



International Chamber of Commerce

The world business organization

Department of Policy and Business Practices

DRAFT

Commission on E-Business, IT and Telecoms

Task Force on Telecoms Policy

ICC policy statement on Voice over Internet Protocol (VoIP)

Introduction

The emerging range of IP-enabled services, including VoIP, represent the most fundamental shift in telecommunications technology since Alexander Graham Bell got us talking 127 years ago. It promises a revolutionary set of converged voice, data and video services, bringing better features at lower prices for users, better applications for business and benefits for the information society as a whole. Business and consumer users are moving fast to take advantage of the efficiencies and advanced communications capabilities of IP-based technology. The VoIP revolution is happening now. Previously, the biggest drawbacks of VoIP were its reliability and quality. Now, significant improvements put IP voice quality on a par with the traditional circuit-switched voice networks.

ICC urges policy makers to focus on the advanced service attributes of VoIP services, and the potential of these nascent services to revolutionize communications to the benefit of all end users. VoIP can not only offer voice communications, but also their seamless convergence with data or video applications and devices.

Competitive development of VoIP

A number of service providers around the world have begun offering VoIP services that provide both voice telephone functionality and value-added functions far more advanced than the current technological capabilities of traditional wireline POTS¹. These features currently include advanced call forwarding features that allow sequential or simultaneous forwarding to multiple alternative numbers; “do not disturb” functions that allow the user to dynamically set times to restrict incoming calls while also permitting an override for urgent incoming calls; voice mail that can be accessed, saved or forwarded by computer as an electronic file; and advanced call management features such as personalized call logs, phone books, and click to dial functions. These benefits are multiplying rapidly, as VoIP is quickly evolving as a full-blown “computer” application, limited only by the talents of applications developers. Unlike circuit switched telephony, VoIP offers the potential for the full integration of voice, data, video and advanced computer applications.

¹ POTS – ‘plain old telephone service’



Previously, VoIP could correctly properly be characterized as “cheap voice”. That is not the case now with current-generation VoIP delivered over broadband access. When “voice” becomes one of many IP data applications available to the end-user, the voice/data distinction becomes less meaningful.

Moreover, with IP, the end user has the ability to use the communications content with a variety of devices that were unthinkable in a circuit switched environment. Beyond traditional phone service, VoIP promises voice convergence with other data applications and devices such as:

- Presence (like Instant Messenger)
- One Number/ “Follow Me” services
- IP call centers
- Universal messaging
- Virtual Meetings/Collaboration (like NetMeeting)
- Real time language translation
- IP Centrex
- Multi-Point Video Conferencing
- Desktop Multimedia
- Push to talk cellular
- Voice chat
- WiFi PDA mobile phone

With the appropriate regulatory framework, VoIP could promote both services and service provider competition.

Appropriate Regulatory Framework for VoIP

Policy makers will maximize the competitive and user benefits of VoIP by ensuring their regulatory approach reflects the attributes of an IP-enabled service-operating environment. A ‘light touch’ approach to regulation at the competitive “applications” layer, and a higher degree of regulatory scrutiny at the more concentrated underlying “network” layer in markets where policy makers identifies bottlenecks will maximize the competitive benefits of VoIP.

Appendix 1 comprises a diagram that highlights the distinct service and delivery features of VoIP compared with circuit-switched voice. This illustrates the nature of VoIP’s advanced service attributes. Given the unprecedented ability of IP-enabled communications services to bring different services to end users, policy makers should recognize that the services are not the same. Accordingly, the principle of “technological neutrality” must not by default mean that due to certain common “voice” features among POTS and VoIP, that the same precise regulations should apply. Indeed, because voice is but one application in a current-generation VoIP offering, comparing circuit-switched voice and VoIP is like comparing apples to fruit, not apples to apples. Therefore, the principle of technological neutrality should not require application of traditional regulation to this new service. Policy makers should consider a modified approach that would encourage rather than impede competition.

VoIP technology and services will bridge traditional classifications, and create more powerful forms of communication in the process. This service development and innovation will occur



over time, not overnight, so the policy approach needs to be as flexible as these new services, taking into account essential social and safety regulatory needs.

Policy makers should consider how to remove some of the unintended consequences arising from applying legacy voice regulation to VoIP services. Otherwise, these unintended consequences may dissuade companies from offering these innovative new services. For example, a company might be dissuaded from offering access to emergency services because doing so would mean the service was treated as a traditional voice service attracting several additional and immediate obligations that may be incompatible with the specific VoIP service.

Clearly, issues such as emergency service raise legitimate consumer protection and public interest concerns. However, automatic application of traditional requirements – requirements that were developed for circuit-switched based networks – to IP-based applications risks stunting development of new and important services and features that serve consumer interests.

To best address these concerns, policy makers should develop rules that are appropriate and proportionate to the distinct technological characteristics of VoIP services, and for which compliance would be phased in through reasonable transition periods. It would be contrary to policy makers' objectives if the effect of regulation were to act as a disincentive to new services and new entrants by burdening them with disproportionate regulatory obligations. VoIP, like mobile service before it, will develop ways over time to satisfy the social and safety demands of end users.

One approach is to distinguish the IP-enabled service “application layer” from the underlying “network layer.” If regulation adequately protects against abuse of market power at the network layer – *i.e.*, the broadband network facilities through which consumers access Internet applications – then the preconditions for market power in the applications layer are likely to be absent. Effective competition among application service providers should ensure that users obtain IP-enabled services on fair, reasonable, and non-discriminatory terms.

Numbering issues

Availability of geographic numbers will encourage VoIP adoption, which in turn will promote efficient, innovative and affordable services. For end users who are more comfortable with a recognizable number range, a geographic number may be desirable, and excessive restrictions on which operators/service providers can obtain such numbers would raise an unnecessary barrier to entry. Furthermore, it would be bad long-term policy with such a nascent but promising technology to assume limited service capability in a non-geographic number range, and an effective circuit-switched PSTN substitute in a geographic number range.

Both geographic and non-geographic numbers may be appropriate for VoIP services, and the availability of geographic numbers in particular should not be limited to certain categories of VoIP providers. The right to numbering resources need not and should not depend on the acceptance of the full set of rights and obligations attributable to traditional voice services. Rather, to encourage VoIP adoption, geographic number allocation could depend more narrowly on the obligation to support portability of those numbering plan resources. Policy



makers could place the number portability obligation on VoIP operators that obtain geographic numbers.

Nonetheless, it is appropriate that certain essential regulatory obligations would associate with numbering rights. For example, customers with geographic numbers may expect to have number portability. Policy makers could address the number portability issue by applying specific conditions to rights of use for geographic numbers including the obligation to offer number portability. A number portability obligation is one example of a flexible compromise that could be imposed on VoIP providers. It would encourage the development of VoIP and promote competition between VoIP and circuit-switched services.

Cooperation with law enforcement

VoIP presents new challenges to both business and governments in providing appropriate and legal assistance to law enforcement. Business is committed to co-operating with law enforcement to combat crime and terrorism in a manner consistent with legal requirements, but is seeking to ensure that such legal requirements do not conflict with existing obligations to protect the privacy of customers or unduly harm a competitive and dynamic market.

Active and receptive consultation with industry to determine appropriate levels and protocols for assistance to law enforcement is essential. Governments need to fully understand the cost, technological impact and proportionality of requirements before they decide to impose them. Measures taken should be justified, limited, proportionate and necessary for the purposes of investigating and prosecuting terrorism and other crime only. Harmonized procedures – both nationally and internationally – and

Conclusion

IP-enabled voice has the potential to bring unprecedented communications benefits to end users, as long as innovation and investment are not stifled by inappropriately heavy regulation. ICC encourages policy makers to carefully consider all aspects of social, safety and economic regulation, but to apply only those minimal aspects of regulation that are demonstrably essential to promote end user interests, and to rely where possible on the market forces that have so effectively advanced IP services to date.

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Appendix 1

Voice Becomes Another Data Application On an IP Network

Internet Protocol (IP) separates applications from the network:

- Voice is no longer restricted to telephone networks
- Voice becomes another IP data application

