | SERVICES

Managing a Smart Utility Network





Core smart utility network management tasks

CONFIGURE

Set up system, software and device operation

MONITOR

Observe, detect and record network operation; respond to identified issues; resolve potential problems before they become issues

TUNE

Make ongoing adjustments for proper network operation; ensure consistent communications; maintain service-level agreements

TROUBLESHOOT

Monitor and analyze data and alarms to maintain proper system operation

OPTIMIZE

Maximize efficiency and speed of network to minimize costs and extend network life

As the global trend of urbanization brings a steady migration of people into larger cities and swells metropolitan populations, demand is mounting for cities to be smart. Residents want to live in communities with peak operational efficiency, high-tech functionality and minimal environmental impact. To this end, municipal leaders are recognizing that a smart utility infrastructure sets a solid foundation—literally—for doing smart right.

But it's not just high-density areas that benefit from moving to smart utilities. Every community, from huge cities and sprawling suburbs to midsize towns and rural villages, can experience positive impacts from gas, electricity and water providers taking advantage of today's smart utility network technology. And with the pace at which technology is changing utility operations, doing things the same way they've always been done is becoming less acceptable. In fact, for utility providers across the spectrum, it's not a matter of asking, "Should we implement a smart utility network," but rather it's asking, "How should we implement a smart utility network?"

Smart utility network must-haves

"Across utility providers, there is a diversity in scale, size and complexity," explains Jeff Little, communications product manager at Sensus. Some utilities or municipalities have entire teams devoted to managing their smart utility networks. But then you have smaller organizations that have one person who answers the phones, does the billing and is responsible for managing the network. Wherever a utility provider falls within that spectrum, there are consistent primary concerns for everyone, according to Little. "Regardless of network architecture," he says, "utilities care about read-success rates, infrastructure health and traffic monitoring. This information is vital to day-to-day functioning, as well as for planning growth and scaling."

With any AMI solution, there is a specific group of core smart utility management tasks, including network configuration, monitoring, tuning, troubleshooting and optimizing (see sidebar for details). Of course, managing the physical network assets is also a significant part of the task list. "A utility needs to ensure network and head-end support, as well as stay focused on controlling costs and maintaining security," Little adds.



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DIY network management

Large or small, some utility providers choose to manage their smart utility networks completely in-house. According to Jack Swearhart, vice president of managed services at Sensus, "Whatever the AMI solution, the utility is buying an asset and takes ownership of the responsibility to operate, maintain and manage it."

There are numerous reasons utility providers opt for in-house network management. Here are the top five:

1. Desire for perceived control of every aspect of the system
2. Preference for CapEx spending and owning hardware and base stations
3. Stringent IT specs
4. Cultural resistance to outsourcing
5. Security fears ("I want my own security.")

The DIY approach to network management can work. But Swearhart appeals to utility providers to consider everything involved in managing a network themselves—and doing it well. "Providers must determine if network management is their core competency," he says. "If it's not, can they adapt to that competency and retain it?"

There's also the issue of price predictability across the board—in other words, total cost of ownership. Bo Myers, manager for software product management at Sensus, brings several questions to light for providers to contemplate. "You may buy a meter outright, but what is your cost per year? Server costs are rapidly increasing, and there's always another software update to install," he says. "Infrastructure maintenance and upgrades add another layer of unpredictable expense."

Security must also be at the forefront of every AMI solution. With the in-house approach, it's the utility provider's responsibility, and any utility is at the mercy of its chosen "security person" (or team). But will that person provide 24/7/365 coverage? What happens if he or she leaves?

According to Swearhart, "Right now, we're really seeing an industry shift. Utility providers are recognizing their core competencies and realizing that it's better to let the solution experts with domain expertise take care of their AMI networks."



“In considering a NaaS partner, the bottom line for the utility provider is to be sure that its voice is being heard.”

JACK SWEARHART

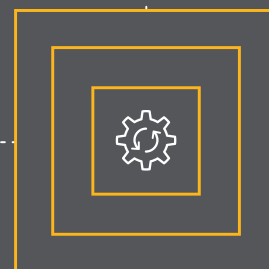
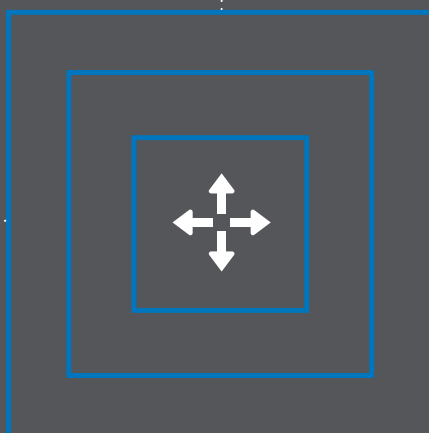
Vice president of managed services
Sensus

Considering a partnership

When the prospect of the DIY approach to smart utility network management becomes daunting, network-as-a-service (NaaS) providers are available to help. “There are different levels of outsourcing,” Little explains. “And it’s vital to find a solution provider for which smart utility network technology is the core competency.”

For a smaller utility, the data from its AMR or AMI system is needed to create an accurate bill. So a simple solution in this case would be for the NaaS provider to take an exception-based reporting approach. This shows what’s not going right in the network—identifying equipment or end points that have gone silent. “They want to know, ‘Can I bill my customers?’ If yes, great. If not, they want to know what to do so they can,” Little says. An at-a-glance application addressing these minimal requirements provides a “state-of-my-network” snapshot on an intuitive dashboard.

But with a good NaaS provider, every utility—no matter the size—receives all the advantages of services that the largest markets are benefiting from, including more stringent requirements, feature-rich applications and robust security. According to Myers, “The assurance that someone is taking care of security for you 24/7/365 with custom solutions is really priceless.”





Benefits of the right NaaS partner



Security expertise



Predictable costs



Scalability



Core business focus



Guaranteed performance

A smart decision for a smarter future

For those utilities and municipalities considering a smart utility network partnership, the benefits are significant and make a strong case for relying on a NaaS provider.

SECURITY

The NaaS provider should have the expertise and certifications to maintain and update security. The network should be monitored 24/7/365 with world-class security, and the provider should perform regular security audits.

PREDICTABLE COSTS

With NaaS, capital expenditures for hardware or software are eliminated, providing predictable costs for budgetary planning. A utility can also reduce IT and operational costs by leveraging its NaaS partner's personnel to manage, monitor and maintain the network for the full useful lifecycle of assets.

SCALABILITY

The NaaS provider will maintain and update the network, so as technology advances, so does the customer's infrastructure. The NaaS provider should have a flexible multi-application network that is scalable for smart metering and more.

CORE BUSINESS FOCUS

The utility can free its staff to focus on its core business and business-critical initiatives while also leveraging the provider's expertise.

GUARANTEED PERFORMANCE

The right NaaS provider should be able to promise a high percentage of reads—ideally 98-99%—and ensure that the network is operating at peak performance. If network management is done in-house, reliable performance is the responsibility of the utility provider.

Smart utility networks continue to become the norm. So gas, electric and water providers must decide whether to manage their networks on their own or find trusted partners. "In considering a NaaS partner," Swearhart says, "the bottom line for the utility provider is to be sure that its voice is being heard." What are the specific needs? Deployment progress tracking? Overall system health monitoring? System capability fine-tuning? It's imperative that utilities look for a NaaS provider with a scaling suite of feature-rich applications that can fulfill the functions they demand. "The right NaaS partner will ensure that the unique requirements of a utility provider—small and simple to large and complex—are optimally being met."

About Sensus

Sensus, a Xylem brand, helps a wide range of public service providers—from utilities to cities to industrial complexes and campuses—do more with their infrastructure to improve quality of life in their communities. We enable our customers to reach farther through the application of technology and data-driven insights that deliver efficiency and responsiveness. We partner with them to anticipate and respond to evolving business needs with innovation in sensing and communications technologies, data analytics and services. Learn more at sensus.com and follow us on Facebook, LinkedIn and Twitter through @sensusglobal.

Sensus by the numbers

