

No. 35 – Emergency Calling for VoIP Calls

The use of SIP as the main method of calling for residential or business customers is continuing to increase. Whilst this brings many benefits in terms of convenience, services available and, of course cost, there are important issues to be addressed.

One of the main areas is the support for Emergency Calls.

The Problem

When an Emergency Services access number is called the operator is under a duty to switch the call immediately, and at no charge, to the correct Emergency Services control centre. The 'correct' control centre is the nearest one to the user's location. Generally, a country will be divided into zones, with each zone having a control centre. A look-up is used to match a user's location (based on customer address / postal code) with their nearest control centre zone. Each control centre has its own phone number for incoming calls.

In the past it has been possible for operators to use the area code in the subscriber's CLI to route the call to the nearest regional control centre because with traditional CLIs based on physical local exchanges, the CLI automatically maps to the caller's location. In the case of VoIP calls this is not so. In most countries the national telecom authorities have declared a specific number range for VoIP subscriber numbers and these are, by definition, non-geographic. Indeed, one of the benefits of a SIP phone service can be the ability for the user to select the CLI of their choice.

Failure to route Emergency Calls correctly will often lead to a failure of Regulatory Approval testing, refusal of interconnect by the incumbent and potentially the blocking of service or even loss of an operating license.

The WTL Solution

A table exists within the WTL switch software (available on all WTL platforms) which allows a 'Zone' to be associated with each VoIP subscriber number. [Note: the operator has to decide themselves at the time of provisioning which Zone the subscriber belongs to.]

The Zone field is used as a key to one of the Number Translation features available in the WTL software. This means that whenever a subscriber calls the designated Emergency number (100, 999, 911 or whatever is current in that country) then this number is translated into the number of the regional control centre appropriate to that subscriber's zone.

In this way, a few simple number translation rules can ensure that all subscriber Emergency Calls are routed to the right destination.

Additional Emergency Calling Requirements

A further requirement may be encountered regarding Emergency Calling when interconnecting with incumbents. In some cases the PTT will insist on a certain capacity being reserved for Emergency Calls only (typically 1 or 2 timeslots on an E1 link). WTL has developed a 'Split Trunk' feature which will cater for this in the most efficient way.