

# nrgSMART™ Enables Real-Time Remote Monitoring in Multi-Tenant Data Centers

## Case Study

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## Customer

Global Integrated Information  
Technology Company

## Background

Amphenol Network Solutions worked closely with a key customer to deploy a standardized power monitoring and management solution implemented in multiple facilities in a large-scale network buildout. nrgSMART™ provides a non-intrusive, dynamic, software-based platform for power monitoring at the circuit level, as well as delivering detailed and extensive power usage data. Users can be proactive, rather than reactive, regarding power management.



## Application

- Power management in fiber optic network buildout
- Unmanned data center shelters located regionally throughout the network
- Edge devices and other equipment deployed closer to end users
- Customer leases unutilized space in each facility to co-locators

## Challenges

- Data centers in remote locations require power monitoring from a central facility
- Expansive size of the network buildout demands a high quantity of power distribution panels
- Power management is a critical function given the nature of the application
- Deployments of new shelter facilities must adhere to budgetary mandates

## The Solution

### nrgSMART Integrated Power Monitoring Technology

## Our Approach

Amphenol Network Systems nrgSMART is a continually evolving technology. As such, working with users in the field reveals its capabilities in a variety of applications. In this case, the customer sought a solution for voltage/current monitoring, co-locate power tracking, and power usage data for facilities spread over a broad geographic area. nrgSMART fit the bill.

Typically, most equipment racks require a power distribution panel.

Amphenol Network Solutions integrates nrgSMART monitoring technology within the fuse or circuit breaker panel, so users gain these advanced capabilities in no additional rack space.

Finally, as part of a multiyear project, Amphenol Network Solutions engineers have worked directly with the customer to update and, in some cases, modify nrgSMART software to fit specific requirements.

## Results and Benefits

Many of the primary features and advantages of nrgSMART make the solution ideal for this specific customer, market and application.

- Detailed power consumption analysis for co-locates. Both host and tenant gain access to actual power usage, providing a clearer view of equipment

and capacity requirements. Billing can adhere to a more precise “per use” method rather than traditional plans.

- Real-time data from unmanned facilities. In this specific situation, data centers/shelters generally are not staffed. From a central location, nrgSMART users can oversee power consumption in real time, eliminating the need for costly site visits while staying ahead of potential power issues.
- A power consumption roadmap for future growth. Accurately specify requirements for future installations based on detailed data from existing deployments.
- Understand power for provisioning purposes. With nrgSMART, provisioning is no longer an inefficient matter of basic minimum/maximum specifications. Accurate data enables the smart allocation of resources.
- Reduce truck rolls for non-critical equipment. Tackle issues remotely, if

possible, based on real-time 24/7 alerts.

- Address inefficiencies of individual components. Inefficient components can place a strain on power. Target substandard equipment for replacement utilizing remote monitoring.
- Drill into detailed energy usage and costs. From determining actual power usage of individual components to tracking and analyzing usage trends, nrgSMART provides insight into equipment performance to identify issues before they become impactful.
- Evaluate power usage comprehensively. From a single, user-friendly and resource-efficient platform, nrgSMART users gain a broad power view—current per circuit, total input bus current, panel input voltage, data from external temperature probes, and more. The result is a much clearer view of power usage and requirements.

### **In addition, several nrgSMART-specific technologies set it apart from other power monitoring products.**

- Customizable alarming. Users can set up to four thresholds for every datapoint, creating a comprehensive alarming system to specific conditions. Current, voltage and temperature thresholds can alert users to a potential problem before it interrupts service.
- Latest security requirements and protocols. nrgSMART is SNMPv3 and IPv6 compatible, with ongoing updates as needed.
- Tiered access for multiple users. Admin, user and technician accounts provide different levels of access to simplify activity and enhance security.
- One controller manages up to 30 panels. Key for remote sites, this allows users to monitor multiple panels via one switch port, with one controller module, greatly simplifying the process in large-scale applications.

## Usage

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In this particular customer relationship, Amphenol Network Solutions nrgSMART panels are standardized in all facilities nationwide. Co-locate partners must also utilize nrgSMART panels for compatibility and overall visibility into power usage.

## About the Author

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**Jon White**  
Product Manager

Jon White is an accomplished Product Manager with more than 10 years of experience in the industry and a Bachelor of Science degree in Electrical Engineering from the University of Hawaii at Manoa. With a unique combination of real-world mechanical skills and a passion for hands-on problem-solving, Jon goes beyond the confines of a computer screen when it comes to design and troubleshooting. His expertise lies in turning customer-specific solutions into tangible realities, and he was honored with the 2022 Product Line Resilience Award for his unwavering dedication during challenging supply chain issues. Outside of his professional endeavors, Jon volunteers his time for the Society of Women Engineers and is captivated by anything that goes fast, embracing a love for speed in various forms.

## About Amphenol Network Solutions

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At Amphenol Network Solutions, we are driven by a passion for innovation and a relentless commitment to creating customized solutions that seamlessly integrate with your unique requirements. With our deep understanding of fiber optic technology, we specialize in creating tailored solutions that anticipate and adapt to the rapidly evolving demands of your network. Through our responsive support, unwavering commitment, and ongoing collaboration, we ensure that our solutions are ready to deliver superior performance and reliability.

For more information, visit [amphenol-ns.com](https://amphenol-ns.com)