



IN THE NEWS

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Wellspring Installs ZigBee Boiler Energy Recovery System in 590 apartments owned by Costanza Enterprises

*Wireless System Monitors Apartment Energy Consumption
Facilitates Future Upgrade to ZigBee Monitoring & Temperature Control*

Rochester, NY (January 31, 2006)—Wellspring Wireless today announced the completion of its first commercial ZigBee Energy Monitor system – which will track boiler energy supplied to 590 apartment units owned and managed by Costanza Enterprises in Rochester New York. The system will be billed by WaterWatch, a Rochester based utility billing service company. Each ZigBee wireless Energy Monitor tracks boiler water temperature and run time for 4 apartments, logging “degree-minutes” in 4 separate registers as the basis for boiler energy cost allocation. This multiplexed approach lowered installed cost, while measurement of temperature along with run time improves allocation accuracy, and assures compliance with ASHRAE Guideline 8. The Energy Monitor compliments Wellspring’s existing line of ZigBee based wireless Aquara (pronounced *Ak'-u-rah*) water submeters that may be applied at each water consuming appliance to monitor water and wet energy use in any building, no matter how it is plumbed. You can learn more about the benefits of Wellspring systems at www.impactmovie.com/wellspring.

Jim Costanza offered this insight into the economics of the project. “This technology can reduce energy usage by 20-30 percent and that is the most compelling rationale for deploying the system. If our residents behave like others who are responsible for, and aware of, their own utility expenses, consumption will drop at least 20% - bringing a significant conservation benefit to our residents at a time of escalating energy costs. This benefit is entirely lost if a landlord simply passes the increased cost of energy to the resident via rent increases. With Zigbee, we installed a standards based platform that will allow us to build important new amenities into our properties that will make our residents’ lives more secure, more comfortable and at the same time, do something positive for the environment “

Technology Challenges Addressed

Naturally, Wellspring and WaterWatch encountered some challenges on this project, when Costanza discovered that some apartment thermostats controlled common area heating, and power was not always available where Wellspring needed it. Over 4 hectic days, the Costanza property teams individually tested and measured each of 590 zone controls. It was decided that some Energy Monitors had to be installed inside the apartment units. Happily, this was no problem for the Wellspring system, which can track run time from the temperature sensor alone, and operate from either line power or batteries. “We designed this product for total flexibility, with 6 inputs, 4 outputs, and with firmware capacity to customize the link between inputs, meter registers and output relays. “That flexibility and some hard work by Costanza’s property teams saved the project schedule,” according to Tim Matt, Wellspring’s CTO who watched over the installation. “We actually converted Energy Monitors at the jobsite from line powered to battery operated, and downloaded new firmware through the radio network - we made the change on the fly.”

Tim Matt lauded ZigBee technology leader Ember Corporation, and development partner Mindteck for their contributions. “We worked closely with ZigBee market leader Ember, drawing on their expertise and experience. Ember’s

radio and mesh networking software is the industry's most mature ZigBee compliant platform. Mindteck did a great job as our firmware development partner, delivering quality code that is fully documented in spite of a very tight schedule and changing requirements. Their openness and enthusiasm in responding immediately to issues raised by Wellspring and Ember helped successfully address many challenges in this project. At this point, it is clear that both Ember and Mindteck are leading their competitors in ZigBee."

ZigBee is the Way of the Future

About the size of a deck of cards, each Energy Monitor will transfer consumption data via two way ZigBee radio to WaterWatch, the billing service company selected by Costanza for this job. Wellspring believes that this project will be one of the largest single site ZigBee deployments in the nation. ZigBee is a global specification for reliable, cost-effective, low power wireless monitoring and control applications based on the IEEE 802.15.4 standard. ZigBee technology is well suited to a wide range of building automation, industrial, and residential control & monitoring applications.

"We selected Wellspring's system because we are excited about ZigBee, and where it will take us in the future," said Jim Costanza, President of Costanza Enterprises. "Many other suppliers are developing ZigBee based building products that can use our Wellspring network to communicate - to provide sophisticated temperature control, monitored security, electrical load control and performance diagnostics – all systems that we will consider in the future."

Wade Smith, Wellspring CEO, explained the company decision to standardize on ZigBee. "ZigBee is an open wireless two-way communications protocol that enables our customers to exploit a host of new ZigBee based products and systems offered by others, which will lower utility costs and boost revenues for apartment owners. And the system itself is very robust – far more reliable than legacy systems that are commonly used for submetering."

ZigBee allows each monitoring point to receive as well as send data. To exploit this capability, Wellspring adds control outputs to each Energy Monitor and Aqura water meter. So, when ZigBee thermostats hit the market next year, Costanza Enterprises can simply make use of the Energy Monitor to control temperatures wirelessly, and save energy. “The addition of control outputs add nothing to cost”, according to Wade Smith. “Every ZigBee radio is two-way, so they can exercise control, and the cost of a few extra traces on the circuit board to drive output relays is trivial.”

Shankar Velayudhan, Mindteck CTO added, “It is a great privilege for us to be associated with Wellspring in building the ZigBee applications for their Aqura meters and Energy Monitors, which are now operating in one of the largest single site ZigBee deployments in the world.

About Costanza Enterprises

Costanza Enterprises is one of the largest owners serving the Rochester New York apartment and commercial building market. Costanza can be reached at 585-232-3600.

About Wellspring Wireless

Wellspring Wireless offers the nation’s most complete line of water and energy sub-utility products for all building types. Wellspring is based in Bristol Pennsylvania. For more information, call 215-788-8485 or visit www.wellspringwireless.com.

About WaterWatch

WaterWatch is a full-service utility submetering and billing company, based in Rochester, NY. Billing services include water, sewer, electric, gas, cable, trash and rent. WaterWatch has a national presence serving the multi-family industry for more than eight years. They can be reached at 585-454-1362

About Ember

Ember enables communication among embedded microcontrollers with standards-based wireless mesh networking semiconductors and software. Ember is headquartered in Boston and has its radio development center in Cambridge, England. Ember is a lead member of the ZigBee Alliance, and its platform is the National Technical Systems' (NTS) "Golden Suite" for 802.15.4/ZigBee interoperability testing. For more information, please visit www.ember.com.

About Mindteck

Mindteck is a leading provider of embedded software services, solutions and electronics design services in embedded systems development. Mindteck is a one-stop shop ZigBee design services provider and a member of ZigBee Alliance. For more information, call 510-490-1905 or visit www.mindteck.com.

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