
St John Ambulance

Metro Ambulance Service Improves Patient Care with In-Vehicle Communications Hubs



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ST JOHN AMBULANCE WESTERN AUSTRALIA (WA)

St John Ambulance WA has been serving the Western Australia and the Northern Territory for more than 100 years. As a community-based organization, its primary role is to provide first aid training and care for the sick and injured.

BUSINESS CHALLENGE

St John Ambulance WA recently introduced several significant technology upgrades throughout its organization. These included improvements to the Computer Aided Dispatch (CAD) system, rollout of the new AmbiCAD system for ambulance and Patient Transport vehicles, and the development of an Electronic Patient Care Records (ePCR) system.

The new ePCR system replaces the paper forms used by paramedics to record patient information. Moving to digital records improves access to patient information by medical staff and allows paramedics to input critical data while in-transit using an Apple iPad tablet. St John Ambulance WA believes it is the first solution of its kind in Australia.

“We wanted the iPads in the hands of each paramedic and ensure every

ambulance was configured so that any team member could jump into any vehicle, and their iPad would just work," said Ashley Morris, Technical Services Director at St John Ambulance WA.

In order to communicate with the CAD and ePCR the tablets require connectivity. St John Ambulance WA was hesitant to use 3G SIMs in the devices and didn't want iPads to be tied to specific vehicles. "We did not want to sign inflatable data contracts that would cost the organization even when units were not in use," explained Morris. "Nor did we want to have to manage more than 850 3G accounts."

So they decided a more cost-effective solution was to create a Wi-Fi hotspot in and around each ambulance. This allows them to utilize the Wi-Fi-only iPad, as opposed to the more expensive Wi-Fi+3G version, as well as reduce the number of SIMs required.

SIERRA WIRELESS AIRLINK® SOLUTION

St John Ambulance WA evaluated three device options over a six-month period. "The Sierra Wireless units just worked," said Morris. "The other units we trialed had all sorts of teething problems; with the Sierra unit, we installed it and it just did what we expected." St John Ambulance WA selected the ultra-rugged Sierra Wireless AirLink® in-vehicle gateway to provide a reliable in-vehicle Wi-Fi network connection regardless of location.

"We use the web application to remotely troubleshoot and configure devices," said Morris. "This feature is certainly an advantage for us."

In addition to the ePCR rollout, St John Ambulance WA was also deploying a mobile data terminal system called "AmbiCAD". This system delivers built-in satellite navigation for vehicle tracking, large screens for increased functionality, the capability to operate an exclusive radio network, 3G coverage where the radio network does not reach, and Wi-Fi connectivity when at the station.

These mobile data terminals also required 3G SIMs, so St John Ambulance WA was able to remove the SIMs from the mobile terminals and connect them to the AirLink devices, creating a single communications hub in each vehicle.

"All of this means we've been able to consolidate technology from an account point of view, effectively halving the number of SIM cards in the fleet," said Morris. "Also, AmbiCAD is built into the dash, so it's hard to get to. Using the AirLink devices makes the SIM card more accessible, and it allows us to put AmbiCAD behind a firewall for added security."

RESULTS

St John Ambulance WA now has a complete in-vehicle solution, enabling each ambulance to become a Wi-Fi hot spot, to achieve greater operational efficiency and economic benefits.

“The Sierra Wireless AirLink devices were the right choice for our organization,” said Morris. “The company’s track record and 5-year product warranty was also important to us. We expect to get five years or more out of the units, and Sierra Wireless is really standing by their product.” Morris described Sierra Wireless as being “very responsive to our needs. Overall, this solution is an enabler for future information availability.”

St John Ambulance WA has additional plans to connect defibrillators through the AirLink devices to send data back to hospitals before arrival of the patient. They now have the infrastructure in place to continually build out applications that help them provide better patient care.

APPLICATION

- Field Service & Healthcare

CUSTOMER CRITICAL CHALLENGE

- In-vehicle communications solution for ambulances
- Required persistent, secure 3G and Wi-Fi connectivity and rugged design

SOLUTION

- AirLink® gateways provided reliable, secure broadband communications for mobile data terminals in ambulances and a Wi-Fi hotspot for paramedics to utilize tablets to input patient data while in-transit

BENEFITS

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- Secure, reliable connectivity for access to mission critical patient data and emergency communications
 - Rugged design for use in harsh, mobile conditions
 - Seamless installation and integration with third-party systems
 - Portability for easy re-deployment if vehicles are replaced or temporarily out-of-service