

**April 06, 2009**

## **TCS: Ensuring VoIP E911 Quality**

**By Erik Linask  
Group Managing Editor**

---

Despite the Federal mandate that all VoIP providers provide E911 services to their subscribers — as one would only deem reasonable, given the fundamental theory that VoIP is superior to PSTN voice services, thanks to its cost savings and features — the application is not as easy as one might think. Perhaps the most widely publicized E911 failure happened last year in Calgary, Alberta, Canada, where a service provider routed an emergency call to a family's previous residence in Mississauga, Ontario, resulting in a fatal delay in the proper dispatch of emergency personnel.

At its heart, according to Firdaus Aryana, product manager, VoIP Technologies, at TCS (Telecommunication Systems), E911 really boils down to call routing, which is one of the areas in which Aryana says TCS excels, routing VoIP calls to the appropriate PSAPs.

When I spoke to Aryana at NTCS' Cable Show in Washington, D.C., he explained that, regardless of the VoIP provider, TCS does ensure its part in the process is flawless, not only using proven routing technology, but also verifying that both routing and location information is available.

TCS pushes GIS and provisioning data to the providers, using multiple data sets from GIS data providers to create a superset, ensuring greater accuracy when comparing with the available data from the providers and their subscribers.

Aryana conceded that the single greatest challenge still remains subscriber data input when moving between locations with their IP phones, and even the most effective routing and management systems cannot overcome incorrect data.

"Our GIS data is updated as updated as providers update their databases, but our data can only be as good as what the user provides," he noted.

One of the ways TCS helps ensure subscriber data accuracy is through its VoIP Verify service, which provides, as its name suggests, verification of E911 routing availability immediately upon provisioning. By dialing 9-3-3 (or some other designated 911 variant in most cases), the subscriber hears a recorded message explaining the availability of E911 services and routing availability, including the subscriber's location. The idea is to provide a semi-automated — the subscriber still has to initiate the verification call — process to increase the quality of data used to route call and dispatch first responders.

Another recent development is the availability of TCS' VoIP Blotter — a map that shows the precise location of all E911 calls routed through a system, from a national level all the way down to a street-level view for local providers. The graphical depiction not only can help track emergency calls in any area, but also could be used to help verify location, if necessary.

In addition to its work with current ITSPs, including cablecos, WiFi (News - Alert) positioning provider Skyhook Wireless, and vehicle positioning service OnStar, TCS is ready to assist nearly any wireless provider — including WiMAX providers WiFi hotspot operators, with their E911 capabilities. In fact, Aryana says the software platform is ready for nearly any VoIP service implementation — it is waiting for service providers and PSAPs to become ready.

The idea, explains Aryana, is that TCS' software platform has been designed to stay ahead of the curve, so that the routing capabilities are available as providers roll out services, with a single routing engine capable of handling all communications, including SMS messages sent to E911 dispatch centers. In fact, he says that TCS handles more emergency-related SMS messages than any other E911 provider, and has focused on that capability, with the understanding that there may be many circumstances where callers are unable to speak, but can text message.

Ultimately, Aryana says that TCS is built to accommodate all forms of emergency calls, noting that, "a platform should be flexible enough to adapt and meet different needs."