

**The Louisiana hospital is using Newbury Wi-Fi RFID tags from Trapeze Networks to monitor conditions within all of its heating and cooling devices.**

By Claire Swedberg

Nov. 20, 2009—[Terrebonne General Medical Center](#) (TGMC) has begun installing RFID-based sensor tags to track temperatures within all of its refrigerators, freezers, medical fluid heaters and blanket warmers, using ActiveAsset software and AT320 active Wi-Fi RFID tags from [Newbury Networks](#), a division of [Trapeze Networks](#). The system will be used with the hospital's existing [Meru](#) Wi-Fi system. All devices are expected to be tagged within the next 60 days.

By utilizing its existing wireless system, the 300-bed hospital has only to attach tags inside the cooling or heating equipment throughout the facility, and install the Trapeze software, which resides on TGMC's server, to interpret data from Wi-Fi Meru access-points, indicating the location of each cooler or warmer, its current temperature and its temperature history, and send alerts when necessary.

TGMC first began discussing the system with Trapeze's Newbury division, to place temperature-sensing tags in refrigerators and freezers for storing pharmaceuticals. Before the system was installed, however, the hospital expanded its plans to include all refrigerators and freezers (not just those for storing pharmaceuticals); all containers that either heat or cool medications, medical devices or tissues; and heaters and refrigerators in the cafeteria. The blanket warmers—which heat up blankets before they are provided to patients in the surgery area—are also being tagged. Altogether, the hospital plans to use more than 120 tags.

Like all hospitals, TGMC must adhere to [Joint Commission](#) guidelines requiring refrigerator or freezer temperatures to be checked regularly. Prior to adopting the Trapeze system, TGMC's staff took a pen and paper to each cooler in the 1-million-square-foot hospital, recording the temperature twice each day. The facility sought a system that could transmit ID and sensor data via the existing Wi-Fi system, and do it without adding other hardware, such as excimers, to allow reads of all sensor tags within the coolers and heaters throughout the building.

Other vendors would have had to add hardware to their existing system in order to guarantee reads of all sensor tags, says Jeff Sardella, TGMC's network administrator. In so doing, he explains, they could achieve greater visibility into the condition of the coolers and heaters, and save employees hours of time spent manually recording temperature measurements each week. Newbury's system, Sardella says, was the only one that could offer Wi-Fi coverage without extra access points or excimers.

Newbury's AT320 active tags measure 2.5 inches by 1.6 inches by 0.8 inch, says Brian Wangerian, the company's VP of business development, and beacon every 15 seconds at 2.4 GHz to existing access points that the hospital had previously installed in order to provide network access to laptop computers within the building. The access points transmit the data to the location manager, which then routes that information into the ActiveAsset software on the TGMC-hosted server. The ActiveAsset software

determines the asset's identity, and also captures the temperature reading. If the temperature passes that machine's high or low threshold, the software then sends an alert to the hospital operator, who routes it to the appropriate department—such as the pharmacy, the cafeteria or engineering, in the case of a refrigerator requiring maintenance.

The tag is attached inside the cooler or heater, on or near the back wall, where it is less sensitive to occasional temperature fluctuations caused by opened doors. The tag captures the temperature, then transmits that data through the container wall. This is problematic only at the walk-in cooler, Sardella notes, where the cooler's thick metal reinforcement makes it more difficult for transmissions to be received by the existing access points. To resolve that problem, Wangerian says, Newbury plans either to create a tag with a sensor probe, thereby allowing the tag to be attached outside the cooler and the temperature sensor inside, or add an additional access point that is installed closer to the cooler.

Once the tag is installed, Terrebonne's staff signs into the ActiveAsset software, inputs the refrigerator tag's ID number and configures temperature rules and other identifying data related to that cooler or heater. Altogether, the hospital intends to install tags within 57 refrigerators, 34 freezers, 15 blanket warmers and 16 fluid warmers.

The data can then be accessed by staff members, as well as by Joint Commission representatives visiting the hospital. "It's exactly what we were looking for," Sardella states. "Our next step will be to tag IV pumps," he notes, of which there are approximately 300 at present. These devices, he says, will use the same active Newbury Wi-Fi tags for this asset-tracking function, and will be able to track the pumps on the same ActiveAsset software. The assets' locations will appear on floor maps of the facility, which Sardella says the hospital is creating itself and providing for use with the software.