In Motion Technology Case Study:

Acadian Ambulance Service

BACKGROUND

Founded in 1971 with eight employees and two ambulances, Acadian Ambulance Services today is the largest private ambulance company in the United States, with more than 2,650 employees, 270 ambulances, 107 stations and a dozen aircraft.

Acadian transports more than 1000 patients every day across its vast and diverse service footprint that includes urban and suburban areas, the remote swamps of Louisiana's bayou, and offshore oil rigs in the open Gulf of Mexico. Acadian has dispatch centers in Lafayette, Louisiana and Austin, Texas.

To serve one of the most disaster-prone areas of the U.S., Acadian crews must have the training and technology to deal with a variety of emergencies – ranging from routine illnesses and accidents to mass casualty incidents – and has been recognized as a leader in emergency medicine nationwide. JEMS called Acadian "one of the most innovative and diversified EMS systems," and it is one of only three ambulance companies in Louisiana to be accredited by the Commission on Accreditation of Ambulance Services – the gold standard for emergency medicine.

THE CHALLENGE: TO IMPROVE EMERGENCY COMMUNICATIONS

Acadian's sprawling footprint poses many communications and management challenges for first responders. For years, Acadian relied on a private analog radio network to communicate with units in the field. But as the company grew and deployed increasingly sophisticated – and bandwidth intensive – dispatch systems and on-board medical devices, Acadian needed a mobile communications solution with greater capabilities and reliability.

Dispatches and emergency communications often took two minutes to be received. This delay slowed responses, hindered operations and limited Acadian's ability to deploy the latest technologies in its fleet.

To augment its private network, the company used commercial cellular services. However, cellular coverage is unreliable in rural stretches of southern Louisiana, and cellular aircards and modems were frequently damaged from use in demanding emergency environments.

Acadian Ambulance At A Glance

Employees:	2,650
NREMT-Paramedic:	865
NREMT-Intermediate:	30
# NREMT-Basic:	743
Ground Ambulances:	270
Calls per day:	1250

Acadian needed a single mobile network solution that would enable:

- Use of the best available wireless network in any given area – and seamless roaming across networks as units transported patients across the Gulf Coast.
- Deployment of the latest dispatch, communications, management and patient care technologies.
- Confidence that communications gear would withstand the rigors of emergency services and disaster responses.

- Easy upgrades of on-board technology. Acadian was committed to remaining at the forefront emergency medical technology, and a mobile communications solution that would enable deployment of the latest patient care equipment was required.

THE SOLUTION: IN MOTION TECHNOLOGY'S ONBOARD MOBILE GATEWAY AND ONBOARD MOBILITY MANAGER

In January 2008, Acadian piloted three In Motion onBoard Mobile Gateways.

The Gateway turns emergency vehicles into a high performance mobile hotspots – or "vehicle area networks" – that enable all on-board data devices to connect seamlessly.

The Gateway offers levels of data security and communications reliability that set it apart from other mobile communications solutions.

Instantaneous, reliable communications

The Gateway senses and selects the best available wireless network, and seamlessly roams across a variety of networks, including commercial cellular, 3G, 700 MHz, municipal WiFi.

Crews saw immediate and dramatic results. Dispatches, emergency communications and patient information were transmitted and received instantaneously and reliably. Network congestion, dead cells and bandwidth limitation no longer hindered emergency communications.

The Gateway provided secure, worry-free connectivity for data and communications gear deployed in Acadian units, including dispatch systems by TriTech, driver and vehicle monitoring technology by Road Safety, LifePak 12 monitors by Physio Control, and Panasonic ToughBooks.

Acadian Ambulance Deploys Leading Edge On-Board Technology:

- onBoard Mobile Gateway by In Motion Technology
- Lifepak 12 by Physio-Control
- Computer Aided Dispatch by TriTech
- Driver and Vehicle Monitoring by Road Safety

The Gateway was engineered for the most demanding mobile environments. Its electronics are encased in a reinforced steel shell that is bolted inside a cabinet in the rig. This means that communications will no longer be compromised by a broken aircard.

Soon after the trial, Acadian ordered and installed 250 Gateways in ambulances throughout its fleet.

Improved management of communications, vehicles and devices

To enable headquarters staff to monitor and manage operations in real time, Acadian deployed In Motion's onBoard Mobility Manager. The Mobility Manager collects and analyzes information from Gateway-equipped vehicles in the field to provide headquarters staff with a virtual dashboard of detailed information about networks, vehicles and devices.

The Mobility Manager works with standard web-browsers and displays detailed information on a three-dimensional map. The Mobility Manager can also email and send text alerts based on pre-set thresholds to key staff anywhere.

In Motion Technology recently announced several enhancements to the Mobility Manager platform, including:

- onBoard Tracker: Provides real time, remote tracking of the direction, location and speed of all Gateway-equipped vehicles.
- onBoard Telemertry: Provides remote monitoring of vehicle operations and diagnostics.
- onBoard Total Reach: Allows IT "reach through" access and troubleshooting of all on-board devices and Gateway-connected systems.
- Asset Tracker: Enables in-vehicle and remote wireless asset tracking of valuable on-board equipment.

LIFESAVING RESULTS

Since deploying In Motion Technology, Acadian has seen significant improvements in emergency communications and operations.

"Everyone at Acadian is excited about how this technology has improved the service we provide to the community," says Kenny Logan, Director of Electronic Technology for Acadian. "In Motion Technology enables our medics to focus on their mission – saving lives – and not whether our communications are going through."

When an In Motion Technology-equipped Acadian Ambulance receives a call, it receives instantaneous computer aided dispatch information through the Gateway; it takes the fastest, satellite-guided route to and from the scene; critical driver and vehicle information is monitored in real time by operations command; and patient information is wirelessly transmitted to the ER in advance of arrival. In Motion's Technology products and services provide critical data to emergency personnel at the speed necessary to save lives.

Saving Heart Attack Victims on the Gulf Coast

For cardiac patients, minutes can mean the difference between life and death. The American Heart Association recommends that heart attack patients receive angioplasty or other coronary intervention within 90 minutes. Yet only 40 percent of patients receive the 90-minute "door to balloon" standard of care.

Acadian Ambulance, using In Motion Technology, is reducing "door to balloon" time and improving outcomes for heart attack victims along the Gulf Coast.

Since deploying In Motion Technology and Physio-Control's Lifenet STEMI management system, Acadian has reduced the "door to balloon" times for from 90 to 70 minutes.

Units equipped with In Motion's onBoard Mobile Gateway can send diagnostic quality ECG information to the ER from the field. The patient can be diagnosed before arrival and is taken immediately to the cardiovascular catheterization lab, saving precious minutes.

"Although this technology has already improved our communications and operations dramatically, we are exploring a variety of other applications that In Motion Technology will enable us to deploy in the future," said Logan. Acadian is exploring mobile video, VoIP, vehicle tracking and telemetry, asset and inventory tracking and other features.