



MOUNTAIN RESCUE (ENGLAND & WALES)

Charity Number 222 596

Communications Sub Committee

Mobile Phones Update

It has been widely published that Ofcom is working with 'Mobile Network Operators' (MNO), to investigate the possibility of allowing mobile phones access to networks other than that to which the phone is subscribed, in an emergency for 999 /112 calls. Following a meeting with Ofcom, this document has been produced to explain both the current status and the proposed alternative that is now being investigated.

Mobile phone making 999 / 112 calls when out of coverage of own network

- **How does it function now?**

At present if you have no service from your UK provider you are not able to call any numbers, even 999 or 112, this is contrary to what we might have believed. Many years ago if you dialled 999 your phone would have roamed to some of the other available networks, but this function was turned off, as it was found that emergency operators did not receive the 'CLI' (Calling Line Identification). So there was no way of tracing any hoax calls.

Although if you have a non UK SIM card fitted in your phone, your phone will still today, roam to other available UK networks, so allowing 999/112 calls.

This I understand is what one Social Services department in Wales actually does, so as to help guard the safety of their members of staff.

- **Ofcom's Intentions.**

By the end of 2009 it is intended that if you have no service via your own subscribed network provider, but dial a 999/112 call you will be able to make the 999/112 call via an alternative network provider. The alternative providers being, Vodafone, O2, T-Mobile, Orange or Three. This is providing you do have network coverage from any one of these alternative networks at the time. This method is proven already in many European countries where it is available and used currently.

Possibility Of Returning a Call To 999 / 112 Caller

- **How does it function now?**

It's not possible for the emergency services to re-contact the informant, I have voiced our concerns from a Mountain Rescue perspective as there are many reasons why we may need to phone the informant back, e.g. medical update, location finding, advising them of our intentions for reassurance etc. This concern has been raised also on many occasions at UKSAR meetings and has already been forwarded to the 999 Liaison Committee.

An extract from the below Ofcom consultation on 999 roaming is at the end of this document.

The full version is available at: <http://www.ofcom.org.uk/consult/condocs/access/>

Mark Lewis

Communications Officer MREW

communications@mountain.rescue.org.uk

Mobile 07774 678049

voice telephony, it may be that for broadband, other aspects of affordability may need to be addressed. The cost of computer equipment, for example, may need to be partly subsidised for some users, in the same way that digital set top boxes are subsidised as part of the rollout of digital television. Likewise, some groups may need access to subsidised training services or specialist software (such as people with visual impairments). Without such assistance, it may be difficult for some groups to become part of a broadband-enabled society.

- **Ensuring ubiquitous availability of a public service internet:** This broad concept would seek to provide a walled garden of content, free to the user in every home. Content would be restricted to approved material that delivers public service content and to other selected sites that paid to gain access to the service and complied with accessibility requirements. This service would provide a safe environment within which novice users could take their first steps towards becoming familiar with internet services and both novice and expert alike could utilise to access a wide range of public services, wherever they were.

8.37 Ofcom expects to publish the results of its qualitative and quantitative research into barriers to broadband take-up in spring 2009 and to feed the results into the Government's Digital Britain and Digital Inclusion Action Plan processes.

999 mobile roaming

8.38 Today, dialling 999 or 112 (the single European emergency number) provides users with near instant access to emergency services. Box 6 outlines how the service works and the different parties involved in providing the service.

Box 6: Operation of 999/112 calls for emergency services

The system that connects an emergency caller to the appropriate emergency service requires the interplay of three separate groups of players operating under differing institutional frameworks: Communications Providers, Call Handling Agents and the Emergency Authorities.

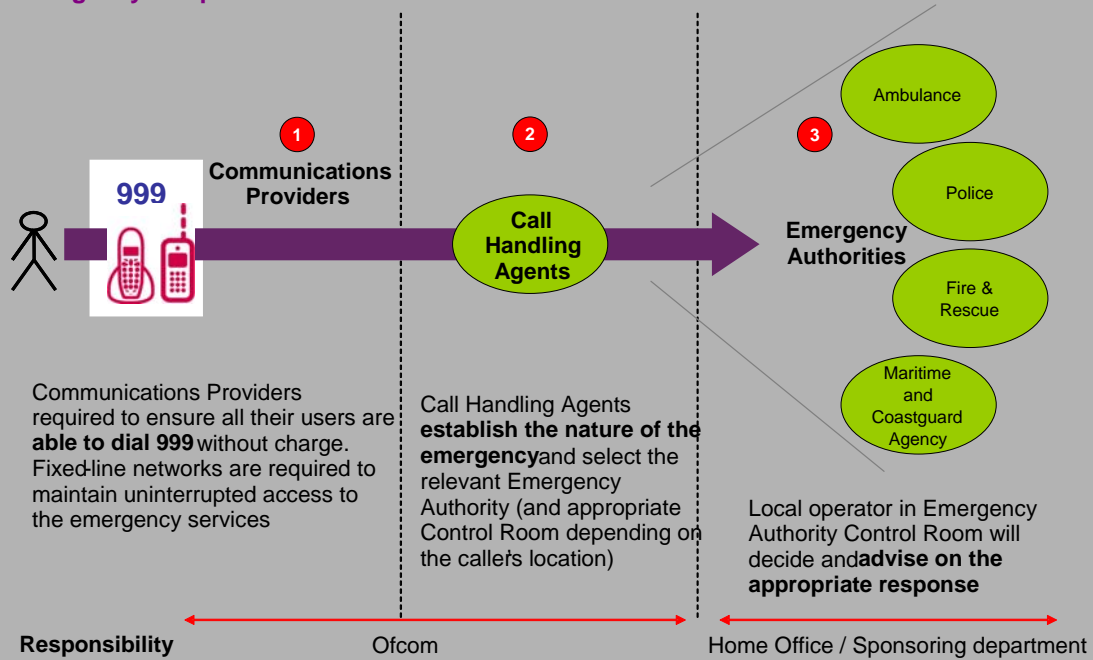
The first link in the chain is provided by Communications Providers who are required under the General Condition of Entitlement 4 to ensure that all their users are able to dial 999 or 112 without charge and to provide location information where this is technically feasible. Moreover fixed-line networks are required under the General Condition of Entitlement 3 to maintain uninterrupted access to the emergency services. At times of network overload this may involve prioritising 999/112 calls over non-emergency calls.

Once a user has dialled 999 or 112 they are connected by their Communications provider to a Call Handling Agent. Call Handling Agency services are provided on a wholesale basis, primarily by BT and CWC but also by Global Crossing (for the railway network) and Kingston Communications (in the Hull area).

Emergency Operators of the Call Handling Agents determine how a 999/112 call should be dealt with. In the case of a genuine emergency this will involve establishing the nature of the emergency – and so selecting the relevant Emergency Authority¹¹⁹ – and the appropriate Emergency Authority Control Room, which will depend on the caller’s location.

Once the call has been put through to the relevant Control Room the local operator will decide and advise on the appropriate response which may involve dispatching an emergency vehicle and offering advice and support to the caller.

Emergency call process



Ofcom has regulatory oversight of this process up to the point where a call has been handed over to an Emergency Authority, at which stage a separate institutional regime applies. Ultimate responsibility for this stage lies with the Home Office although each Emergency Authority is answerable to its sponsoring department. Oversight of the entire process is provided by the 999/112 Liaison Committee which brings the various players together for co-ordination purposes and meets under the Chairmanship of the Department of Communities and Local Government (DCLG).

¹¹⁹ There are four mainline Emergency Authorities: the Police Service, the Ambulance Service, the Fire and Rescue Service and the Maritime and Coastguard Agency. Additionally the police will forward calls to Mountain Rescue where necessary.

- 8.39 There are now more 999 calls from mobile than fixed line phones.¹²⁰ However, in the UK there is no provision for mobile emergency calls to be routed over any mobile network other than the one to which the handset is tied. This means that a customer of a given network may only make 999/112 calls from an area with coverage by that network.
- 8.40 This is a concern in light of differences in network coverage in some parts of the UK as illustrated in Figures 6 and 7. This is particularly the case for Wales and Scotland where just less than half of postal code districts have 75 percent network coverage by all four operators.¹²¹ The result is that people in some parts of the country – most likely to be rural areas - may experience an emergency but will not be able to call emergency assistance because they are out of range of their home network.
- 8.41 Furthermore, a recent European Commission report suggests that, of the 25 member states that provided information, the UK is the only one where emergency roaming is not currently possible.¹²² While this service was available in the UK until the mid-nineties, we understand that it was switched off at the request of the emergency authorities due to concerns about the volume of hoax and nuisance calls.
- 8.42 Concern about mobile users' inability to make emergency calls over non-home networks has been widely voiced over the last few years. Responses to Ofcom's recent consultation on the mobile sector¹²³ echo these concerns and there are strong arguments for emergency roaming advanced by the Scottish Government and the Welsh Assembly, the former welcoming the work that has already been undertaken with a view to improving coverage for use of emergency services and the latter calling on Ofcom to address the existing mobile roaming situation urgently.
- 8.43 Ofcom believes that the launch of an emergency roaming service would bring UK citizens significant benefits by extending the accessibility of the emergency services, primarily in the nations and regions. The 999/112 Liaison Committee is supportive of this. However there are a number of policy and technical issues that Ofcom, MNOs the emergency authorities and CHA need to consider when assessing the optimal way of introducing it back into the UK.

Policy considerations

- 8.44 When considering the introduction of 999 mobile roaming, the emergency authorities and call handling agents are interested in obtaining as much information as possible about the call / caller to:
- Facilitate the provision of emergency assistance, if needed. For example, information about the location of the caller helps emergency services reach the caller if he or she is unable to identify their location. Similarly, identification of the caller's number enables the emergency authorities to call back if necessary.
 - Help identify and investigate nuisance or hoax callers. In certain circumstances callers making repeated hoax calls may be denied service by their provider or face prosecution.

¹²⁰ http://ec.europa.eu/information_society/activities/112/docs/uk.ppt

¹²¹ See footnote 69.

¹²² Communications Committee *Implementation of European emergency number 112 – results of the second data-gathering round (January 2009)* February 2009

¹²³ <http://www.ofcom.org.uk/consult/condocs/msa08/responses/>

- 8.45 Hoax and nuisance calls present particular problems for the operation of the emergency services. It is difficult to obtain figures on this, but the Thames Valley police force has said that of the 360,000 emergency calls to them every year, about 75 percent were inappropriate calls that is to say where the gravity of the situation did not justify calling for emergency assistance.¹²⁴ The same report indicated that ambulance services in the area are also affected. Last year, they received nearly 5,000 nuisance 999 calls. As well as the expense of dealing with such calls there is the more serious threat of diverting resources from genuine emergencies, which may have life threatening consequences.
- 8.46 As outlined in Box 7, evidence from Europe suggests that the incidence of hoax calls is higher where a mobile phone does not have a SIM card.¹²⁵ This suggests that one approach is to only extend 999 mobile roaming to mobile phones with an active SIM card.

Box 7: The European experience of hoax / nuisance calls

The European Commission's 2008 report on *The implementation of the European Emergency Number -112* indicates the scale of hoax and nuisance calls in countries where mobile roaming is active.

A common experience is that the share of hoax/false calls is higher for mobile calls, in particular because of the large numbers of inadvertent calls. However in the 19 countries where SIM-free access to the emergency services is possible, the experience is that hoax calls are more likely to be made from SIM-free handsets. Spain and Slovakia in particular identified this correlation.

For this reason, Germany is proposing to disable SIM-free emergency calls later this year. Sweden reported that 98% of emergency calls lacking CLI information, primarily because they are SIM-free calls, were hoax.

Technical considerations

- 8.47 Against the above policy background, there are two main ways of introducing 999 roaming:
- Access via Limited Service State;
 - Access via national roaming.
- 8.48 **Limited Service State (LSS)** is a specification embedded in mobile networks and handsets. It is intended to enable access to all available networks for the purpose of making emergency calls. LSS is the state a handset enters when it is not allowed to register on a network, that is when it is out of coverage of its home network but there is coverage by another network that is "forbidden" because roaming on that network is not allowed. In order to be able to make an emergency call while in this state, the mobile network operator controlling the network that provides coverage in that area must allow a limited form of access known as "Access Class 10". This will enable the

¹²⁴ Source <http://news.bbc.co.uk/1/hi/england/oxfordshire/7819213.stm>

¹²⁵ It should be noted that a handset may enter a SIM-free status for a variety of reasons. It is not just a case of the SIM card not being installed – the SIM may be disabled because a pay-as-you-go phone has exceeded its time limit for non-usage or because the customer is in payment arrears. A phone may also have its SIM card disabled if it has been stolen.

handset to 'camp' on any acceptable cell¹²⁶ and make emergency calls through that network.

- 8.49 The main features of the LSS solution are:
- Emergency calls may be made over any available network;
 - Location information available although limited to the location of the base station to which the handset is connected (Cell ID);
 - No Calling Line Identification (CLI) information;
 - No possibility of making a return call (because the CLI is not present);
 - The handset will revert to its home network as soon as this becomes available.
- 8.50 A **national roaming solution**, which requires a handset to undergo a registration process on a non-home network, would provide the same information and facilities as if a handset were connected to its home network: more granular location information, CLI information, the ability to notify, trace and disconnect nuisance callers, additional caller details for investigative purposes and the capability of making return calls.
- 8.51 However it is likely to take longer to introduce, and to be significantly more expensive for mobile network operators to do so. One additional drawback is that handsets become 'locked' onto the roamed network as, to save battery life, the handset will only scan for available networks including its home network every 30 minutes or so.
- 8.52 In light of the above, **Ofcom is working with mobile network operators, the emergency authorities and call handling agents to develop a technical solution based on Limited Service State**. It is the easiest and the less costly of the two solutions to introduce. The emergency authorities are keen to see the service extended in a timely way, even if this means that they would receive less detailed information than they would under the alternative approach.
- 8.53 MNOs will be carrying out the necessary testing over the coming months. Subject to successful testing, we expect the service to be in place by the end of the year.
- 8.54 A further extension to the accessibility of the emergency services is being developed under the aegis of the 999/112 Liaison Committee. This is a project to enable emergency access through SMS messaging, intended to provide a safety net for users with hearing or speech difficulties. In the first instance this service will require prior registration and will be supported by the RNID. Trials are expected later this year.

Services for disabled people

- 8.55 Disabled people are active users of communications services. In some cases they have higher than average use of key services, for example, Ofcom research has found that disabled people watch more television than average,¹²⁷ and recent research from RNIB suggests that radio is more important to blind and partially sighted users than to sighted users.¹²⁸ They may also become more reliant on certain

¹²⁶ As defined in 3GPP TS 25.304 § 4.3

¹²⁷ Media Literacy Audit: Report on media literacy of disabled people (Ofcom, 2006)

¹²⁸ Are you really listening? (i2 media research on behalf of RNIB, 2009)