HAI Adopts ZigBee Pro for Smart Energy, Home Automation

Popular home automation vendor is shipping thousands of smart thermostats and related devices to utility companies; implementing ZigBee Pro Home Automation and Smart Energy profiles.

The graphic energy display changes color as an easy way to show energy state or events.

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05.26.2009 — Home Automation Inc. (HAI) is quietly providing utilities with thousands of wireless thermostats and related devices that communicate with a smart grid.

The products utilize an RF technology called FlexNet, developed and used by Sensus, a leading provider of smart meter solutions. But HAI is on board with ZigBee, the two-way mesh networking protocol that is rapidly finding favor among electric utilities.

HAI, which probably has the largest installed base of home automation systems in the U.S., is rolling out ZigBee Pro versions of its utility products, including a thermostat, a small display for energy monitoring, and intelligent load control modules.

"The reason we went with ZigBee is because the development tools have really lept forward to create interoperability," says HAI chief Jay McLellan.

The new ZigBee Pro defines certain device profiles, allowing interoperability among products from disparate manufacturers. Previously, manufacturers implemented their own versions of ZigBee, making the RF technology anything but a standard.

In particular, HAI is incorporating the Home Automation and Smart Energy profiles defined by ZigBee Pro.

Control4, which competes against HAI and has unquestionably the largest installed base of residential ZigBee products, announced yesterday that it would convert its products to comply with ZigBee Pro's Home Automation spec. (Installed products can be converted via a firmware update.)

McLellan believes that ZigBee-enabled meters connected to the smart grid will provide ample opportunity for manufacturers of ZigBee products and the pros who install them. (Of course, they've been saying that for years, and it hasn't happened yet.)

The utility's interest basically ends at the thermostat.

"The utility doesn't care about light switches," McLellan says, "but you as a customer may want to turn certain things off when the rates are high."

The utility programs and standardization under ZigBee Pro represent "a huge opportunity for dealers once they start rolling out," McLellan says.

He suggests that dealers get their electrical contractors' licenses to prepare for the onslaught.

HAI is "knee deep" in development surround utilities' energy management initiatives, McLellan says.

The company's ZigBee products will work with utility load control systems and HAI's own automation systems as well.

For its Sensus work, HAI is teaming with 4Home, which offers customer-centric software for monitoring and managing energy use in the home.

Don't Dismiss Z-Wave

HAI has been a long-time implementer of Z-Wave technology, which competes with ZigBee for two-way RF control.

Even if ZigBee wins in the utility space, though, don't write off Z-Wave, McLellan says. "There will be bridges to everything, just like today," he explains. "People are happy with Z-Wave. It's fast and it's good."

Even so, McLellan likes the competition within ZigBee – about one dozen companies currently

build chipsets to the spec., compared to just one for Z-Wave (Sigma Designs, which purchased Z-Wave developer Zensys last year).

"ZigBee has multiple manufacturers," McLellan says. "To me, that's what really defines a standard."

HAI's ZigBee Pro Products

HAI isn't married to ZigBee, but McLellan likes the traction it's getting on the utility front. HAI can easily swap out the radios in its products to comply with the protocol of the utility's choosing.

Omnistat2 Thermostats
Omnistat2 thermostats have the ability to be used by utilities for Time of Use and Duty Cycling. The graphic energy display changes color as an easy way to show energy state or events. When available from the utility, the Omnistat2 shows the current cost of energy, how much energy the homeowner has used, and how much the homeowner's utility bill is currently.

- RC-1000 - Single Stage
- RC-1500 - Multi Stage Universal
- RC-2000 - Multi Stage with Humidity

Load Control Modules
Load Control Modules control control the power consumption of high wattage loads, such as pool pumps and hot water heaters.

- 73A00-1 - 30A Wireless Utility LCM
- 73A00-2 - 5A Wireless Utility LCM
- 60A00-X - 15A Plug-in LCM (120V 60 Hz)

Display
HAI offers the In Home Display for homeowners to track their energy usage and to receive custom messages from the utility. It has an internal battery backup that allows for homeowner

notification after an outage. The graphic energy display changes color as an easy way to show energy state or events. In Home Displays have the ability to remote control HAI Load Control Modules (LCMs

- 81A00-1 - In Home Display