



# Numbering Discussion Paper

Proposed changes to the Numbering Plan in relation to the management of geographic numbers and their use by small carriage service providers, including Voice over Internet Protocol (VoIP) providers.

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# 1. Introduction

The Australian Communications Media Authority (ACMA) announced its regulatory approach to Voice over Internet Protocol (VoIP) on the 16 April 2008<sup>1</sup>. It consists of three elements: reviewing how existing regulation applies to all kinds of VoIP service offerings; industry and consumer engagement; and implementing a specific compliance program. ACMA subsequently held industry seminars to raise awareness and educate providers, and conducted desktop research to examine how VoIP providers were complying with the existing regulatory regime. This announcement comes a year after ACMA implemented its numbering policy for VoIP and Location Independent Communication Service (LICS) numbers (0550x) were made available.

The research identified areas where VoIP providers might not be complying with existing regulatory requirements. For example, the research showed that many VoIP providers issue geographic numbers to a customer for a location other than the geographic location of the customer's service<sup>2</sup>. The research also suggested that some VoIP providers were not complying with other regulatory requirements such as the provision of portability (which facilitates robust competition), providing access to Emergency Call Service (which is a key consumer expectation), and updating the Integrated Public Number Database (which supports a range of regulatory and technical functions). It also identified a number of areas where the regulatory regime might benefit from clarification as to its application to the VOIP service offerings, for example, VoIP-Out services.

The intention of any clarification to the existing numbering rules in the *Telecommunication Numbering Plan 1997* (the Numbering Plan) would be to increase regulatory certainty, consistent with ACMA's approach to VoIP. This paper also looks at the costs to small providers of managing numbers and complying with existing technical and regulatory requirements. It considers whether, and if so how, these could be reduced.

This paper invites submissions about possible changes to the Numbering Plan intended to clarify the application of the numbering rules for VoIP. In addition, comments are sought on: how the barriers to compliance by small carriage service providers (CSPs) are best addressed; what elements an industry solution to facilitating compliance should have; and whether a government facilitated solution (the Small Provider Integrated Number System (SPINS)) is needed.

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<sup>1</sup> ACMA unveils regulatory approach to VoIP services:  
[http://www.acma.gov.au/WEB/STANDARD/pc=PC\\_311111](http://www.acma.gov.au/WEB/STANDARD/pc=PC_311111)

<sup>2</sup> ACMA believes this practice is inconsistent with the purpose of the Numbering Plan.

ACMA is seeking written submissions on the matters raised in this discussion paper both in response to specific questions raised and as otherwise considered relevant.

**Submissions must be received by ACMA by 28 February 2009.**

## 2. Background: ACMA's Responsibilities

ACMA has a dual mandate as set out in the *Telecommunications Act 1997* (the Act) to support the development of an innovative, diverse, efficient and competitive industry through a healthy market and to achieve social policy objectives. These objectives include:

- ensuring reasonable and equitable access to standard telephone services 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; and
- providing appropriate community safeguards.

The Act requires ACMA to develop and maintain a plan for the numbering of carriage services and the use of numbers with those service (s455 (1)). The plan may also set out rules about allocating numbers to CSPs (s455 (5)). The objects of the Numbering Plan 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.

The current regulatory framework was established in 1997 and, while intended to be technology neutral, it applied to services that existed solely in the Public Switch Telephone Network (PSTN) environment. The types of services regulated at that time were less numerous and varied, and VoIP technology was not yet in common use.

The communications environment has changed significantly since then as a result of variations in the market, developments in technology and changes in consumer expectation, as well as some internationalisation of regulation. Convergence is increasingly affecting the current legislative settings for communication and media and, in some instances, this may require clarification of existing regulatory concepts and their application to emerging services.

ACMA is contributing to discussions within government and the telecommunications industry about the broad framework for future communication policies which will emerge in the medium to long term. In the mean time, ACMA continues, where its regulatory remit allows, to make the regulatory changes that it considers necessary and appropriate. The aim of such changes is to increase regulatory certainty for industry, as well as to ensure that enduring and useful regulatory concepts remain as effective and efficiently administrable by ACMA as is feasible in the evolving communications environment.

### **Numbering Policy for geographic and LICS numbers**

The accuracy of the location information in geographic numbers, as described in the Numbering Plan, is preserved because it satisfies consumer expectations and underpins primary regulatory obligations including:

- allowing CSPs to whom the untimed local call obligation applies to charge correctly, because charging is based on the location of the number rather than the location of the service; and
- providing information to the consumers regarding the geographic location of the called phone service<sup>3</sup>, the cost of the call and the type of service being called.

The information in the numbers also supports a range of processes which underpin other regulatory obligations which also satisfy consumer expectations and promote competition. These include emergency call services (ECS), law enforcement services (LES), Integrated Public Number Database (IPND), calling line identification (CLI), calling number display (CND) and local number portability (LNP)<sup>4</sup>. LNP is a key consumer service that supports competition and may not be available to services which have geographic numbers that have been issued correctly.

In November 2005, the Department of Communications, Information Technology and the Arts (now Department of Broadband Communications and the Digital Economy) undertook an examination of policy and regulation relating to VoIP services<sup>5</sup>. The review identified the key principles of the Government's telecommunications policy as set out in the Act and in broader Government policy as being:

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<sup>3</sup> ACMA research (to be published as part of the Telecommunications Today Report series in early 2009) shows that since 1991 Australians have not changed the level of importance (very important or somewhat important) they attached to telephone numbers giving a guide to the cost of call, identifying area or location of person or business being called or number prefixes indicating type.

<sup>4</sup> ACMA has been directed by the Australian Competition and Consumer Commission (ACCC) to set out rules relating to the portability of allocated numbers in the Numbering Plan. Geographic (Local Number Portability), mobile, freephone and local rate numbers are all subject to portability directions. These directions promote competition by allowing customers to change their carriage service provider while retaining the same telephone number.

<sup>5</sup> A copy of the report can be found here:  
[http://www.dbcde.gov.au/communications\\_and\\_technology/publications\\_and\\_reports/2005/november/examination\\_of\\_policy\\_and\\_regulation\\_relating\\_to\\_voice\\_over\\_internet\\_protocol\\_voip\\_services](http://www.dbcde.gov.au/communications_and_technology/publications_and_reports/2005/november/examination_of_policy_and_regulation_relating_to_voice_over_internet_protocol_voip_services)

- promoting competition and service innovation as a means of delivering benefits to the community;
- protecting consumer interests in such areas as pricing, fault handling, quality of service, privacy and complaint handling;
- protecting the public interest in such areas as emergency service access, law enforcement and national security;
- ensuring the framework remains as technologically neutral as practicable; and
- promoting the practicable use of industry self-regulation.

The review noted that as VoIP is one of the first manifestations of a more fundamental transition toward next generation networks (NGNs<sup>6</sup>), a staged approach should be adopted. This would consist of a short term strategy to fine tune arrangements within the existing policy and regulatory framework to accommodate VoIP. Longer term issues would be addressed in a more comprehensive review of arrangements for VoIP and NGN more broadly. These changes, considered in this Discussion Paper, are consistent with this approach.

The review also recommended that a new number range be made available for use by VoIP. Following extensive consultation with Industry in 2007, ACMA specified the Location Independent Communication Service (LICS) range to accommodate services that depart from the expectations of a traditional telephone services. The LICS (0550) range was intended to complement the existing range of geographic numbers which could continue to be used by services that are a close substitute for a traditional (non nomadic) telephone service. The LICS numbers provided CSPs with the means to offer location independent services in a manner which is compliant with the Numbering Plan.

When releasing the LICS number range in April 2007, ACMA flagged that it intended to more actively monitor compliance with regards to the use of geographic numbers for local services, the recent VoIP research is the first step in this process.

ACMA is aware that interconnect and terminating agreements have yet to be established for the LICS range and would welcome specific advice from any CSP who has unsuccessfully attempted, to reach such agreements with regards to LICS.

### **VoIP Non Compliance**

Between May and June 2008, ACMA undertook a program of desktop research to examine whether VoIP providers were complying with a range of regulatory obligations including the rules for the issue and use of geographic numbers. The research identified 192 companies providing VoIP services to the public. ACMA investigated what advice VoIP providers were giving consumers regarding a range of regulatory requirements including; portability,

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<sup>6</sup> Next Generation Network is used to broadly describe communications networks where users hold intelligent devices which have a limited reliance on intelligence at the core of the network. This is in contrast to the Public Switched Telephone Network (PSTN) where the system relies heavily upon intelligence in the core (eg at exchanges) to complete calls.

membership of the Telecommunication Industry Ombudsman (TIO), provision of ECS access, and service nomadity<sup>7</sup>.

Subscription processes for 46 of these services were examined in detail. In all cases, except one, geographic numbers were issued to customers for locations other than the geographic location of the customer's service. In the research a Clayton (Vic) based customer automatically received numbers from the Melbourne Standard Zone Unit (SZU), the Perth SZU and the Sydney SZU. A Ringwood (Vic) based customer was able to request numbers in Alice Springs, Brisbane, Perth and Sydney. In addition, ACMA investigated a selection of the IPND records for these services. The results suggested further problems with non compliance.

ACMA has no evidence that would suggest the results for those providers not examined in detail would be markedly different. Rather the non compliance that this research identifies appears to be evidence of a systemic problem. Through this discussion paper ACMA hopes to further educate industry regarding the rules in the Numbering Plan, investigate existing barriers to compliance and test possible solutions.

### **Consultation on Changes to the Numbering Plan**

Submissions on the issues raised in this discussion paper will inform future changes to the Numbering Plan. Any changes to the Numbering Plan which ACMA decides to pursue as a result of feedback on this discussion paper will undergo public consultation as required by s460 of the Act and Part 3 of the *Legislative Instruments Act 2003*. It is expected that, should changes be proposed, this consultation would occur in early 2009, with implementation in mid 2009.

### **Education and Monitoring Program**

Following the implementation of any changes, ACMA would undertake a strategic program of education and monitoring, prior to investigating and enforcing regulatory obligations for providers who fail to comply with the rules in the Numbering Plan. As a last resort, ACMA could consider withdrawing numbers from a CSP if they were allocated, issued, transferred or used in a way that was inconsistent with the Numbering Plan (as provided for under section 7.20 of the Numbering Plan).

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<sup>7</sup> Geographic numbers must be used for a local service at a fixed location; other number ranges including 0550 are available for use with nomadic services. Guidelines for the use of the 0550 number range can be found here: [http://www.acma.gov.au/WEB/STANDARD/1001/pc=PC\\_310257](http://www.acma.gov.au/WEB/STANDARD/1001/pc=PC_310257).

### 3. Clarifying the numbering rules

The rules in the Numbering Plan for geographic numbers are based on the standard telephone service (STS), which while it was intended to be technology neutral<sup>8</sup>, was based on traditional voice services. The technology used today to provide voice services is however considerably different. Consequently, the legal application of rules to VoIP services, in some cases, may cause uncertainty for businesses and consumers. This is particularly relevant in circumstances where other CSPs depend on the information contained in the numbering of these services to comply with enduring regulatory obligations, such as the untimed local call<sup>9</sup>.

Conceptually, the technology used to provide VoIP supports division of the traditional voice service into four types; VoIP Peer-to-Peer, VoIP-Out, VoIP-In and VoIP-Both Way<sup>10</sup>. These services may be offered in combination and individually to customers. ACMA considers that a VoIP-Both Way service is a STS and is subject to the same obligations in the Numbering Plan as any other STS based service. Other VoIP services may not be considered to be a STS, but providers of these services are subject to other provisions which apply to carriage service providers<sup>11</sup>. These regulations do not impinge significantly on VoIP Peer-to-Peer services<sup>12</sup>.

**ACMA is considering amending three areas of the Numbering Plan. These areas relate to VoIP-Out Services, issuing of geographic numbers and the movement of numbers between CSPs.** The intention of the amendments is to increase regulatory certainty for all voice service providers, as well as to reduce the amount of public resources dedicated to compliance. Comments are sought on each of the proposals being considered.

ACMA is also aware that implementation of the changes being considered, with respect to existing services, could also raise additional compliance concerns. ACMA is seeking comments on the merits of different ways to implement the proposed changes. The changes

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<sup>8</sup> Government tries to ensure that policy frameworks are technology neutral to allow providers flexibility in the choice of technologies they used to provide services. This is done to encourage competition, maximise benefits for governments, businesses and consumers and to encourage innovation.

<sup>9</sup> CSPs that are required to provide an untimed local call rely on the location information in geographic numbers to meet this obligation.

<sup>10</sup> ACMA has adopted the classification scheme used by the European Regulators Group (ERG). The ERG Common position on VoIP paper can be found here: [http://www.erg.eu.int/doc/publications/consult\\_draft\\_cp\\_voip/erg\\_07\\_56\\_rev1\\_voip\\_draft\\_cp.pdf](http://www.erg.eu.int/doc/publications/consult_draft_cp_voip/erg_07_56_rev1_voip_draft_cp.pdf)

<sup>11</sup> For example, services that use public numbers (eg geographic numbers) are required to meet certain regulatory obligations such as ensuring information in the Integrated Public Number Database (IPND) is accurate.

<sup>12</sup> The Minister's Report, November 2005, states regulation of telephone services does not impinge significantly on peer-to-peer services or corporate networks.

being considered could take effect immediately, apply only to new services<sup>13</sup> (not be retrospective), be phased in (set a time<sup>14</sup> by which compliance is required) or another implementation proposal.

### 3.1 VoIP-Out Services

VoIP-Out services do not receive incoming calls as they are used to make outgoing calls only. However, to enable the effective implementation of regulatory and technical concepts such as ECS, CLI, CND, location dependent routing and to facilitate interconnection, numbers must be associated with a service to allow a call to be completed.

**Currently the problem is that the rules in the Numbering Plan preclude the use of geographic numbers (which can only be used in connection with a Local Service<sup>15</sup>) and special service numbers (i.e. Location Independent Communications Service (LICS)) by VoIP-Out services. This is because the service definitions in the Plan provides for the use of these numbers only by carriage services that are able to receive calls.**

Key rules for the issue and use of geographic numbers set out in Part 1 of Chapter 3 of the Numbering Plan and are further described in an industry guideline which was prepared by the Communications Alliance for new CSPs, see *CA G636:2007 Accuracy of Geographic Numbering Records*.

The change to the Numbering Plan could be drafted in such a way that a user of a VoIP-Out service must be issued a unique number permanently, in the same way that a unique number is permanently issued to VoIP-In, VoIP-Both Way and other fixed and mobile services under current industry practice. An advantage of such an approach is that it would uniquely identify VoIP-Out services in carrier networks services for the purpose of ECS, CLI, CND, IPND and LES. This approach would preclude the use of randomly assigned numbers from a small pool of numbers or use of dummy numbers in association with calls from a VoIP-Out service<sup>16</sup>.

Other options which do not allow the VoIP-Out service to be uniquely identified, that is do not provide a one-to-one relationship between the service and the number, may not support the provision of essential services such as ECS on these services.

ACMA's criterion for the preferred approach is that it: facilitates the use of numbers with VoIP-Out services, and that it underpins and supports the unambiguous application of the existing regulatory framework including ECS for these services.

**ACMA is considering amending the Numbering Plan to permit Local Service and LICS (0550) numbers to be used with VoIP-Out services.**

This would have the effect of applying the rules, in the Numbering Plan, for issue and use of numbers to those numbers used by VoIP-Out services. This change might also subject these services to other regulatory obligations.

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<sup>13</sup> On the basis that over time in place services will eventually churn or be surrendered, it is likely that eventually compliance may be achieved.

<sup>14</sup> For example, 1- 2 years.

<sup>15</sup> See Appendix B for an overview of numbering and key definitions.

<sup>16</sup> Precluding this use may have some impact on providers currently using this technique.

## 3.2 Issuing geographic numbers

The purpose of the Numbering Plan is to ensure that CSPs issue numbers to their customers in a way that ensures that the location information contained in the geographic number matches the geographic location of the customer's service. For example, the number (03) 9909 XXX, allocated for issue and use in Melbourne SZU, should not be issued for use by a service physically located in the Clayton (Vic) SZU.

Conformance with the rules fulfills broader public policy objectives, enables all CSPs to comply with their regulatory obligations and provides a range of benefits to consumers which rely on accurate location information being contained in numbering to support the provision of untimed local calls, support LNP<sup>17</sup> for VoIP customers, and support services with location dependent routing.

**The problem is that the current wording of the rules in the Numbering Plan for the issue and use of geographic numbers by CSPs prevents ACMA, in certain circumstances, from ensuring CSPs issue geographic numbers for use consistently with the Numbering Plan.**

The change could be drafted in such a way that current flexibility is maintained. For example:

- the facility for customers to divert incoming calls to their number to another number and for CSPs to charge the incoming calls as if the calls terminated on the original number could be retained; and
- the facility for a CSP to provide an out of area connection in certain circumstances: if a business customer changes the location of its premises in a capital city the CSP can make provision for the continuity of the service without changing the customer's number.

This flexibility is already provided for in the Numbering Plan and use of geographic numbers in these circumstances is not considered a mis-issue of geographic numbers.

ACMA's criterion for the preferred approach is that it supports the unambiguous application of the existing regulatory framework in all cases, continues to support the provision of the untimed local call and allows action to be taken against those CSPs who fail to comply.

**To increase regulatory certainty ACMA is considering amending the Numbering Plan to ensure all geographic numbers are issued consistently with the locations to which numbers are allocated.**

This change to the Numbering Plan would preclude CSPs from offering a randomly selected or inappropriate geographic number to their customers and would require all CSPs to implement procedures and front of house systems to ensure compliance with the requirement. The industry guideline CA G636:2007 provides relevant information about CSP procedures and front of house systems.

ACMA's research shows that in almost all the cases it tested, VoIP providers issued geographic numbers to their customers for locations other than the geographic locations of the customer's services. ACMA is proposing to undertake a targeted education and compliance program with the providers identified.

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<sup>17</sup> Incorrectly issued geographic numbers may not be able to be ported to other carriers.

### 3.3 Moving numbers between carriage service providers

Larger CSPs that have been allocated numbers by ACMA frequently enter into commercial interconnect arrangements with small CSPs (generally small VoIP providers). This includes the supply of numbers to the small CSP so they, in turn, can provide services to the public. In some cases, the movement of numbers between CSPs in this way may occur several times before the number is issued to a customer for use. Many small CSPs use this arrangement to avoid making significant investments in network interconnection arrangements<sup>18</sup>.

The number of small CSPs that receive numbers this way far exceeds the number of CSPs that are allocated numbers by ACMA. The ratio is more than 5:1. ACMA currently allocates geographic numbers to more than 25 CSPs. Most of these are larger CSP who have national allocations of more than 1 million numbers each. For numbering purposes the small CSPs in question have no contact with ACMA. To date ACMA has attempted to engage with the small CSPs, about numbering arrangements via media releases, targeted web pages, public meetings and an industry guideline, which was produced and promoted by Communications Alliance.

**The problem is that under the Act and the Numbering Plan CSPs do not have to register, under the Act, or advise ACMA when they move numbers, which were allocated to them, to another CSP.**

All the services tested in ACMA's research (including the one service which was correctly issued) were found to have numbers which had moved from a larger CSP to the VoIP provider offering the service.

The changes being considered are intended to increase regulatory certainty regarding the responsibilities each CSP in the chain has with regard to ensuring the final issue and use of the number complies with the rules in the Numbering Plan.

The intention is that this will increase the transparency and awareness of the numbering rules when numbers are moved between CSPs. The form of any such certification would be determined in consultation with industry. It is envisaged that the undertaking might subsequently be relied on by ACMA for compliance purposes. Guideline G636:2007 provides a guideline of procedures and front of house systems a CSP might need to institute to comply with the Numbering Plan rules.

Other options to address this problem include requiring CSPs to register all movements of numbers directly with ACMA.

ACMA's criterion for the preferred approach is that it supports the unambiguous application of the existing regulatory framework and allows action to be taken against those CSPs who fail to comply with the rules in the Numbering Plan and does so in a manner that incurs the least possible regulatory burden on CSPs.

**ACMA is considering amending the Numbering Plan to require CSPs that provide numbers to other CSPs to obtain a written undertaking from the CSP receiving the numbers, to certify it has read, understood and will comply with the Numbering Rules.**

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<sup>18</sup> These investments would include applying for a network interconnection (14xy code) which has an annual numbering charge of \$100K and cost of negotiating an interconnection agreement with an originating CSP.

## 4. Options to facilitate compliance

**If the changes to the Numbering Plan that are being considered are implemented some small providers may have financial problems complying with the regulatory regime.**

ACMA is aware that some providers might consider withdrawing from offering fixed services using geographic numbers if the proposed changes adversely affect profitability.

A number of options exist to facilitate compliance, each has a number of costs and benefits both to individual providers and to industry as a whole. The first option is the lowest cost solution as it proposes no strategic or technical response by ACMA or industry to facilitate compliance. However, it does not reduce the financial costs of compliance and might have a negative impact on number conservation strategies, which are important for the whole industry. The second option requires investment by industry to implement a technical solution/s on an individual or coordinated basis. The final option is a government facilitated solution.

ACMA's criterion for the preferred approach is that it must: allow geographic numbers to be made available in small numbers to small CSPs in all SZU's, facilitate porting, support customer information transfer to the IPND in a timely fashion; support access to ECS and be broadly available.

**ACMA does not have a preferred approach and is seeking industry advice regarding which option or options might best be implemented and by whom to address the financial barriers to compliance.**

### 4.1 No strategic or technical response

To comply with the existing regulatory regime small providers will need to enhance their front of house or on-line subscription processes so that geographic numbers can be issued in accordance with the rules in the Numbering Plan. Those unable to receive an adequate supply of numbers in the SZUs where their customers reside from their existing supplier may need to apply directly to ACMA for a block of numbers (usually 1000) in the appropriate SZU.

Depending on arrangements with their existing supplier, small providers may also need to apply for a network interconnection (14xy) code which has an annual numbering charge of \$100K, and negotiate interconnection arrangements with at least one originating access CSP.

Additionally, those intending to offer nomadic services and proposing to utilise the 0550 range will have to negotiate terminating call charging arrangements with key industry players.

Many small providers currently avoid these substantial costs by establishing arrangements including primary rate access (PRA) for supply of numbers and service through larger providers. They may or may not be able to incorporate these significant additional costs into their existing business case, or be able to reach agreement regarding interconnect and terminating arrangements.

**While there are no costs in implementing this option for providers that are currently complying with the existing regime, ACMA is aware that to establish network**

**interconnect arrangements, significant financial barriers exist for new entrants. ACMA is also aware that this option may negatively affect strategies to conserve and extend the life of the Numbering Plan<sup>19</sup>.**

## **4.2 Industry Solution**

Some larger CSPs have indicated to ACMA that they are able to implement technical solutions which could facilitate compliance with regulatory obligations by the small CSPs to whom they supply services. These solutions are likely to require financial investment by the CSPs providing this extra functionality.

Different solutions may be provided by different carriers or large CSPs depending on the technical limitations of their network.

**ACMA is seeking information from larger CSPs about whether and how suitable commercial services might be able to be offered to a broad range of small providers in a way that provides for an effective solution, as described above, assisting small CSPs to overcome the problems identified. ACMA is also seeking information regarding how this solution or package of solutions will be implemented across industry, why it has not been implemented to date and what the timeframe for any future implementation would be.**

## **4.3 Small Provider Integrated Number System (SPINS)**

An alternative to an industry solution/s is the establishment of a Small Provider Integrated Number System (SPINS). SPINS would be a centralised industry service that could supply individual numbers to small CSPs to issue to their customers as needed, and also facilitate porting for the numbers. One option is for SPINS to be a carriage service provider. This would allow it to both administer a pool of numbers and provide switching facilities to manage donor routing.

SPINS could utilise the current industry based arrangements for Local Number Portability (LNP), see ACIF C540:2007 Local Number Portability. Further, SPINS might be able to be implemented with minimal or no changes to this code. More information about the SPINS is provided at Attachment C.

**Subject to broad support from relevant portions of industry for SPINS and a favourable appropriate cost benefit analysis, ACMA could consider implementation of such a system.**

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<sup>19</sup> Changes to the current 10 digit Numbering Plan took five years and cost industry in excess of \$25 million dollars to implement.

## 5. Submissions

Your comments and feedback is requested on all aspects of the discussion paper. The following questions highlight some of the key policy issues raised in the paper.

### **CHANGES TO THE NUMBERING PLAN**

1. Should the Numbering Plan be amended to allow and/or required the issue and use of a unique number to a VoIP-Out services? If not what sort of number should a VoIP-Out service be able to use?
2. Should the location information in geographic numbers be preserved or discarded?
3. If the location information is preserved, should ACMA withdraw numbers from CSPs who issue numbers inconsistently with the rules?
4. Should the option for providing an out of area number<sup>20</sup> be extended or removed?
5. ACMA wants to increase the transparency of the movement of numbers to facilitate compliance with the rules in the Numbering Plan – is the process described in the paper the best approach?
6. Are there other approaches to these problems that ACMA should consider?
7. How should the changes being considered be implemented: immediately, only apply to new services, phased in over time, or another way?

### **OPTIONS TO FACILITATE COMPLIANCE**

8. Which option do you think best allows small CSPs to comply with the Numbering Plan?
9. If you are a small CSP who currently gets numbers from sources other than ACMA: Are you able to source sufficient numbers to comply with rules in the Numbering Plan ie to provide your customer with a number that is appropriate for the SZU in which they are located?  
Would you source your numbers from SPINS if implemented?

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<sup>20</sup> Currently only large business customers have the facility to access an out of area connection in specific circumstances. However this could be extended to allow CSPs to offer this facility to all customers if requested as is done in the United Kingdom. See <http://www.ofcom.org.uk/consult/condocs/numberingreview/statement/statement.pdf>

10. If you are a large CSP who applies to ACMA for numbers:  
Are you planning to implement technology to facilitate your customers who you on sell or move numbers to (i.e. small CSPs) compliance with the Numbering Plan? If so what capabilities will the technology have and when will it be implemented?  
If it received broad support would you be prepared to work with ACMA to implement SPINS?
11. What do you estimate to be the cost of establishing SPINS? Would there be other costs associated with establishing SPINS e.g. costs borne by individual CSPs?
12. Are there other technical or industry solutions to facilitate compliance by small CSPs and increase efficiency of number allocation? Please detail.
13. If SPINS was established, should ACMA operate the service or outsource it?
14. What are the merits of the different governance arrangements for SPINS discussed at section C2, Attachment C
15. What are the merits of the different funding and charging arrangements for SPINS discussed at section C3, Attachment C

#### **OTHER**

16. Have you attempted to establish an interconnect or terminating agreement for LICS?  
Have you encountered any specific barriers?

**Submissions must be received by ACMA by 28 February 2009.**

Submissions must be sent to:

**Manager Telecommunications Licensing Numbering and Subcables Section**

Email [numbering@acma.gov.au](mailto:numbering@acma.gov.au) ; or

Mail Australia Communications and Media Authority  
PO Box 13112, Law Courts  
MELBOURNE VIC 8010

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# Attachment A – Acronyms

ACCC	Australian Competition and Consumer Commission
ACMA	Australian Communications Media Authority
CLI	Calling Line Identifier
CND	Calling Number Display
CSP	Carriage Service Provider
ECS	Emergency Call Service
INMS	Integrated Number Management Services
IPND	Integrated Public Number Database
LES	Law Enforcement Services
LICS	Location Independent Communication Service
LNP	Local Number Portability
NGN	Next Generation Network
PRA	Primary Rate Access
PSTN	Public Switch Telephone Network
SPINS	Small Provider Integrated Numbering System
STS	Standard Telephone Service
SZU	Standard Zone Unit
TIO	Telephone Industry Ombudsman
VoIP	Voice over Internet Protocol

## Attachment B: Key Definitions

**Local Service** means a carriage service:

- a) that is capable of voice telephony; and
- b) that is provided for receiving incoming calls at a location where that location is in an area identifiable, by the carriage service provider with which the call originates, from the number called and is:
  - (i) a switching facility; or
  - (ii) the premises occupied or used by a customer; or
  - (iii) in the vicinity of the premises occupied or used by a customer.

**Location Independent Communications Service** means a carriage service that:

- a) is capable of voice telephony; and
- b) is provided for receiving incoming calls at a location that can be identified by the originating carriage service provider as:
  - (i) a point of intersect for delivery to another carriage service provider; or
  - (ii) the location of the customer; and
- c) is not:
  - (i) a local service; or
  - (ii) a digital mobile service; or
  - (iii) a freephone service; or
  - (iv) a local rate service; or
  - (v) a premium rate service.

# Attachment C: SPINS

## C 1 Concept

The Small Provider Integrated Number System (SPINS) would be designed to provide numbers to small CSPs (including but not restricted to VoIP providers) on a one by one basis across Australia. This idea is not a new one, AAPT proposed a similar model in early 2005, and more recently ACMA's Numbering Advisory Committee has supported further investigation of the proposal to assist in conserving the supply of geographic numbers.

It is envisaged that, to establish SPINS ACMA would need to provide a supply of approximately 2 million geographic numbers to SPINS for use in all the SZUs in Australia. Industry would be required to condition these numbers which would then be listed in a database look up table (similar to industry LNP tables) which all CSPs need to refer to and synchronise with on a daily basis (as is done under existing LNP Code).

A small CSP with a customer could then apply to SPINS for a number for a specific SZU. The small CSP could then issue the number to its customer. This process would operate concurrently with ACMA's number allocation process. CSPs that wish to obtain a larger quantity of numbers for a particular SZU, could apply for a suitable range of numbers from ACMA as currently occurs.

Once a number was provided to a small CSP, SPINS would update its tables with the new details to facilitate correct network routing of the call to the customer. If the customer subsequently wanted to port the number to another CSP, SPINS and the small CSP could cooperate with the gaining CSP to effect the change. If SPINS is a CSP it might perform donor routing. Alternatively, SPINS may use a 'host' CSP service to provide donor routing. SPINS may also assist small CSPs to update the IPND.

If a customer no longer wishes to use the number, i.e. cease service, the small CSP would return the number to SPINS where it would be quarantined for an appropriate period of time prior to the number being available to be provided to another small CSP.

Should such a system be successful, the benefits to small CSPs may be increased by expanding its role, for example, consideration could be given to including other number ranges such as LICS (0550)<sup>21</sup>.

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<sup>21</sup> Currently LICS 0550 numbers are unable to be utilised and prior to the expansion of SPINS to offering this range, some technical and financial arrangement would need to be addressed including the establishment of call terminating arrangements and interconnect agreements for LICS.

## C 2 Governance

If SPINS were established, it could be operated by ACMA or outsourced to industry. ACMA is seeking advice from industry about whether, should the concept proceed, ACMA should operate and manage SPINS or outsource SPINS.

If SPINS was to be outsourced to industry then ACMA could provide for this in a number of ways, for example:

- ACMA could, through an open tender process, select a suitable provider and enter into a contractual arrangement for the direct supply and operation of the SPINS service. The procedure and contractual arrangement envisaged would be similar to that employed previously by ACMA for the Do Not Call register.
- An incorporated industry body could be responsible for the operation and ongoing development of SPINS and this body could let contracts for supply and operation of the SPINS service. The procedure and contractual arrangement envisaged would be similar to that employed for Industry Management Number Services Pty Ltd (INMS). The principles and obligations that underpin the operation of INMS would also be relevant for SPINS.
- Another approach suggested by industry that would be consistent with Commonwealth requirements such as the *Telecommunications Act 1997* and the *Financial Management and Accountability Act 1997*.

ACMA is seeking views from industry about the merits of different governance arrangements for SPINS should it proceed.

## C 3 Funding and Charges

Should SPINS be implemented, the funding and charges model would depend on whether it was operated and managed by ACMA or outsourced. If SPINS was to be operated and managed by ACMA then the funding would be a budget matter for ACMA and the charges would be based on cost recovery principles.

In principle, if ACMA is responsible for performing a function (e.g. number allocation) under the Numbering Plan and delegates this function (e.g. delegated to SPINS) then the government's cost recovery principles and the reporting requirements in the *Financial Management and Accountability Act 1997* are applicable. However, if the service offered is not a function delegated by ACMA (e.g. facilitating portability) then user pays (fee for service) arrangements could also be considered. A combination of both cost recovery (for delegated functions) and fee for service (for other functions) is also possible.

The status of the functions depends on the legal framework employed and with new arrangements differing approaches may be considered; whatever legal framework is adopted ACMA would require that to the extent necessary in law it would be consistent with cost recovery principles, reporting requirements and the *Financial Management and Accountability Act 1997*.

If SPINS was outsourced, the establishment funding and running costs could be managed in different ways. For example, government might be prepared to fund the establishment of the scheme, whereas the ongoing running costs, subject to the status of the functions, could be recovered from service charges based on cost recovery or user pays principles. Alternatively, the outsourced provider could be responsible for funding establishment costs. In either case,

charges for delegated services would have to be consistent with Commonwealth cost recovery arrangements.

A cost benefit analysis would need to be completed prior to any decision regarding the implementation of SPINS.

ACMA is seeking views from industry about the merits of SPINS and the different funding and charging arrangements discussed.

#### **C 4 Model**

The main features of the SPINS model are outlined in Table 1 below. To simplify its implementation, the SPINS model was designed to minimise the affect on the existing regulatory arrangements and the LNP code. In submissions to this paper ACMA seeks industry advice about whether and how the model might be simplified further. Any ideas for alternative proposals are also sought.

**Table 1** The SPINS Model

Feature / Requirement	Regulatory/Code implications & Comments
<b>System</b>	
Register of numbers	Ported number register administered by SPINS in accordance with Chapter 11 of the Numbering Plan to support LNP
Switching facilities	Operated by SPINS
<b>Supplying SPINS Numbers</b>	
SPINS assigned geographic number (~2 mill) supply for every SZU by ACMA	Pre-existing process (allocation) or new process in the Numbering Plan for specifying geographic numbers that may then be allocated through SPINS. For supplying small CSPs.
SPINS allocated 14XY network select code by ACMA	Pre-existing process in the Numbering Plan. For donor routing purposes.
Carriers obliged to condition their networks and provide originating access to numbers allocated to SPINS	Change required to the Numbering Plan to give effect to this obligation
<b>Issuing a number to a small CSP's customer</b>	
A small CSP makes a Category A porting request to SPINS, on behalf of a customer, to obtain a number.	Pre-existing process in <a href="#">ACIF C540:2007 Local Number Portability</a> . SPINS performs the DONOR CSP role under this code.
<b>Porting the number to another CSP</b>	
A CSP initiates a third party port Category A process	Pre-existing process in <a href="#">ACIF C540:2007 Local Number Portability</a> . SPINS performs the DONOR CSP role under this code.
<b>Transfer of a ported number to another customer</b>	
A number is reissued to another customer by a CSP under certain circumstances	Pre-existing process in <a href="#">ACIF C540:2007 Local Number Portability</a> . SPINS is the DONOR CSP.
<b>Surrendering the number to SPINS</b>	
Give back of a SPINS number	Pre-existing process in <a href="#">ACIF C540:2007 Local Number Portability</a> . SPINS performs the DONOR CSP role under this code.