



Commission for  
**Communications Regulation**

## Information Notice

# Regulatory Framework for Next Generation Voice Services, including VoIP

**Review 2010**

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ComReg 10/91

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## 1 Executive Summary

This Information Notice, which is published ahead of the transposition into Irish law of the 2009 EU Regulatory Framework for Electronic Communications<sup>1</sup> (the “2009 Regulatory Framework”), is intended to provide guidance to Next Generation Voice (NGV) operators regarding the incoming regulatory framework and its implications for them. The 2009 Regulatory Framework is required to be transposed into Irish law by May 2011. This Information Notice is intended to assist providers to take steps towards compliance in advance of transposition. The Information Notice is therefore forward-looking to the extent that it takes note of the expected obligations on the State, on the Commission for Communications Regulation (“ComReg”) and on authorised providers arising from the 2009 Regulatory Framework.

In conjunction with this Information Notice, ComReg is publishing a report by Analysys Mason. The report provides a background to many of the topics discussed in this Information Notice, as well as the regulatory positions and conclusions at which ComReg has arrived. A summary of the recommendations contained in the report and referred to in this Information Notice is included at Appendix A.

This Information Notice addresses:

- Withdrawal of ComReg 05/50 Guidelines, in Section 3
- Network Security and Integrity, in Section 4. This is an area on which ComReg intends to liaise with the Department for Communications, Energy and Natural Resources (DCENR) and other relevant stakeholders. In the meantime the section covers useful analysis provided by Analysys Mason
- Access to emergency services (including provision of location information), in Section 5. This section notes that most Next Generation Voice (NGV) providers will be categorised as Publicly Available Telephone Services (PATS) and will therefore be obliged to provide access to emergency services and to provide high quality location information. Nevertheless, the difficulty for certain categories of NGV providers to do this where they do not have adequate control of the underlying network(s) is recognised, and the section discusses how to address this difficulty
- Quality of NGV service, including transparency matters, in Section 6. This section looks at quality of service (QoS) in the broader sense and in respect of network neutrality and it also looks at the associated obligations of transparency
- “Nomadicity” and geographic/non-geographic numbers, in Section 7. This section looks at nomadic use of NGVs, based on Irish geographic and non-geographic numbers

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<sup>1</sup> Directives 2009/136/EC and 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending the Framework Directive (2002/21), Access Directive (2002/19), Authorisation Directive (2002/20), Universal service Directive (2002/22), e-Privacy Directive (2002/58). The revised Framework, Access and Authorisation Directives, along with the revised Universal Service and e-Privacy Directives entered into force on 19 December 2009. The Directives must be transposed by Member States into national law by 25 May 2011.

- Mobile NGV, in Section 8. This section looks briefly at the issue of mobile NGV and the use of mobile numbers
- Number portability, in Section 9. This section takes note that an Irish industry working group is currently addressing the new obligations on fixed networks to port within 1 working day
- Resolution of disputes, in Section 10. This section deals with numbering disputes and cross-border disputes, which have a particular resonance for NGVs
- Provision of directory services and directory data, in Section 11. Section 11 reminds operators of their responsibilities concerning directories

In conclusion, NGV providers are expected to take note of the recommendations of this document, which will be applicable immediately following the transposition date. In advance of that date, those NGV providers that are not yet ready to implement the requirements of the new framework will be expected to continue to comply with ComReg 05/50.

## 2 Introduction

ComReg published a series of documents on Voice over Internet Protocol (VoIP), commencing in June 2004 with a wide-ranging public consultation on VoIP services. This was followed by a Response to Consultation document (ComReg 04/103 that set down a VoIP framework which still applies but which will be superseded in part by provisions arising from the 2009 Regulatory Framework. In July 2005, ComReg also published “Guidelines for VoIP Service Providers on the treatment of Consumers” (ComReg 05/50), and that document too will become obsolete as a result of the transposition of the 2009 Regulatory Framework. The aim of this Information Notice is therefore to provide guidance on the implications of the transposition of the 2009 Regulatory Framework for VoIP providers. Furthermore, as technologies have developed, especially in the broadband arena, Voice over Broadband (VoB), cable telephony and similar futuristic voice applications based on the growing use of IP technologies and Next Generation Networks have emerged, or are emerging to join VoIP in the marketplace. This document therefore collectively addresses all such post-Public Switched Telephone Network (PSTN) voice applications using the term Next Generation Voice (NGV).

In addition to the 2009 Regulatory Framework, the European Regulator’s Group (ERG) published its Common Position on VoIP in December 2007 and Member States were expected to align to the common position as soon as possible thereafter.

A core issue to be addressed is the provision of emergency calling via NGV services, which presents unique difficulties when the inherent nomadic capabilities of such services (‘nomadicity’) is considered. ComReg’s current position regarding access to emergency services from VoIP operators was set out in 2005 in document 05/50 “Guidelines for VoIP Service Providers”. This states that all PATS operators must provide access free of charge to the emergency services while Electronic Communications Service (ECS) operators are also encouraged (though not obliged) to provide access on a ‘best endeavours’ basis. In the case that a provider does not offer emergency access, the end user must be informed at the point of sale and it is recommended that stickers be attached to all handsets alerting the user that emergency access is not provided.

The ERG common position paper aimed to address, amongst other issues, this problem of a lack of mandatory access to emergency services from VoIP services. In addition, the UK Office for Communications (Ofcom) confirmed that from September 2008, VoIP providers in the UK that provide calls to the PSTN must provide access to 112 and 999 emergency numbers. In light of these developments and the forthcoming broadening of the PATS categorisation, it is now timely to revisit the specific issue of emergency access on Irish NGV networks. Apart from the core issue of access *per se*, the related issue of providing location information for emergency calls must be addressed. These two aspects of emergency calling are discussed in Section 4.

In addition to emergency calls, consideration of NGV services must also address a range of other issues. Therefore this document in the following chapters, also addresses: -

- The integrity and security of networks and services (including NGV networks and services), in accordance with Articles 13a and 13b of the revised Framework Directive

- The quality of service (such as access speeds etc.) of NGV services and networks, particularly in the context of amendments to Article 22 of the revised Universal Service Directive
- Transparency of information concerning limitations of service, taking due account of Articles 20 and 21 of the revised Universal Service Directive
- The feature of nomadicity that is an important attraction of NGV services
- Access to all numbers within the Community, in accordance with Article 28 of the revised Universal Service Directive
- Mobile NGV
- Calling tariffs for calls to the nomadic “076” numbering range
- Resolution of cross-border disputes, in accordance with Article 21 of the revised Framework Directive
- Number portability operation for geographic numbers, non-geographic numbers (including ‘076’) and mobile numbers
- The withdrawal of ComReg document 05/50, including the incorporation of certain residual contents of 05/50 that remain valid and useful into this Information Notice

It should be recognised that some of the bulleted references above are based on obligations contained in the 2009 Regulatory Framework and that these obligations are expected to be transposed into Irish law in 2011. This Information Notice therefore aims to highlight the regulatory changes which are expected to come into force upon transposition. The intention is to give providers an opportunity to take steps towards compliance with the incoming framework in advance of transposition.

In order to assist providers to understand the background to the main issues that arise in respect of the above matters, ComReg commissioned a report by Analysys Mason on the regulatory framework for VoIP in Ireland. The report (ComReg 10/91a), which also puts forward recommendations that ComReg could take into account, is published in conjunction with this Information Notice. This Information Notice, together with the report by Analysys Mason, highlight certain key obligations arising as a result of the 2009 Regulatory Framework, however they are not intended to cover every obligation that may transpire following transposition.

### **3 'Withdrawal' of the ComReg 05/50 Guidelines**

Following transposition and upon entry into force of revised Irish regulations, many of the guidelines in ComReg's document 05/50 ("Guidelines for VoIP Service Providers") will no longer be relevant. This is because the 2009 Regulatory Framework introduces formal requirements in areas where the guidelines have hitherto encouraged a "best efforts" approach. This is particularly the case in respect of emergency access requirements, where a change in the concept of what constitutes a Publicly Available Telephone Service ("PATs") will cause most NGV providers that use telephone numbers to be designated as PATs. This means that most NGV providers will be required to provide the same emergency access obligations as PSTN providers.

Consequently ComReg deems that the 05/50 document will no longer be valid following transposition and will formally withdraw it. This essentially involves marking it "Obsolete" after the transposition date – but leaving the document available to searchers. However, as not all of the guidelines therein are invalidated by the new directives, ComReg has merged the residual useful ones into this Information Notice.

## 4 Network Integrity & Network Security in NGV Services

Articles 13a and 13b of the revised Framework Directive increase the obligations on providers to ensure the security and integrity of their networks and require that they notify the national regulatory authority in the event of a breach of same.

Bearing this in mind, ComReg takes note of the background discussion in Section 3 of the Analysys Mason report, as well as the various recommendations at the end of that Section. While the need for security and integrity applies to all networks, the risks may be amplified with some NGV services due to their more open (and often their international) structures and relationships.

Analysys Mason recommends that operators should adopt best practice in relation to security and integrity of all networks, including clearly defined statements of policies and practices for both elements. Their report provides useful examples of what could be covered at policy level and at the more detailed level (see Appendix A of this document). The European Network and Information Security Agency (ENISA) is actively involved with the European Commission and Member States in addressing the implementation (and harmonisation across Europe) of Article 13a of the Framework Directive and in the formulation of steps to deal with security incidents. ComReg recommends that providers should keep abreast of these developments.

In addition, Analysys Mason recommends that all voice providers take note of their obligations with respect to “force majeure” (per Article 23 of the revised Universal Service Directive). They highlight that best practice to support this may include, for example, risk mitigation strategies geared towards ensuring critical points are serviced by adequate redundancy, diversity and recovery capability, and by consideration of business continuity and disaster recovery plans.

ComReg and DCENR are currently considering their relative roles in relation to network security and integrity. In the light of the obligations arising from the abovementioned Articles and based on R1 and R2 of the Analysys Mason report, the following broad approach is likely to be adopted:

- a) All providers should be required to develop their own best practice policies and practices in full detail. Analysys Mason’s list of topics forms a suitable but not exhaustive list of topics to be covered
- b) Providers should audit their security and integrity policies and practices and should be required to provide an annual report on these, identifying in each following report significant changes, if any, that have taken place in the interim
- c) An audit of a provider’s security and integrity policies and practices may be undertaken, as a general confidence-building step or in reaction to concerns about any one or more providers

ComReg and DCENR are currently considering detailed procedures and resource requirements to support the above approach and intend to contact providers in due course to provide further details.



Finally, ComReg notes Analysys Mason's recommendation in R3 to allow for a transition period for new NGV providers to introduce the measures necessary to meet their obligations, and agrees with this principle. Therefore, it is intended that providers who notify within one month of transposition of their need to avail of a transition period may be granted such a transition period of up to 12 months (depending on their needs). Applications should explain the reasons for their request. In the absence of such a request providers would be deemed to consider themselves fully compliant.

## 5 Access to emergency services

Section 4 of the Analysys-Mason report discusses in some detail the issue of access to the emergency services. There are two main issues to be considered; the provision of access *per se* and the provision of location information to the emergency services and these topics are discussed separately below.

### 5.1 Provision of access to 112/999 emergency services

Analysys Mason recommends, in R4, that ComReg should withdraw its existing VoIP guidelines policy relating to the provision of access to the emergency services, contained in ComReg 05/50. Analysys Mason also recommends in R11 that providers take the necessary measures to ensure service availability and uninterrupted access to the emergency services. ComReg agrees with these recommendations and with the reasoning behind them. Therefore ComReg's policy, which is intended to take effect from the transposition date, is described below.

Under the 2009 Regulatory Framework<sup>2</sup>, all providers providing an ECS that originate calls to numbers in a national telephone numbering plan are obliged to provide access to the emergency services – free of charge to the caller - for their users. Ireland is required to transpose this obligation into Irish law.

In respect of NGV users, ComReg expects that these obligations will apply to all providers offering service to Irish end-users or to visitors to Ireland, including network-independent providers, so long as they use or provide access to numbers. Analysys Mason's R12 provides useful guidelines for providers in respect of the availability expected of their emergency access provision.

Nevertheless, ComReg acknowledges that network-independent providers could encounter more difficulties than other providers in guaranteeing reliable '112/999' connections, as explained in Recital 40 of the revised Universal Service Directive. ComReg therefore plans to require that network-independent providers should give evidence to support any such claims that the access they provide cannot be guaranteed, failing which they would be deemed by default to be capable of providing fully assured access. ComReg proposes to grant a timeframe of up to three months from the date of transposition in which providers may provide evidence to support such claims.

In any event, the acceptance by ComReg of a claim of inability to assure access will generally be time limited, pending the success of ongoing efforts by the provider to fully comply. In addition, the provider would still be expected to provide best-efforts access to the 112/999 emergency services during the period for which the claim of inability to provide guaranteed access was accepted.

Article 26(4) of the revised Universal Service Directive provides that access for disabled end-users to the emergency services should be equivalent to that provided for other users. ComReg will expect NGV providers to ensure that any terminals provided and applications and services offered to disabled end-users meet the needs of those users. ComReg may take specific steps in that regard, if necessary, either specifically in relation to NGV services or in respect of all service categories.

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<sup>2</sup> Article 26(2) of the Universal Service Directive

R13 of the Analysys Mason report notes that the transparency guidelines of ComReg 05/50 requiring service providers to inform their customers of ways in which their services are not fully equivalent to the PSTN are still useful and the principle should be maintained. ComReg agrees with Analysys Mason recommendation R13 and will expect providers to comply with it.

Ensuring the availability of emergency access in the event of power failure may cause difficulty for NGV providers. R12 of the Analysys Mason report provides guidance in respect of this. NGV providers should take R12 into account when developing their policies for availability.

## 5.2 Provision of Location Information

In Section 4 of its report, Analysys Mason describes the complexity of location provision for certain VoIP (and implicitly for NGV) services. Article 26(5) of the revised Universal Service Directive requires the provision of accurate location information as soon as the call reaches the emergency service and that the information shall be provided free of charge. The national regulatory authority is obliged to set down the criteria for that location information.

In fulfilling this obligation regarding criteria, ComReg takes account of Recital 40 of the Universal Service Directive (see Analysys Mason page 21), which recognises that network-independent providers may currently not be able in all cases to provide accurate location information and that various national and international project teams are working on this problem. These difficulties, addressed in Analysys Mason recommendations R8 and R9, are especially relevant to NGV services.

ComReg is therefore of the view it should respond to the set of recommendations R5 to R10 put forward by Analysys Mason, as follows:

- a) ComReg should discuss with key stakeholders the potential and advisability of linking the accuracy and reliability requirements for location information to the Emergency Call Answering Service (ECAS) specification, in the manner described<sup>3</sup> by Analysys Mason, with a view to early adoption of their recommendation
- b) ComReg expects that a provider of PATS at a fixed location will be required to obtain (from the customer if necessary and appropriate) the physical location at which the service will normally be used before that provider activates any new customer's service. In the case of businesses, this will normally be the billing address, though more than one address may be needed if a business operates from multiple locations. Furthermore, while allowing for a reasonable compliance period in this case, ComReg expects that the same will be required in respect of all existing customers
- c) ComReg expects that a provider of PATS at a fixed location will be required to provide an easy (e.g. secure web-based) mechanism for its customers to update the location information provided in respect of bullet (b) above

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<sup>3</sup> See Appendix A – Analysys Mason Recommendation R5.

- d) ComReg considers that network-independent providers should be deemed capable of providing accurate and reliable location information, to the same standard as other fixed or mobile providers, unless they provide convincing evidence to ComReg that it is not technically feasible for them to do so. Nevertheless, ComReg acknowledges that those providers could encounter greater difficulties than other providers in obtaining and guaranteeing reliable location information, as explained in Recital 40 of the Universal Service Directive<sup>4</sup>. ComReg therefore intends to require network-independent providers to justify any such claims to ComReg within three months of the date of transposition

In any event, the acceptance by ComReg of a claim of inability to provide location information to the high standards expected will generally be time limited, pending the success of ongoing efforts by the provider to fully comply. In addition, the provider would still be expected to forward whatever location information it is in a position to provide, along with the appropriate warnings to the ECAS system, throughout the period for which the claim of inability is accepted

- e) End-users of nomadic services should be clearly informed that nomadic use of their NGV services may not influence where a call to the emergency services is directed, i.e. the call will most likely be directed to their “home” emergency services, rather than to the emergency services appropriate to their current location
- f) ComReg also considers that network independent NGV providers should support the type of location information that is best suited to the type of service they are providing, which in most cases will be the type offered by the network(s) on which they are relying. This means that NGV providers offering service at a fixed location (nomadicity excepted), will normally provide the Calling Line Identifier (CLI) or an acceptable fixed-line alternative and those providing mobile services (such as mobile VoIP) will offer a form of Cell-ID or GPS – or an acceptable mobile alternative

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<sup>4</sup> Recital 40, Directive 2009/136/EC

## 6 Quality of NGV service, including transparency

In Section 5 of its report, Analysys Mason addresses potential quality-related issues of regulatory concern, while noting that most of these issues are not specific to VoIP, and by implication to NGV. The provision of ‘over-the-top’ (OTT) applications such as VoIP, Instant Messaging and OTT video are different however, as they can be provided in a network-independent way. Potential network neutrality concerns are also discussed in that context, such as limitations placed on mobile VoIP. Analysys Mason also provide some information on the new powers provided to national regulatory authorities (NRAs) specifically to deal with such concerns, in terms of transparency powers and powers to set minimum quality levels (Article 22 of the Universal Service Directive). Other powers also exist under the 2009 Regulatory Framework and under competition law, which may be applicable in certain circumstances.

Network neutrality has been a key topic for consideration by the Body of European Regulators for Electronic Communications (BEREC) during 2010 and also features prominently in its draft 2011 Work Programme<sup>5</sup>. In addition, the European Commission held a public consultation<sup>6</sup> on Network Neutrality that closed on 30 September 2010. ComReg is paying close attention to any developments arising from these initiatives. The risk of prioritisation of a provider’s managed services at the expense of general internet provision over the same access channel that is paid for by an end user is a particular concern that has been generally expressed.

ComReg agrees with Analysys Mason’s view (R14 and R17) that monitoring the NGV market situation is the correct approach at this time, including monitoring customer complaints. This approach could change if BEREC or the European Commission publishes conclusions that intervention should be undertaken in some respect. Should other concerns arise, ComReg could in the first instance require providers to collect and publish specific quality of service parameters which it deemed relevant and appropriate, in accordance with Article 22(2) of the Universal Service Directive. It would also be open to ComReg to decide what further steps, if any, should be taken.

Nevertheless, notwithstanding the withdrawal of document 05/50, ComReg considers it important that providers remain aware of their responsibilities under the 2009 Regulatory Framework regarding transparency and the provision of adequate contracts to end-users. Attention is drawn to Analysys Mason’s R15 and R16 and the associated text in those regards.

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<sup>5</sup> [http://www.erg.eu.int/doc/berec/bor\\_10\\_43.pdf](http://www.erg.eu.int/doc/berec/bor_10_43.pdf).

<sup>6</sup> [http://ec.europa.eu/information\\_society/policy/ecomms/doc/library/public\\_consult/net\\_neutralit\\_y/nn\\_questionnaire.pdf](http://ec.europa.eu/information_society/policy/ecomms/doc/library/public_consult/net_neutralit_y/nn_questionnaire.pdf)

## 7 Nomadicity of NGV services and Geographic / Non-geographic Numbers

Apart from difficulties regarding the determination of user location, which becomes important when calls are made to the emergency services, nomadic operation of NGV services can also raise concerns regarding the use of numbers. The Irish '076' range of numbers is designed to cope with nomadic operation but the use of geographic numbers outside of their designated geographic area can cause problems if the temporary nature implied by nomadicity is not maintained. Such use is not permitted by the National Numbering Conventions<sup>7</sup>. Providers should therefore be aware that ComReg may take steps to recover any geographic numbers that are used for very extended periods outside their designated areas.

The "076" numbering range was introduced to provide a more suitable basis than geographic numbers for VoIP and other NGV services. Its success has been limited, perhaps mainly because of high retail tariffs. This issue has been addressed in an earlier consultation that dealt with a review of the National Numbering Conventions (see document ComReg 10/60, of 4 August 2010).

Certain non-geographic numbers and short codes (i.e. those commencing with '1') are currently not accessible from outside of Ireland by traditional networks but the cross-border capabilities of at least some NGV technologies make communication with those numbers from abroad very possible (i.e. NGV services could literally be originated anywhere in the world and then emerge at national level from "the cloud" onto a "cloud"/PSTN gateway). In principle, this is a feature that ComReg wishes to support, as it provides a mechanism for compliance with Article 28 of the Universal Service Directive (access to all non-geographic numbers throughout the Community). Nevertheless, providers providing such access are urged to be cautious and to ensure that they do not facilitate fraud or illegal activities, possibly due to the often high termination tariffs that can be attached to non-geographic numbers. In particular, and following Analysys Mason's R19, NGV providers should take note of the provision in the National Numbering Conventions that they must only provide access by end-users outside the State to Irish premium rate services where they accept liability for any consequent bad debt that arises, as well as liability for any potentially unacceptable content that is delivered across borders. Similarly, NGV providers offering access by Irish consumers to premium rate services of non-Irish<sup>8</sup> origins should provide information to their customers about the high charging rates being applied. Customers should also be offered the opportunity to bar access to such services. BEREC is carrying out work in the area of Article 28 and ComReg will, as Analysys Mason recommends in R20, continue to monitor that work.

Providers are not permitted by the Numbering Conventions to use mobile numbers (i.e. 08X numbers) outside the use for which they are designated. This means that any non-mobile use by NGV providers (including nomadic use) is prohibited.

<sup>7</sup> ComReg document 08/03. The Conventions are in the process of being updated, following a public consultation that closed on 1 October 2010.

<sup>8</sup> Services in this category include (a) services using foreign or international Premium Rate Numbers; (b) equivalent services – in terms of premium pricing and type of content – to Premium Rate Services, but using ordinary numbers with non-Irish country codes.

## 8 Mobile NGV

Next Generation Voice in a mobile context is already happening, and is of relevance to this Information Notice in the same manner as NGV at a fixed location. This can mean voice carried directly by 3<sup>rd</sup> and 4<sup>th</sup> generation technologies provided by mobile operators or it can mean voice carried as an independent application on those technologies (such as mobile Skype) or it can mean voice over Wi-Fi or WiMax (whether Skype or other).

The specific issues that could arise in these contexts are mostly mobile numbering and tariff related (including mobile termination rates).

ComReg intends to apply the National Numbering Conventions carefully, in respect of mobile NGV, ensuring mobile numbers are restricted to truly mobile applications, where full roaming and handover, as generally understood, are inherent features.

## 9 Number portability

Article 30 of the Universal Service Directive addresses number portability<sup>9</sup> and sets down important new requirements concerning the timescale during which the porting process must take place. ComReg and industry are currently addressing this issue in respect of fixed-line numbers within the context of a ComReg-Industry forum.

Article 30 also confers unconditional<sup>10</sup> rights to port on NGV providers.

Analysys Mason's R21 points out that the number portability requirements of ComReg 05/50 are no longer required as the rules governing NGV are no longer different from those affecting all other providers. ComReg agrees with this recommendation and the withdrawal of document 05/50 will comply with same.

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<sup>9</sup> Described in said Directive as "Facilitating change of provider".

<sup>10</sup> Formerly those VoIP providers categorised as ECS (but not PATS) only enjoyed conditional rights to port, these rights being granted via ComReg 04/103 and subsequently via the National Numbering Conventions.

## 10 Resolution of interconnection or cross-border disputes

Cross-border disputes, if they arise, could be more complex and more intractable. NGV, like VoIP has inherent cross-border capabilities (i.e. as described in Section 7 above), as the Internet “cloud” is essentially borderless. Consequently, multi-jurisdictional issues could more easily arise with NGV than in the PSTN environment, where crossing a border more obviously represents an international call.

Providers should be aware that the 2009 Regulatory Framework contains provisions for co-operation among the NRAs of the jurisdictions concerned in such cases and the intervention of BEREC (i.e. following a request to it) to assist is also an option. For example, BEREC could adopt an opinion on the matter in question.

## 11 Access to Directory Services & Provision of Directory Data

Notwithstanding any other obligations, VoIP and VoB providers are reminded of obligations under the Data Protection and Privacy Regulations<sup>11</sup> regarding advice to be given to their subscribers about the provision of data to the National Directory Database (NDD) and under the Universal Services Regulations<sup>12</sup> regarding the actual provision of that data to the NDD in compliance with the subscribers’ preferences. Document ComReg 07/99: “Guidelines for VoIP Providers – Requirements for Directory Services” contains full details of these obligations.

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<sup>11</sup> European Communities (Electronic Communications Networks And Services) (Data Protection and Privacy) Regulations 2003; S.I. No 535 of 2003.

<sup>12</sup> European Communities (Electronic Communications Networks And Services) (Universal Service and Users’ Rights) Regulations 2003; S.I. No 308 of 2003.



## 12 Submitting Comments

All comments regarding the contents of this Information Notice are welcome and must be received by 5pm on **17 December 2010**.

Comments should be submitted to Ms. Sinéad Devey at [sinead.devey@comreg.ie](mailto:sinead.devey@comreg.ie) .

Please set out your reasoning and supporting information for any views expressed. So as to promote openness and transparency of the consultation process, ComReg will publish all respondents' submissions, subject to the provisions of ComReg's *Guidelines on the Treatment of Confidential Information*<sup>13</sup>. We would request that electronic submissions be submitted in an unprotected format so that they can be appended into the ComReg submissions document for publishing electronically.

### **Please note**

ComReg may conduct further communications where it considers it appropriate and/or necessary to do so.

ComReg appreciates that in response to issues raised in this paper some respondents may wish to provide confidential information in addition to other comments. As it is ComReg's policy to make all responses available on its web-site and for inspection generally, respondents are requested to clearly identify confidential material and place confidential material in a separate annex to their response. Such information will be treated in accordance with the provisions of ComReg's confidentiality guidelines referred to above.

In anticipation of possible correspondence on matters relating to the issues covered in this paper, ComReg hereby gives notice that it will publish all material correspondence received in this regard, again subject ComReg's confidentiality guidelines referred to above.

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<sup>13</sup> ComReg document 05/24. Response to Consultation - Guidelines on the treatment of confidential information - March 2005

## Appendix A: Summary of Analysys Mason Recommendations

For convenience, the recommendations made by Analysys Mason in their report (ComReg 10/91a) are repeated below.

**R1. We recommend that undertakings providing PCNs or PECS should adopt best practice in relation to security and integrity, including the following matters:**

- **High level security policy with very clearly defined statements of security requirements -this should include sections covering:**
  - security governance, risk management and compliance
  - asset management and control
  - personnel security
  - technical information security & assurance controls
  - physical security
  - business continuity and incident management
- **At a more detailed level, the following considerations, amongst others, may be appropriate:**
  - requirements for patch management ensuring that all devices have the appropriate security patches applied within a suitable timeframe
  - the use of encryption technologies to encrypt data while in transit, and at rest while stored within applications
  - the structuring of networks to achieve the secure separation of data – for example separating VoIP traffic from customer data
  - logging and monitoring of security events to enable the detection and investigation of security incidents and breaches
  - incident management and reporting procedures, enabling the reporting of incidents to ComReg and the CERT as defined in the National Cyber Security Strategy
  - outline procedures for the independent regular auditing and vulnerability scanning of service providers security controls

**Undertakings providing PCNs or PECS should provide an annual report to ComReg documenting the approach they are taking to meeting their obligations to ensure security and integrity of their networks and services. They should also report to ComReg any significant changes to their ability to ensure security and integrity of their networks and services in a timely manner.**

**We note that standards for network security and integrity are under development at a European level and that it is expected that operators will monitor these developments and implement systems meeting the required standards within a reasonable period, once these European standards are finalised.**

**R2. We recommend that all voice providers note their need to comply with the new regulatory framework, and meet their obligations with respect to “force majeure”. Best practice to support this may include, for example, risk mitigation strategies geared towards ensuring critical points are serviced by adequate:**

- redundancy;
- diversity;
- and recovery capability.

**Consideration of acceptable levels of “mean time to repair” (MTTR) may also be appropriate, as well as consideration of business continuity and disaster recovery plans.**

**R3. For reasons of practicality, we recommend that ComReg allow service providers a reasonable period to introduce the measures necessary to meet their obligations. Improvements to policies and procedures may be achievable within a relatively short**

period, but the introduction of network changes to improve network security, integrity and resilience will be subject to design, procurement and implementation timescales and in some cases commercial agreement with other service providers. For these reasons we recommend that ComReg allow service providers at least 12 months to introduce all necessary measures.

- R4.** ComReg should withdraw their existing access to emergency calls policy relating to ECS providers, as outlined in the VoIP guidelines (ComReg 05/50), as the obligation to provide access to emergency services now applies to all undertakings providing end-users with an electronic communications service for originating national calls to a number or numbers in a national telephone numbering plan.
- R5.** We recommend that the competent authority should link the accuracy and reliability requirements to the ECAS specification. For example, “all fixed location PATS providers which are not nomadic providers shall provide Fixed Line Location Information to the ECAS in accordance with the ECAS RIO/LIRO, and the key local specifications referenced by the ECAS RIO”. This may need to be enhanced with requirements concerning the reliability of the information.
- R6.** Furthermore, we recommend that a provider of PATS at a fixed location should obtain (from the customer if necessary) the physical location at which the service will normally be used before they activate a new customer’s service.
- R7.** We recommend that providers of PATS at a fixed location should also provide one or more easy ways for their customers to update the physical location they have registered with the provider (e.g. via a secure Internet service), if it changes.
- R8/9.** We recommend that:
- In the short term, where it is not technically feasible for an undertaking to provide accurate caller location information because it is VoIP originated, ComReg should allow undertakings to present these calls to the ECAS. We note that the ECAS schedule 5 obliges the operator to provide to the ECAS provider an indicator that the call is a VoIP Originated Emergency Call.
  - In the medium term, ComReg should monitor developments in Europe and Internationally and may wish to commence discussions with the DCENR in relation to the development of a national architecture, which may be similar to those developed by the NENA and NICC, for providing sufficient location information of nomadic VoIP users to the ECAS. This work could be guided by the EENA NG112 TC, and will need to accommodate the use of traditional networks and the future migration to end-to-end IP connectivity.
- R10.** We recommend that until such time that a national solution for providing sufficient location information for nomadic users to the ECAS is in place, end-users of nomadic services should be clearly informed that nomadic use of their VoIP service may not influence where a call to the emergency services is directed, i.e. the call will most likely be directed to their “home” emergency services, rather than to the emergency services appropriate to their current location.
- R11.** On the basis of Recital 40, we recommend that undertakings take the “necessary measures” needed to ensure service availability and uninterrupted access to emergency services.
- R12.** We recommend that service availability should be equal to that provided by broadly similar categories of voice provider:

- **voice services provided by a wired access provider should meet an availability standard equivalent to the existing PSTN. Should battery backup be required for CPE, or for remote infrastructure, the time supported by the batteries should be sufficient to cover either the great majority of repairs or end users should be warned that an alternative means of calling may need to be employed**
- **voice services provided by wireless access providers should meet an availability standard at least equivalent to the best of existing cellular networks**
- **voice services provided by a network independent provider should seek to meet an availability level as high as is feasible given their lack of control over certain parts of the infrastructure used to provide the service. We note that these providers would be expected to make use of all appropriate techniques such as:**
  - **prioritization;**
  - **negotiation of suitable service level agreements.**

**For the avoidance of doubt, it is not envisaged that the current level of availability will be reduced.**

**R13. We recommend service providers should inform their customers clearly of any ways in which the emergency calls service may not be fully equivalent to the traditional wireline PSTN. Customers should be informed in any guide issued by the service provider, and the same information should be included in materials made available to prospective customers in advance of the point of sale.**

**R14. To understand whether there are specific service quality issues which may make the new clause 22(3) more pertinent, we recommend that one input which ComReg could consider before taking any further action is the volume of customer complaint data. This, amongst other considerations, may indicate whether there is a need for ComReg to set any specific quality of service requirements on undertakings providing voice services using specific technologies, such as VoIP.**

**R15. As the provisions on contracts, information transparency and quality of service apply to all providers of communications networks or services, not only VoIP service providers, we recommend that in the first instance action might be necessary to remind all providers of their duties once the 2009 Framework is transposed.**

**R16. We recommend that undertakings should be encouraged to provide terms and conditions in plain English.**

**R17. As regards network neutrality we recommend that ComReg continue to monitor the market situation, but at this point we consider that no action need be taken by ComReg as the BEREC work is likely to generate a harmonised position at EU-level. Intervention should only be necessary in the case of critical failure.**

**R18. We believe no specific action is required for numbering regarding VoIP in relation to changes in the Directives. Aspects of existing ComReg policy relating to nomadic use (e.g. 04/103 decision 18) could be restated.**

**R19. As Section 4.13 of ComReg 05/50 largely reflects the requirements of Article 28, and noting that ComReg consider there to be no inconsistency in this regard, we recommend this section should be adopted in future guidelines.**

**R20. The ERG began in 2009 to consider the scope of problems associated with cross-border enforcement. During 2010/11, BEREC will continue this work and will focus particularly on the numbering aspect with reference to Article 28. We recommend that ComReg monitor this work.**

**R21. We note that the amendments to Clause 30(1) of the Universal Service Directive also mean that once transposed, the number portability policy relating to ECS, as previously outlined in the VoIP guidelines (ComReg 05/50), is no longer applicable as number portability obligations now apply to all undertakings providing numbers from the national numbering plan.**

## Appendix B – Acronyms

**BEREC (Body of European Regulators for Electronic Communications)** is a body set up under Regulation (EC) No 1211/2009 of the European Parliament and of the Council. It is comprised of the Board of Regulators, which in turn is composed of one member per European Member State, who is the head or the nominated high-level representative of the NRA established in each Member State with primary responsibility for overseeing the day-to-day operation of the markets for electronic communications networks and services.

**CERT** Computer Emergency Response Team is a group of experts intended to coordinate the response to security threats from the Internet.

**CLI** (Calling Line Identifier) is a facility that enables identification of the number from which a call is being made.

**ECS** (Electronic Communications Service) means a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in network used for broadcasting, but excludes services providing, or exercising editorial control over, content transmitted using electronic communications network and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks.

**ERG** (European Regulators Group) is an independent body composed of the heads of the relevant NRAs, which advises and assists the Commission in addressing the internal market. A main ERG task is ensuring consistent application of the EU regulatory frameworks for electronic communications and services.

**NDD** (National Directory Database) is a record of all subscribers in the state, including those with fixed, mobile and personal numbers, who have not refused to be included in that record.

**NRA** (National Regulatory Authority) is the relevant regulatory authority in each country. In Ireland, the NRA is ComReg.

**OTT** (Over The Top) is a term for service provided over a network but not offered by the network operator concerned. It is "over-the-top" because the service rides on top of the telecoms service you already get from the telecoms operator without an involvement by the network operator.

**PATS** (Publicly Available Telephone Service) means a service made available to the public for originating and receiving, directly or indirectly, national or national and international calls through a number or numbers in a national or international telephone numbering plan.

**PSTN** means the Public Switched Telephone Network i.e. the switched telecommunications network of all major operators, on which calls can be made to customers of all PSTNs, worldwide.

**VOB** (Voice over Broadband) refers to services that allow end-users to make and receive calls over a broadband connection (e.g. using DSL, fibre or cable). These services, which typically use VoIP technology, may be PATS or non-PATS.

**VoIP** (Voice over Internet Protocol) is a communications protocol whose application enables people to use the Internet as the transmission medium for telephone calls by

sending voice data in packets using IP rather than by traditional circuit transmissions of the PSTN. VoIP is also referred to as *Internet telephony*, *IP telephony*, or *Voice over the Internet (VOI)*