

Comverge and ZigBee: Helping Utilities Define the Clean Energy Sector

The 21st century has brought with it numerous challenges and also many opportunities for the utility industry. More stringent environmental laws along with a growing preference for clean energy fuels have created a strong focus on clean energy. And, while the utility industry shares a common goal — making more power while producing less carbon dioxide — there is no single simple solution. Many utilities have begun including several elements of green energy in their power portfolios including promoting energy efficiency. Instead of building new transmission corridors or additional peaking plants, utilities are now focusing some of their efforts and investments on demand response programs.

Comverge, a ZigBee® Alliance member and a leading clean energy company, provides innovative solutions to utilities with peak challenges through automated metering infrastructure (AMI) and demand response products. Utilizing ZigBee's open and ubiquitous design, Comverge has successfully launched the nation's first ZigBee enabled demand response program as part of a pilot project sponsored by the Center for the Commercialization of Electric Technologies.

Comverge uses ZigBee to successfully execute load control operations from its data center in Atlanta, Georgia to 500 homes in Houston, Texas through its SuperStat® thermostats and digital control units. Comverge provides energy management for the central air conditioning systems, electric water heaters, pool pumps and other high usage residential appliances to improve efficiency. This frees consumers to program their thermostats through Internet portals, view their energy usage, and with the click of a mouse, change the setting on their thermostat. During times of high electricity usage, the Comverge system uses ZigBee as a two-way communications infrastructure to change thermostat settings by a few degrees or cycle off air conditioning systems for short periods of time.

“Integrating ZigBee demand response with AMI, allows utilities to better leverage their investment in AMI and provides significant benefits to utilities and

The benefits of advanced grid management systems and demand response allow utilities to increase their cost effectiveness and reliability while consumers save on their monthly bill.

Business Goals

Comverge with ZigBee solutions enable electric utilities to provide demand response solutions using AMI ensuring improved consumer energy management, enhanced electric capacity realization and superior systems operations during peak energy usage.



Comverge SuperStat® Thermostat

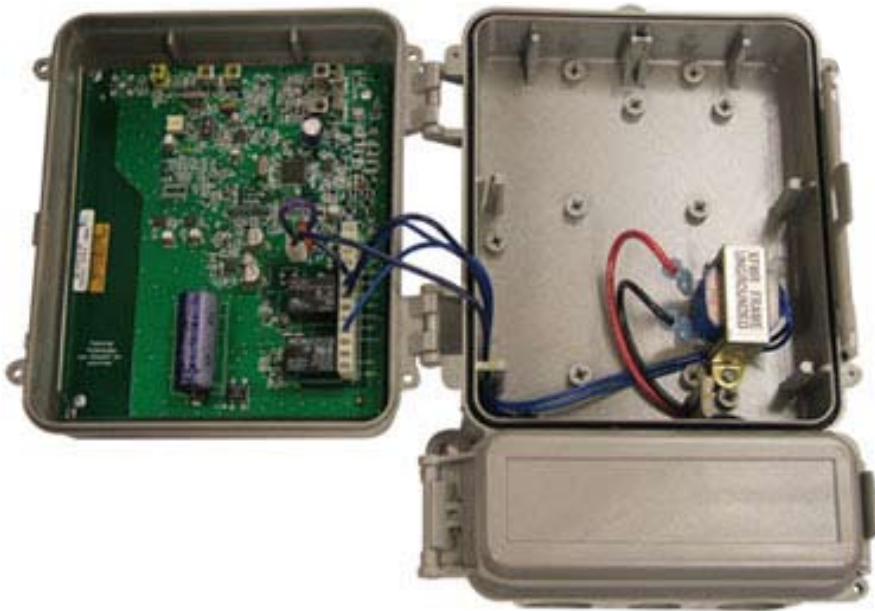
their customers,” said Edward J. Myszka, Comverge president and COO, Smart Grid Solutions Group. “Our ZigBee enabled equipment provides true two-way communications between a utility and their customers and enables new products and service offerings even beyond demand response.”

Two key components of clean energy include “smart” grid infrastructure and energy efficiency. Comverge uses ZigBee to be a leading provider in both of these areas, providing cost-effective solutions to increase grid reliability while reducing costs to the utility and ultimately consumers as well.

Improving Utility System Operations; Going Green and Saving Green

Consumers’ awareness for clean, reliable energy has increased significantly over the last few years and governments are now offering incentives to companies that are investing in clean power generation. Comverge and ZigBee offer utilities cost effective energy solutions that do not create any new sources of harmful emissions and are far less expensive than building and operating new power plants, and nor do they require any additional investment in transmission and distribution assets.

By including green energy in their power portfolios, utilities are beginning to provide a clear vision of our energy future. Where this energy future was once viewed with fear and trepidation, a new promising perception of a green future is dawning and is seen as a potential engine for economic growth.



Comverge Digital Control Unit

Technology Solution

Comverge with ZigBee solutions enable commercial, industrial and residential customers to reduce energy costs, capture increased value from demand response and energy efficiency markets and take advantage of alternative power initiatives.

Benefits

Comverge with ZigBee Smart Energy provide utilities with a means to:

- Reduce emissions
- Eliminate line losses
- Increase reliability
- Defer generation and transmission acquisition

® SuperStat is a registered trademark of Comverge, Inc.