Emergency Services in the VoIP World

Dries Plasman talks about the challenges for operators, businesses and consumers who want to comply with emergency services while enjoying the benefits of IP communication services.

Dries Plasman is vice president of marketing and product management at Voxbone, the market leader in worldwide geographical, toll-free and geographically independent telephone numbers. Voxbone delivers high-quality inbound communications from more than 50 countries and more than 4,000 cities, using its own private global VoIP network – the world’s first and largest backbone dedicated to voice-origination services. In January, Voxbone launched the first emergency-calling service accessible in multiple European countries from a single IP-based interconnection.

Dries holds a master’s degree in economics from the University of Leuven and a postgraduate master’s degree in ICT from the University of Namur. Before joining Voxbone in 2011, he worked for Mobistar (a mobile operator part of the Orange group), Greenwich Consulting (a global management consulting firm specialized in telecommunications) and several Belgian ICT start-ups.

More than 143 million people and businesses worldwide subscribe to what’s known in the telecom industry as “PSTN-style VoIP”: voice over Internet protocol (VoIP) services that provide features and user experiences comparable to the traditional public switched telephone network (PSTN). Other types of VoIP services use only software clients to enable PC-to-PC calls, whereas PSTN-style VoIP services let customers continue to use traditional telephones.

For emergency responders, this difference isn’t academic. Instead, it highlights a major challenge they face as PSTN-style VoIP services become even more popular with consumers and businesses: locating emergency callers who use VoIP in their home or office.

VoIP breaks the traditional connection between a phone number and a place. That’s why VoIP makes it convenient and cost-effective for businesses to have virtual operations, with multiple offices – including telecommuters – scattered around a country or the world. But when a phone number can be assigned to any location, first responders sometimes wind up being dispatched to the facility where a switch is located instead of where the emergency caller actually is.

In fact, access to emergency services – or more precisely, the lack thereof – remains one of VoIP’s biggest barriers to adoption, particularly among businesses, because many VoIP providers are technically not capable of offering this service. Meanwhile, regulators in many countries, such as all of Europe, require all operators offering telephony services to provide access to local emergency services.
To ensure that first responders can locate emergency callers quickly, VoIP-based telephony service providers had only two options until recently: either they interconnect with a local PSTN network provider in every country where they want to offer service, or they install a local VoIP-to-PSTN gateway at every one of their facilities. Both options are complex and expensive, but they’re the only ways to meet regulatory requirements for emergency calling.

A new breed of solutions for this problem has become available in the past couple of years: emergency access providers, whose main service consists of providing VoIP provider (and large corporate) networks with access to local emergency centers. This requires interconnections with local PSTN networks and sophisticated routing mechanisms to ensure that calls from end-users are always routed to the nearest emergency center.

When the customer of a cloud PBX, SIP trunking and other enterprise VoIP service provider calls an emergency number, it is the emergency access provider that connects the 911 or 112 call over the PSTN to the closest emergency service center. To determine the right emergency center to route the call to, the emergency access provider uses location information that can be updated in “near real time.” These kinds of solutions have existed in the United States for some time from well-known providers such as Intrado and 911-enable. Many VoIP providers have international ambitions and offer their service in more than one country; hence the need for a service provider offering access to emergency services internationally.

This new option is one example of how infrastructure vendors and other members of the VoIP ecosystem are working to overcome barriers to adoption and thus grow the addressable market. That’s good news for first responders because these technological advances make it easier and faster for them to locate emergency callers, which can mean the difference between life and death.

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