

**For information**

**On 8 November 2004**

**Legislative Council Panel on Information Technology and Broadcasting**

**Regulation on Internet Protocol (IP) Telephony**

**Purpose**

This paper introduces to Members the background and key issues of the public consultation concerning the regulation on Internet Protocol (IP) Telephony.

**Background**

2. On 4 October 2004, the Office of the Telecommunications Authority (OFTA) launched a public consultation to invite views on the regulation of Internet Protocol (IP) Telephony.

3. “IP Telephony” or “Voice over IP” generally refers to the transmission of voice over the Internet or IP-based network, instead of the conventional telephone network. Recently, some local fixed network operators have started offering IP Telephony services which allow customers to make and receive telephone calls over the broadband Internet connections.

4. Because fixed carrier licences are technology neutral, local fixed network operators could use any technologies, including IP technology, to provide telephony services, provided that they comply with the licence conditions of their existing licences. Indeed, the current global trend is for carriers to upgrade their networks to so-called “Next Generation Networks”, which are networks utilising IP to deliver integrated voice, data, fax, video and multimedia services to users. Given this development, we consider it necessary to review whether it is desirable to apply the existing licence conditions in fixed carrier licences, which were devised some years ago for conventional telephony services, to IP Telephony services without modifications. In particular, one of our concerns is whether the existing licence conditions may hinder the development of IP Telephony in Hong Kong

and fixed carriers' upgrading of their networks to leading edge technologies.

5. The regulation of IP Telephony services is a complex topic. The consultation paper highlights a number of key regulatory issues in four areas: (a) policy and licensing, (b) numbering issues, (c) interconnection and charge settlement, and (d) consumer and other issues.

### **Preliminary views and key issues being consulted**

6. OFTA is of the preliminary view that a minimum and proportionate level of regulation should be applied to IP Telephony services subject to preserving the achievement of certain social objectives. The principle of "technology neutrality" should be upheld. Applicable regulations should not obstruct the adoption of new technologies. The choice of, and pace of migration to, the services based on the IP technology should be left to the consumers and the market.

7. Although OFTA advocates a minimal level of regulation on IP telephony services, it may be necessary for IP Telephony services that are intended to be used as substitutes to the conventional public telephone services to meet certain minimum requirements (e.g. any-to-any connectivity, access to emergency services and number portability) in order to protect public interest and avoid consumer confusion. IP Telephony services may be regarded as a new class of services different from the traditional circuit-switched telephone service currently regulated under the Fixed Telecommunications Network Services (FTNS) or Fixed Carrier Licence. Therefore the set of conditions applied to IP Telephony services needs not be identical to those under FTNS or Fixed Carrier Licences. In the consultation, OFTA discusses the applicability to IP Telephony services of the FTNS or Fixed Carrier licence conditions relating to conformance to numbering plans, number portability, any-to-any connectivity, interconnection, calling line identification, directory enquiry service, access to emergency services, backup power supply and quality of service. OFTA consults the industry and other interested parties on whether these conditions should be applied to IP telephony services in full or after modifications.

8. The consultation paper also discusses the impact of IP Telephony services on the operation of the existing mechanisms for interconnection

charges, local access charges (LAC) and universal service contribution (USC). The ability of IP Telephony services users to use the service anywhere with a broadband connection inside or outside Hong Kong raises issues relating to provision of information on caller location to emergency services, the definition of “external telephone traffic” for LAC and USC settlement and the likely pressure on numbering resources under the Hong Kong Numbering Plan.

9. IP Telephony enables the separation of network operation from service provision. IP Telephony services offered by one service provider may be accessed over the broadband connections provided by other operators. Such separation raises the issues of payment of the broadband connection providers by the IP Telephony service providers. The consultation paper discusses the different modes of operation of IP Telephony over the broadband connections and the possible interconnection charges payable with respect to each mode.

10. The separation of network operation from service provision provides opportunities for entry of service-based operators into the market. At present, the Public Non-exclusive Telecommunication Service (PNETS) operators such as the Internet service providers are not permitted under the scope of services of their existing licences to operate the real-time voice telephone services and do not have entitlement to numbering blocks. The consultation paper consults the public on whether PNETS operators should be permitted to provide IP telephony services.

11. A wide range of IP telephony services could be introduced to the market with different functionalities and/or qualities of service. OFTA considers that the consumers should be given adequate information on the capabilities as well as limitations of the IP telephony services to be offered so that consumers can make an informed choice.

12. The executive summary of the consultation paper is attached. Interested parties are invited to submit their comments to the OFTA by 4 December 2004.

**Office of the Telecommunications Authority**  
**1 November 2004**

## **Regulation on Internet Protocol (IP) Telephony Consultation Paper**

### **Executive Summary**

“IP Telephony” or “voice over IP” are public telecommunications services for voice transmissions, which may be integrated with the transmissions of data, text, image, video or multimedia communications, over the Internet or managed IP-based networks. IP Telephony is a new type of services emerging in the market. The primary objective of this consultation paper is to seek the views and comments of the industry and interested parties on the regulation of IP Telephony.

2. In this consultation, OFTA is of the preliminary view that the minimum and proportionate level of regulation should be applied to IP Telephony subject to preserving the achievement of certain social objectives. The “technology neutrality” principle should be upheld. Regulation should not obstruct the adoption of new technologies. The choice of, and pace of migration to, the services based on the IP technology, should be left to the consumers and the market.

3. Although OFTA advocates the minimum level of regulation on IP Telephony, it may be necessary for IP Telephony services that are intended to be used as substitutes to the conventional public telephone services to meet certain minimum conditions (e.g. any-to-any connectivity, access to emergency services and number portability) in order to protect public interest and avoid consumer confusion. As IP Telephony may be regarded as a new class of services different from the traditional circuit-switched telephone service regulated under the Fixed Telecommunications Network Services (FTNS) Licence, the set of conditions applied to IP Telephony services needs not be identical to those under FTNS Licences.

4. In this consultation, OFTA discusses the applicability to IP Telephony services of the FTNS licence conditions relating to conformance to numbering

plans, number portability, any-to-any connectivity, interconnection, calling line identification, directory enquiry service, access to emergency services, backup power supply and quality of service. OFTA consults the industry on whether these conditions should be applied to IP Telephony in full or after modifications.

5. The consultation discusses the impact of IP Telephony on the operation of the existing mechanisms for interconnection charges, local access charges (LAC) and universal service contribution (USC). The ability of IP Telephony users to use the service anywhere with a broadband connection inside or outside Hong Kong generates issues relating to provision of information on caller location to emergency services, the definition of “external traffic” for LAC and USC settlement and the pressure on numbering resources under the Hong Kong Numbering Plan.

6. As it is expected that there will be a wide range of IP Telephony services with different functionalities and quality of service, OFTA considers that the consumers should be given adequate information on any limitations on the capabilities of the IP Telephony services offered in the market so that consumers can make an informed choice.

7. IP Telephony enables the separation of network operation from service provision. IP Telephony services provided by one service provider may be accessed over the broadband connections provided by other operators. Such separation raises the issues of payment of the broadband connection providers by the IP Telephony service providers. This consultation paper discusses the different modes of operation of IP Telephony over the broadband connections and the possible interconnection charges payable with respect to each mode.

8. The separation of network operation from service provision provides opportunities for entry of service-based operators into the market. At present, there are some obstacles against the entry of service-based operators, i.e. scope under existing licences, entitlement to numbering blocks for telephony services and interconnection charging arrangements. This paper consults, among others, the industry on whether service-based operators should be permitted to provide IP Telephony services.

9. Any views expressed in this consultation are preliminary views of the

TA only for consultation and do not represent the final position or decision of the TA on the issues. All submissions of comments should be sent by 4 December 2004 preferably in electronic format to [iptelephony@ofta.gov.hk](mailto:iptelephony@ofta.gov.hk) of OFTA. Any person who submits views and comments should also provide the supporting information or justifications and note that the TA may publish all or any part of the submission received and disclose the identity of the source in such a manner as the TA sees fit. Any part of the submission which is considered commercially confidential should be clearly marked. The TA would take such markings into account in making his decision as to whether or not to disclose such information. Submissions in hardcopy, if any, should be addressed to:

Office of the Telecommunications Authority  
29/F Wu Chung House  
213 Queen's Road East,  
Wanchai  
Hong Kong  
(Attention: Mr. Sin Kwok-Kei, Telecommunications Engineer)  
Fax: 2838 5004

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4 October 2004