

Response
to
IDA Consultation Paper

**“Policy Framework For IP Telephony and Electronic
Numbering In Singapore”**

Pacific Internet Limited

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89 Science Park Drive
#02-05/06 The Rutherford
Singapore 118261
Tel: 6872 0322
Fax: 6872 5912

RESPONSE TO IDA CONSULTATION PAPER “POLICY FRAMEWORK FOR IP TELEPHONY AND ELECTRONIC NUMBERING IN SINGAPORE”

1. Introduction

1.1 Pacific Internet Limited (PacNet) welcomes the opportunity to provide our response to IDA’s proposed policy framework for IP Telephony and Electronic Numbering in Singapore.

1.2 The anticipated widespread adoption of IP Telephony globally is expected to create tremendous changes in the telecommunication landscape. It is expected that new innovative applications will be introduced, new service providers will enter the market and existing voice service providers will respond to the new competition. New issues relating to the rights and obligations of IP Telephony service providers vis-à-vis the traditional voice service providers, reliability and performance of IP Telephony service and consumer protection and awareness are expected to arise.

1.3 In light of the foreseeable far reaching impact of IP Telephony on the telecommunication industry, the regulatory approach taken in regulating IP Telephony will have significant impact on the future development of the telecommunication industry and needs to be carefully deliberated to ensure that consumers in Singapore benefits from the development of the new technology while potential issues and problems are adequately addressed.

2. Potential Benefits of IP Telephony

2.1 The introduction of IP Telephony is likely to increase competition in the supply of voice and related services and as well as increase the demand for these services. This may bring about lower prices and more service features for consumers. By adding on to the number of useful applications and value-added services which can be accessed through broadband, the advent of IP Telephony may drive the take up of broadband access services.

2.2 For businesses, the costs of migration to an IP platform may be high. However, the return on such an investment can be derived in the forms of more manageable and user-friendly environment, significant costs-savings and increased functionality not only for the organization but also to the individual employees. The converged network infrastructure presents opportunities to reduce operating costs (e.g. lowered network support costs) and enhance revenues (e.g. more effective sales & marketing, improve customer experiences).

2.3 IP Telephony also promotes interoperability between the Internet and public telecommunications network. Further benefits could thus arise from the utilization of this

technology to develop complementary technologies that may be leveraged on to support effective and useful real-time multimedia services over the Internet.

2.4 In terms of the telecommunication competitive landscape in Singapore, in the near to medium term, we expect that there would likely be more competition to the existing traditional voice service providers in the international call market from IP Telephony service providers. The existing voice service providers will also deploy IP Telephony services to address the new competition. In the long term, the shape of the competitive landscape of the telecommunication market will depend on the attractiveness of new IP Telephony services, the prices of IP Telephony equipment, the regulations adopted by the authorities and consumer preferences.

3. IDA's Proposed Regulatory Approach

3.1 We support IDA's proposed approach of imposing regulations only to the extent necessary to address certain economic, social/public and regulatory concerns relating to the provision of IP Telephony so as to allow IP Telephony, an emerging technology, to fully develop at this early stage.

3.2 We strongly agree that it is premature at this stage to consider IP Telephony as a true substitute to fixed line services given the nascent stage of the development of the IP Telephony technology where issues like access to emergency services and quality of service have yet to be fully addressed. To consider certain classes of IP Telephony as substitutes to traditional voice services and apply regulations imposed on traditional voice service on this service now would impose additional costs and create obstacles to the full development of IP Telephony in Singapore. Creating regulatory constraints will not only slow down innovation in Internet Telephony technology and applications but also has the potential to stifle innovation in the traditional telephony space.

3.3 For IP Telephony to flourish and its potential benefits fully exploited, regulations should be aimed at removing potential obstacles which may impede the full development of IP Telephony at the introductory phase, where access to the traditional voice providers' networks are required to reach a wider customer base. At this phase, regulations which aimed at facilitating interconnection of IP networks to the PSTN economically and expeditiously would be tremendously helpful in the development and adoption of IP Telephony in Singapore.

4. Licensing Framework

4.1 We welcome IDA's proposed licensing policy to allow both FBOs and SBOs to provide IP Telephony services. This flexibility will lower the entry barrier for both potential new players and existing players.

5. Number Allocation

5.1 We support IDA's proposed phased approach of assigning new number levels to FBO and SBO licensees for IP Telephony services. It represents a practical approach to the problem of allocating scarce national numbering resources amidst the uncertainty in the take up of numbers designated for IP Telephony.

5.2 Whilst allocation of numbers in smaller blocks during the early phases of IP Telephony when adoption of such a new service is expected to be slower is practical, IDA is urged to reconsider the practice when demand accelerates.

6. Interconnection and Access

6.1 In regard to the appropriate interconnection framework to be adopted for IP Telephony, the general international practice at this stage appears to develop along the direction of adopting the existing fixed line interconnection framework as a start due to the lack of clear visibility as to what specific departures from the existing framework are required at this early stage. We propose that IDA adopt a flexible approach to the issue of interconnection and access and revise the existing interconnection framework or devise a new set of interconnection arrangement when there is greater clarity.

6.2 Further, we would like to propose to the IDA to allow IP Telephony service providers to interconnect to the PSTN via the H. 323 or SIP protocol instead of the SS7 protocol, if the IP Telephony provider so chooses. The H. 323 or SIP protocol is a more cost effective means of interconnection compared to the SS7 protocol from the perspective of IP Telephony service providers. IP Telephony service providers should be given the choice to use available technology for the purpose of interconnecting with the PSTN, provided that the technology does not degrade the service of the PSTN.

7. Quality of Service (QOS)

7.1 We strongly support IDA's proposed policy not to impose QOS on IP Telephony services, subject to the IP Telephony service providers informing their users that their services may not meet the minimum QOS standards set by IDA for local fixed-line and mobile phone services. IDA should ensure that fixed line operators will maintain the relevant QOS on their network when interconnecting with the IP Telephony service providers and not introduce latency which may potentially affect the service of the IP Telephony service providers.

7.2 Currently, many IP Telephony service providers provide IP Telephony services over the Internet network over which they do not have control. For example, some IP Telephony service providers may not be ISPs; and those IP Telephony service providers who are ISPs may not own their own broadband network but lease them from the fixed-line operators. The performance of IP Telephony services delivered over such networks cannot be guaranteed by the service providers.

8. Basic Obligation and Public Safety

8.1 We strongly support IDA's proposed policy not to impose requirements on IP Telephony service providers to provide access to emergency services subject to the requirement to inform users on whether the service can or cannot reach the emergency agencies. It is operationally and technically onerous and costly for IP Telephony service providers to provide access to emergency services at this stage of the development of the IP Telephony technology, thus offsetting the advantages of IP Telephony services which include quick deployment at lower cost.

9. Number Portability

9.1 We agree that at the existing nascent stage of the development of IP Telephony, it would be an undue burden on new service providers to provide number portability. However, given that number portability is a key facilitator of competition in the voice market, the regulator may wish to review this issue on a priority basis taking into consideration international best practice.

10. Differentiation between Levels "6" and "3" 8-Digit Numbers

10.1 We support the differentiation between Levels "6" and "3" 8 digit numbers so long as the difference in the regulations to be imposed on operators entitled to these two numbers are appropriate, i.e. Level "3" number holders should not be required to fulfill obligations including number portability, access to emergency services, provide directory and printed directory services, QOS, among other things, that are more appropriately applied on the Level "6" holders.

11. Electronic Numbering ("ENUM")

11.1 ENUM has enormous benefits which include facilitating termination of calls to IP networks, providing the missing convergence link, acting as a directory infrastructure. It is likely to benefit end-users in terms of providing them with a "unified" directory service which facilitates communication across the different telecommunication platforms of fixed-line, mobile, email, etc.

11.2 There are certainly many considerations including DNS security, privacy, service integrity and regulatory concerns surrounding integrating PSTN/IP services. However, the development of ENUM is still at an early stage and the trials of the ENUM are being carried out in many jurisdictions, with actual implementation being some time ahead. We will provide feedback to the regulator on ENUM-related issues when we gather more information about ENUM from the results of the trials.