

# First Responders Can Tag Victims For Tracking

The goal is to route victims for medical care more quickly, and to prepare hospitals for the types of injuries they'll be required to treat.

By Claire Swedberg

Oct. 6, 2006—The governments of Belgium, the Netherlands and Germany, in the last few weeks, have been reviewing a system designed to track disaster victims wirelessly from the scene of the incident to the hospital. Only Belgium has, thus far, piloted a customized version of the RFID-equipped Victim Tracking and Tracing Systems (ViTTS).

Cisco Systems is presently offering the BeViTTS product to Belgium. The solution includes battery-powered RFID tags and exciters (devices that transmit a low-frequency signal to turn on dormant tags) from AeroScout; tag readers created by Intermec; and a software system provided by Orion Health. Also included is an Internet portal and server software by CITS, as well as Cisco's mobile and wireless network technology. The Belgian government has been seeking a better solution for tracking victims during a disaster, says Wim Verduyn, Cisco's health-care account manager.

BeViTTS will use RFID technology to help the government, hospitals and the Red Cross respond to disasters more quickly, routing victims to the most appropriate medical care. BeViTTS also includes a database that will contain the routing information, and could include data on the victim's health.

The BeViTTS system requires that emergency workers arrive at the scene of an accident with Intermec 761 handheld devices and RFID-enabled, color-coded bracelets for identifying patients. A worker uses the device to read the unique ID in a patient's bracelet and input the patient's name and physical condition. That information is then transmitted wirelessly to a centralized database. Emergency workers or doctors can also take a picture of the patient with their handheld device, which can be sent with other data about the patient to the database.

AeroScout is providing the RFID-enabled bracelet, which is color-coded to indicate the condition of the patient—for example, black for dead or red for "urgent care required." The bracelet includes a 2.4 GHz RFID active tag, with a range of 100 feet, compliant with the 802.11 Wi-Fi standard, says Joshua Slobin, AeroScout's director of marketing. The tags can be set to send a signal every minute, every second or more frequently to Cisco Wi-Fi access points that may optionally be installed on ambulances and at doors and hallways of hospitals. The tag can transmit its unique RFID number, or other details, such as a patient's temperature, if the tag includes sensors. Those Wi-Fi access points function as RFID interrogators. Data is then stored and made available to emergency workers via a Web-based portal. Thus, a crisis-management team can access the data necessary to prepare hospitals for the arrival of a patient, while friends and family can be notified immediately as to the exact location of the victim.

Since the initial goal is to make this a low-cost solution, the base bundle won't include access points in ambulances and hospital doorways. Instead, AeroScout is providing choke-point exciters utilizing a low-frequency transmission to wake up a bracelet's RFID tag and pinpoint the exact location of a patient

entering a doorway or hall within the hospital.

Some doctors' vehicles will be equipped with the Cisco 3200 Series Wireless and Mobile Router, also called the Mobile Access Router (MAR). This device creates a broadband wireless network connection in and around vehicles for transmitting data about patients at the disaster site, as well as information on where they need to be routed. The device can support many different network connections, both fixed and wireless, and can automatically switch from one to the other, as required. If multiple connections are available, the intelligent router automatically chooses the connection that guarantees the greatest bandwidth.

Verduyn declined to indicate the price for the system, since the cost will vary depending on how widely the Belgian government implements it.

Cisco is offering similar products, without the RFID component, to the Netherlands (NeViTTS) and Germany (DeViTTS). Additionally, it is also demonstrating the system to the European Commission. Germany is testing the system with GPS technology, in lieu of RFID, while the Netherlands is using bar codes.

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