REGULATION IMPACT STATEMENT

Proposed Regulation:
Telecommunications Numbering Plan Variation 2011 (No.1)

The Australian Communications and Media Authority

Contents

Background

The *Telecommunications Act 1997* (the Act) requires the Australian Communications Media Authority (ACMA) to support the development of an innovative, diverse, efficient and competitive industry by promoting competition and social policy objectives. These objectives include:

- ensuring reasonable and equitable access to standard telephone services[1] and other carriage services of social importance for all people in Australia
- setting performance standards that reasonably meet the social, industrial and commercial needs of the Australian community
- promoting the supply of diverse and innovative carriage services and content services
- providing appropriate community safeguards

The Act requires that the ACMA develop and maintain a plan for the numbering of carriage services and the use of numbers with those services (subsection 455(1)). The plan may also set out rules about the issue of allocated numbers by carriage service providers (CSPs) to customers (subsection 455(5)). Accordingly, the ACMA made the *Telecommunications Numbering Plan 1997* (the Numbering Plan*)* to reflect the market and social policy objectives of the Act, and encompass the idea of ensuring the efficient long term management of the numbering resource on behalf of the Australian people.

When the Numbering Plan was developed in 1997 the types of service and the number of CSPs were fewer than they are today. The technology used to provide voice communications then was predominantly circuit switched technology. More recently the Internet has provided another viable technology for voice communications in Australia. This is referred to as Voice over Internet Protocol (VoIP). Traditional CSPs in Australia such as Telstra and Optus have been changing to internet technology to modernise their networks. This allows them to offer customers new data services in conjunction with VoIP.

There are approximately 10.6 million fixed line telephone services in Australia that use geographic numbers. The term geographic refers to the first 3 or 4 digits of the number which specify a particular geographic area that the number may be used in. For the purpose of geographic numbering, Australia is divided into 2054 geographic areas. These areas are called standard zone units (SZU). A customer that is provided a new fixed line telephone service is issued a geographic number that is specified for use in the geographic area where the service is located, for example the 10 digit number 02 40xxx is specified for use in and around Newcastle in NSW. However, if these numbers were used with a telephone service that was used somewhere other than Newcastle this would be referred to as “out of area”.

Geographic numbers were developed to enable circuit switched voice communications. Traditionally, the purpose of these numbers included routing – directing a call to where it terminates; short dialling – omitting area code to dial locally; service indicator– shows a fixed telephone service; cost indicator – to indicate the call charge is local or STD; and geographic location – the SZU in which the service is located. These typical attributes for geographic numbering are identified in the International Telecommunication Union (ITU) Recommendation E.164[2]. This recommendation facilitates interconnection and routing of

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1 Practically, a Standard Telephone Service means a service that provides voice communication.

2 ITU-T Recommendation E.164 was first issued in 1984. The Numbering Plan and its precursors complied with ITU-T Recommendation E.164.

telephone calls between different countries. The Numbering Plan is consistent with this recommendation.

In 1989 the untimed local call obligation was introduced by Government. To comply with this obligation CSPs implemented billing arrangements that were based on the SZU information in geographic numbering. However, changes in technology, compliance problems and the type of services plans offered to consumers have raised questions about the importance of this attribute and its implications, in particular, for the untimed local call. Examples of these changes are routing for VoIP does not require a geographic number or, bundled and capped service plans offer consumers aggregate call billing.

The Numbering Plan allows the ACMA to allocate geographic numbers to CSPs, usually in blocks of 1000 numbers. Typically, CSPs issue a number to a new customer in conjunction with a voice communication service. The Numbering Plan allows a CSP to sub-allocate numbers to another CSP. In these circumstances a subset of numbers, from a block of numbers allocated by the ACMA, is issued to other CSPs. This facility allows traditional CSPs to offer data services and numbers to VoIP CSPs. The facility has enabled VoIP CSPs to enter the market and offer service.

Approximately 2.5 million people in Australia were estimated to have a VOIP service at home in June 2009[3]. However, this number includes services that are peer-to-peer and utilise numbers, disaggregated data is not available.

In May 2008 the ACMA undertook desktop research into the use of geographic numbers by VoIP CSPs. The research showed that 45 out of the 46 VoIP CSPs that were investigated were using numbers in a way that did not appear to be consistent with the Numbering Plan. In particular, VoIP CSPs were issuing geographic numbers to consumers in way that meant that those numbers were being used out of area. A consequence of this numbering behaviour by VoIP CSPs is that the bill for an untimed local call to this out of area number may be inaccurate.

In December 2008, the ACMA released a discussion paper that considered broad options for dealing with the problems identified in the ACMA research. The problems included ambiguity about geographic numbering rules, using numbers with outbound only services and the sub-allocation of numbers between CSPs. Three options to resolve the problems were proposed ***enforce***, ***evolve*** *or* ***wait***. The submissions were considered in May 2009 by the ACMA and the options in detail were:

- amend the rules and **enforce** the existing regulatory framework
- continue to implement forbearance[4] on both the use of geographic numbers and any consequential untimed local call impacts and **wait** until broader changes are made to the regulatory framework in the wake of the Government's NBN project
- make small amendments to the Numbering Plan so that it **evolves** to support greater flexibility, ensures consumers are adequately informed about the implications of their choices and provides certainty for industry.

The **enforce** option was not recommended as it was inconsistent with international trends in numbering regulation and could stifle innovation as the compliance cost (at least $100,000[5] annually) for small VoIP CSPs may be prohibitive and impose a financial barrier to entry.

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3 ACMA Communications report 2008-09, p.15.

4 Regulatory forbearance is a regulatory policy position that is a decision, as a matter of policy, not to purse certain contraventions of the law.

The **wait** option implies acceptance of the existing numbering practices employed by VoIP CSPs and requires the ACMA to adopt a forbearance approach on use of geographic numbering rules and the untimed local call obligation. This option does not address the current ambiguity between the ACMA's role and approach. Regulatory uncertainty is not addressed. Consequently, it may hinder investment and development of innovative services which benefit consumers.

The **evolve** option formalises acceptance of the numbering practices employed by VoIP CSPs. This could encourage competition over time by removing regulatory uncertainty; this would benefit consumers as it generally provides downward pressure on prices. Importantly, this option would also formalise requirements for CSPs to inform consumers about the impact of their numbering choice and clarify how complaints would be dealt with.

The regulatory certainty provided by the **evolve** option has a further benefit. Numbering is an enabler for other communication facilities, for example, Calling Line Identification (CLI). If the numbering rules are clarified this provides a basis which would enable problems with CLI to be addressed. CLI is relied on in systems and procedures associated with the provision of emergency service and law enforcement.

In principle, the ACMA supported the **evolve** option and public consultation occurred on how to resolve two of the three problems. The third problem — the sub-allocation of numbers between CSPs — was not pursued because of concerns raised by industry.

On 1 April 2010, the paper titled *Discussion Paper Geographic Numbering Amendments* was released for public consultation. This paper contained a draft instrument that proposed two amendments to the Numbering Plan. The amendments:

1. allow the use of geographic and location independent communication service numbers with outbound only services (including voice over internet protocol (VoIP) Out. [6]
2. allow carriage service providers (CSPs) to either meet existing numbering rules (which generally require fixed-line services to have a geographic number that corresponds with the physical location of the service), or to provide consumers with certain information regarding the implications of having a geographic number that does not correspond with the physical location of the service.

The impact for the first amendment is minor therefore Office of Best Practice Regulation (OBPR) has agreed it is exempt from the requirement to provide a Regulatory Impact Statement (RIS). The impact for the second amendment is not minor therefore a RIS has been prepared.

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[5] To interconnect telecommunications networks and support the traditional geographic numbering arrangements an interconnect agreement and special code (14xx number) is required by CSPs. The annual numbering charge payable to the ACMA for a 14xx number code is currently $100,000. In brief annual numbering charge is determined by the number of numbers held by a CSP.

[6] The Numbering Plan was amended in 2006 to establish '0550' numbering range for Location Independent Communication Service (LICS). However, there has been little demand for numbers for LICS.

Problem

The current regulatory framework for numbering was established in 1997 and while intended to be technology neutral, it was developed for the services that existed at that time in the Public Switched Telephone Network (PSTN) environment. The types of services regulated at that time were less numerous and varied than those available today, and Voice over Internet Protocol (VoIP) technology was not yet in common use. Demands from convergence and continuing growth of internet protocol (IP) based communications and mobility is placing pressure on the current structure of the Numbering Plan.

Currently, the way geographic numbers are used by VoIP CSPs is different to the way traditional carriers use them. The ACMA's research showed that it was common for VoIP CSPs to use geographic numbers out of area. This behaviour is not consistent with the Numbering Plan currently. The ACMA is responsible for the development of these rules and it is also responsible for compliance and enforcement.

Considering the behaviour, the ACMA decided in principle not to **enforce** the rules because it was not consistent with international trends in numbering regulation, may stifle innovation and the compliance cost could create a barrier to market entry for VoIP CSPs, therefore, a way to accommodate the behaviour was required. Two ways of accommodation were considered feasible **wait** — do nothing or **evolve** — change the rules to accommodate the behaviour. Both options impact consumers, VoIP CSPs and traditional CSPs.

Objective

The objective is to:

- provide clarity for all CSPs on their obligations in relation to the issuing of geographic numbers to their customers
- ensure that the Numbering Plan recognises new technologies and accommodates new and emerging forms of service
- provide appropriate community safeguards that enable consumers to make informed choices

Options

Two options to accommodate the numbering behaviour of VoIP CSPs were considered feasible **wait** — do nothing or **evolve** — change the rules and legitimise the numbering behaviour of VoIP CSPs.

The **wait** option (which has been adopted by the ACMA while it considers the most appropriate course of action) involves the ACMA deciding to exercise regulatory forbearance indefinitely in regard to the misuse of geographic numbers by VoIP CSPs and also for any traditional carrier who fails to meet the untimed local call obligation as a result of the misuse of numbers.

The **evolve** option requires the ACMA to make a decision to change the geographic numbering rules in the Numbering Plan so that they accommodate the behaviour of VoIP CSPs. This option allows the ACMA to require CSPs to provide information (about untimed local calls and portability) to consumers so that if they choose an out of area number they are informed about the implications of their choice and therefore they can make an informed decision.

Impact Analysis

Wait and Evolve

For industry the impact of the **wait** and **evolve** options is equivalent in some respects. The options accommodate the existing numbering behaviour of VoIP CSPs and enable the continued supply of innovative and relatively cheap services to consumers. However, the **evolve** option will ensure consumers are made aware of the adverse consequences possible for choosing out of area numbers, which assists consumers to make an informed choice, and it will also provide certainty for industry by resolving a long standing regulatory ambiguity.

While the ACMA has been considering the most appropriate course of action, the **wait** option (status quo) has applied in the interim (several years). Therefore, it can be reasonably argued that the implementation of the **wait** and **evolve** options will have no additional impact on the existing numbering behaviour of VoIP CSPs and that the communications market has factored this in already.

The benefit that accrued from this impact is that a potential barrier to entry, being compliance costs of at least $100,000 annually for the traditional numbering arrangements, were removed, competition and innovation in the communications market has increased due to a burgeoning market for VoIP services and the regulatory framework is broadly consistent with international trends for geographic numbering regulation.

A difference in market impact may occur if the **evolve** option is selected rather than **wait**. The option also delivers a significant consumer protection measure. The impact is examined below by considering the difference between the two options, possible impact of this on the market and implications for different stakeholder groups.

The difference for the **evolve** option is:

- customers who choose an out of area number will be informed about the untimed local call and portability implications by their VoIP CSP so the customer can make an informed choice
- industry will be provided with regulatory certainty because the numbering rules are clarified
- promotion, to a limited degree, of the availability of out of area VoIP services.

Stakeholders for the emergency service and law enforcement support neither the **wait** or the **evolve** option, see Consultation section. The numbering changes proposed provide no improvement to the operation and delivery of these services. However, in the long term changes to these services will be required to accommodate the effects of VoIP technology and next generation networks. Optimisation of emergency service and law enforcement systems and procedures will be required for the changes that are afoot sooner or later. In support of this optimisation strategic engagement between these stakeholders and the ACMA is occurring.

Untimed local call

For the purpose of billing a consumer an untimed local call the impact of the **wait** and **evolve** options is equivalent. However, the impact on the communications market in the short and long term is likely to be different and therefore the treatments proposed are different. In the short term, the impact is considered marginal and could be managed with consumer education and, to a lesser extent, complaint handling by the TIO. In the longer term the impact might be significant and it may be necessary to reconsider the untimed local call policy and its objectives.

The location information inherent in a geographic number is inaccurate for an out of area number. If a CSP uses the location information for the purpose of billing a customer an untimed local call the bill for that call may be inaccurate. Therefore the possibilities exist for under or over charging in regard to untimed local calls. In brief, an untimed local call applies to calls within a SZU or between adjacent SZU, for example in NSW, calls within Newcastle or between Newcastle and Maitland are local calls where as a call between Newcastle and Canberra is not.

To illustrate this effect, in 2006 the financial implications were analysed for consumers and CSPs for 748 blocks of 1000 geographic numbers issued out of area for a period of 15 years. Based on assumptions about typical calling patterns the consequential overcharge estimated for customers, for the whole period, was up to $150K and for CSPs the estimated undercharge (loss) for the whole period was up to $1.6m. As the amounts are very small price effects on the market are unlikely.

In the short term the overall effect on the market is likely to be small because of the number of VoIP services in the market that use geographic numbers is relatively small and the charge amount for calls is also low. Further, consumers and businesses can control whether calls from friends or customers are under charged by their choice of out of area number[7]. Also, some bundled or capped customer service plans aggregate call costs and this type of bill would be unaffected. However, in the short term some consumers may be over charged. The consequences of this will be managed through consumer education (by the ACMA) and complaint handling (by the TIO).

In the long term the assumptions made about the impact on the untimed local call obligation are unlikely to remain valid. Investment in new infrastructure, which is based on IP technology, will continue and, like VoIP CSPs today, all CSPs will have the flexibility to offer out of area numbering in the market. In this context there will be an impact on the effective operation of the untimed local call obligation. Acknowledging this it follows that the objectives of untimed local call policy should be considered in the context of a fully IP communications market. The ACMA will examine the broader effects on numbering of VoIP and other converged services for the longer term, see Implementation and Review section. The longer term issue, and others that are identified in this numbering work program, will be reported to Government.

Evolve

Due to their differences the **evolve** option has impacts in addition to those discussed for the **wait** and **evolve** options above. These impacts are considered below.

Consumers

A protection measure for consumers would be introduced. CSPs that offer a customer an out of area number would be required to inform their customer about the consequences for untimed local calls and portability of this choice, therefore, consumers could make an informed choice. This measure is consistent with the ACMA's mandate to provide appropriate consumer safeguards.

The Numbering Plan incorporates rules relating to the portability of geographic numbers as required by direction of the ACCC. Porting refers to the requirement for CSPs to facilitate a 'port-out', i.e. to transfer a phone service and number to another CSP. Whilst the proposed changes do not affect the portability rules, the practical implication of implementing out of area numbers is that customers who receive an out of area number may not be able to find a

[7] Typically, VoIP CSPs allow their customers to choose a number when they enter into a service agreement.

traditional service provider that is willing to accept the number if they wish to change providers and keep their number ('port in').

CSPs will inform their customers about this potential implication before they agree to use a number which is out of area. In practice, a customer who moves to an alternate location and wants to retain the use of their number will have more opportunity to do so, as VoIP and perhaps other CSPs may provide service.

VoIP service providers

The geographic numbering behaviour of VoIP CSPs would be legitimised and this would remove the regulatory uncertainty. The regulatory certainty may stimulate further investment in the industry by VoIP CSPs and increase the competition with traditional providers. Increased competition may lead to further reductions in prices for consumers.

Traditional service providers

The promotion of the VoIP industry and out of area services through the **evolve** option may have some effect on the market share of traditional service providers and provide some pressure for them to update their technology to take advantage of the flexibility VoIP technology offers and thereby hold onto their market share.

In a related matter, the Government's $43 billion NBN project will be a significant catalyst for the technology change over which is likely to cause the complete conversion of communications networks eventually.

ACMA

The **evolve** option is more consistent with the Telecommunications Act because it supports the development of an innovative, diverse, efficient and competitive industry by promoting competition while providing appropriate community safeguards. Also, the implementation of regulatory forbearance on the use of geographic numbers by VoIP CSPs would cease.

Consultation

On 1 April 2010, public consultation on the amendments began. The consultation met the requirements of sections 460 and 461 of the Telecommunications Act. This is necessary if the Authority is to consider making changes to the Numbering Plan.

A draft amending instrument was published on the ACMA website together with a discussion paper that explained the geographic numbering problem, proposed solutions and invited public submissions. A media release[8] occurred on 1 April 2010 and a notice was placed in the Australian newspaper, on 10 April 2010, inviting public submissions by 31 May 2010. The ACCC was asked formally to comment on the proposed amendments.

Eighteen submissions were received in response to the discussion paper. The respondents were Attorney-General's Department, NECWC[9], NSW Fire Brigades, Victoria Police, Optus, Telstra, AAPT/Powertel, Vodafone Hutchison, Engin, Internode, OZtell, Skype, Symbio, VON Europe10. ACCAN[11], ACCC[12], Communications Law Centre UTS and TIO[13].

[8] http://www.acma.gov.au/WEB/STANDARD/pc=PC_312065
[9] National Emergency Communications Working Group
[10] Voice on the Net (VON) Coalition Europe founded by Google, Skype, iBasis, voxbone and Microsoft.
[11] Australian Communications Consumer Action Network
[12] Australian Competition and Consumer Commission
[13] Telecommunications Industry Ombudsman

Eleven out of the eighteen respondents supported the **evolve** option. The main supporters were VoIP CSPs. Those respondents opposed to the **evolve** option were traditional carriers, emergency services, law **enforce**ment agencies and a consumer representative group. The two traditional carriers that opposed the change preferred the **wait** option. The other five respondents (emergency services, law **enforce**ment agencies and a consumer representative group) suggested that compliance with the traditional allocation rules for geographic numbers was the more appropriate course — **enforce**. This approach would be contrary to the way forward proposed by the ACMA, in principle.

Discussions were held with respondents that submitted objections to the proposed amendments, such as, ACCAN, AGD, VIC Police and NSW Fire. This was done to confirm that the ACMA's analysis of the impact of the proposed amendments was accurate and that ACMA staff understood the reasons for the respondents' objections.

The TIO recognised the potential benefits for consumers from the proposed changes and also indicated reservation due to the risk of overcharging consumers, see untimed local call section. The incidence and financial impact in the short term is likely to be small.

Conclusion and Recommendation

The option recommended is to **evolve** the numbering rules so that they accommodate the numbering behaviour of VoIP CSPs. While opposition from some of the respondents is understandable the benefits, in the short term, from evolving the numbering rules is considered more persuasive, in particular it:

- informs consumers about the implications of choosing an out of area number
- provides regulatory certainty in the market
- accommodates current VoIP numbering practices
- removes the need for the ACMA to forbear on numbering rules for the issue of numbers to customers
- aligns with the international and national geographic numbering direction.

Implementation and Review

The amendments to the Numbering Plan that **evolve** the rules are contained in a legislative instrument which would take effect immediately upon registration. It is anticipated that the proposed changes would provide certainty in the market almost immediately. The instrument is a disallowable instrument and must be tabled in Parliament for the purpose of final acceptance.

For the longer term, the ACMA plans to examine the broader effects on numbering of VoIP and other converged services. The administrative arrangements for the ongoing management of numbering will also be considered. This work will finish in 2011 and implementation of any recommendations may take a number of years. This provides an opportunity in the future to review the broader effect of changes made in the short term.