

Department of Broadband, Communications and the Digital Economy  
GPO Box 2154  
Canberra ACT 2601  
Australia

Luxembourg, 24 June 2008

Sent via email: [regulatory@dbcde.gov.au](mailto:regulatory@dbcde.gov.au)

### **Response of Skype: Request for submissions on regulatory issues associated with the National Broadband Network for Australia**

---

Skype Communications S.a.r.l. (hereafter “Skype”) is a Luxembourg-based provider of peer-to-peer software applications which allow Skype users to communicate with other Skype users, and enabling optionally and where possible, certain forms of communication with the subscribers of electronic communications networks and services.

Skype is grateful to the Minister and the Department of Broadband, Communications and Digital Economy (hereafter “DBCDE”) for the opportunity to participate in the ongoing discussion of regulatory issues associated with the Australian Government’s proposal for the National Broadband Network (NBN). **Skype takes the view that the vision behind the NBN is predicated by the availability of rules to preserve unrestricted access to and non-discriminatory use of the Internet, including consideration of functional separation, as a means to achieve a competitive market.**

In March 2007, Kevin Rudd proposed an investment of AUS\$4.7 billion in a public private partnership over a five year period to deliver a broadband service up to 40 times faster than current speeds to 98% of Australians. He said: *“We regard this as an important part of nation building for the future. Nation building in the 19th century was about building a new national railway network for Australia. Nation building for the 21st century lies in building a new national broadband network. It’s part of our pathway to the future. Why is this necessary? When you look at Australia in the international comparative data – we have a problem on our hands. We currently have the 17th broadband take-up rate when measured across the OECD, that’s the 17th fastest. We also, when it come to the measurement of world broadband bandwidth, we are currently lying something like 25th in the world. Against those measures we have a problem in terms of our international economic competitiveness and any analysis who has looked at this over a period of time will look at that data and say that unless it’s fixed, we’re going to face a real problem in term of long-term productivity growth.”*

Senator Stephen Conroy added: *“As Kevin said Labour 12 months ago proposed a national private network that would add six megabits per second and it was what we termed an **open access network** and that was the key to stimulating productivity, stimulating economic growth, stimulating provision of services to school kids, to small businesses, to macro economic settings. This proposal remains an open access network, it remains a joint venture. It’s a proposal that takes the equity that we have currently in the communications fund, take the equity we currently have through the Telstra shareholding and moves it into a joint venture.”*

Skype agrees with the long term policy objectives behind the vision of delivering high speed broadband connectivity for 98% of Australian citizens to stimulate productivity, economic growth and the provision of services. An important part of the vision is about Australia’s role in the digital economy of the future. The Internet is the main driver of the digital economy where electronic goods and services are made available on the global marketplace. The benefits of lower costs, ease of communication and scale of distribution are significant advantages over the more traditional business models. The increasing number of potential consumers going online has had the effect of increasing the overall efficiency of innovation and production online. Skype believes that this is dependent on the government’s vision of open access networks. In this submission, Skype will focus on consumer safeguards and the policy and regulatory environment necessary to support open access networks, what are the key issues for consideration by the Minister’s Panel of Experts, as they prepare a request for proposal for implementation of the NBN.

Skype is able to share its experience because it is a compelling example of an innovative technology born out of the neutral and non-hierarchical architecture of the Internet. The Internet made it possible for Skype to become a leading global internet communications company with 309 million registered users around the world. Skype takes the view that a pro-innovation and pro-consumer policy is a core ingredient of the long term viability of the NBN for Australian consumers, and the global competitiveness of the Australian marketplace of the future. The core principles we shall discuss in this submission are the rights of end-users to continue to enjoy open and unrestricted access to the Internet with the ability and freedom to access the Internet content of their choice, to use applications relying on Internet access of their choice, and to access and functionally use software and services provided by third parties via the Internet. Underlying these principles is the need for policy and regulation to ensure that network operators and access providers are not granted any unreasonable preference for their own services over those of other services or applications.

Please note that Skype has no operations in Australia, and therefore lacks an appreciation of the finer intricacies of the local regulatory environment and marketplace. Therefore, the comments in this submission are, of necessity, general and high-level, based on our experience of the global marketplace.

## Why is the Internet successful?

The success of the Internet and its impact on how we play and work is directly related to its open and non-hierarchical architecture. After all, the network underlying the Internet performs no function except the transmission of data packets. All other functions are done by devices connected to the end points, where the intelligence lies. And such intelligence it is, resulting in the rapid uptake of broadband connectivity for homes and businesses, with consumers making use of the Internet to be more productive, to gain new skills and overall, to make life simpler and easier. Innovative edge applications such as Skype help to generate consumer demand for better broadband connections<sup>1</sup>.

When one thinks of access to information and services and the free exchange of views, the Internet is the first truly democratic medium. Commercial, non-commercial and the individual's own content is equally accessible to all and can be added to by anyone. It is equally capable of promoting the majority view, and the views of otherwise marginalized members of society. It is an engine for the promotion of cultural and linguistic diversity, and enabled us to learn more about others' views and cultures. Simultaneously, it is a platform for free expression, it is an enabler of new forms of commerce and allows for a greater ease of collaboration, communication and sharing of creative content. The result is a cultural diversity online that is innovative and vibrant and continues to flourish today.

There are two unwritten principles underlying an open and non-hierarchical Internet:

1. **Unrestricted Access:** *End-users have open and unrestricted access to content and services on the Internet, free from unreasonable discrimination by a network owner or access provider, and*
2. **No Discrimination:** *End-users are entitled to purchase bandwidth for Internet access comparable to that which the network owners or access providers utilizes to provide other services (e.g. communications, video programming, etc) so that end-users can access content, software, and applications that are not affiliated with the access network owner.*

Skype believes that these protections have so far been able to keep the Internet as an engine of innovation and productivity advances. These principles were recognized by the Federal Communications Commission (FCC) in the so-called "Internet Freedoms" Policy Statement (FCC 05-151, 5 August 2005) outlining a number of principles to "*encourage broadband deployment and preserve and promote the open and interconnected nature of [the] public Internet.*"<sup>2</sup> The concern being addressed is that if access providers were

---

<sup>1</sup> Morgan Stanley analyst, Mary Meeker, in her June 2008 report on Internet Trends (June 2008) listed Skype as a next generation asset, alongside YouTube, Facebook and PayPal - <http://www.morganstanley.com/institutional/techresearch/pdfs/TechTrends061208.pdf>

<sup>2</sup> <http://www.techlawjournal.com/topstories/2005/20050805.asp> "The Federal Communications Commission today adopted a policy statement that outlines four principles to encourage broadband deployment and preserve and promote the open and interconnected nature of public Internet: (1) consumers are entitled to access the lawful Internet content of their choice; (2) consumers are entitled to run



allowed to be put in a position of determining the success or failure, extra costs, terms and conditions, etc. of content and applications on the Internet, this would mean that individual developers or new or small businesses would be discouraged from coming up with new content, software and applications, and from releasing new applications on the world wide Internet.

### **Changing the Rules of the Road Ahead**

According to a recent Nielsen study, 17% of the global universe of Internet users (roughly 240 million people) has contributed content to the Internet<sup>3</sup> - a mere fraction of the creative and commercial potential of the Internet. By 2011, it is estimated that more than US\$2 billion will be spent on social networking advertising spend alone in the United States.<sup>4</sup> The consumer's appetite for video communications over social networks is touted as the next killer application<sup>5</sup> going beyond video blogs or You Tube. The recent release of Skype 4.0 beta 1 on Windows puts video in the centre stage for consumers through a richer user experience resulting from high quality video and improved functionality to support free video and voice communications over the Internet. This is in recognition of the consumer demand for video – already, 30% of Skype conversations include video today. Video presents a significant commercial opportunity, and this is where the road starts to divide.

As much as the consumer is changing the way we think about the Internet, the rules of the road on the Internet are being surreptitiously altered in a more traditional way by network operators and access providers around the world. Many of us are not aware that this is happening, or where we may spot the trend, we are slow to realize their implications. Cable operators, ISPs and carriers are fully aware that voice and video services from online providers are beyond their sphere of influence. These new and innovative services deliver value far exceeding those of the traditional walled garden variety. Many network operators and access providers are eager to move innovative online video and voice capability and the corresponding consumer demand over to a “pay on demand” subscription based, long term contract model in which the distribution and content is managed, controlled and owned by a few large network operators or access providers. These subscription based services are offered by network operators and access providers today – see examples given below – but they have been largely unsuccessful and have not captured the imagination of the consumer. Coincidentally, there are increasing reports of

---

applications and services of their choice, subject to the needs of law enforcement; (3) consumers are entitled to connect their choice of legal devices that do not harm the network; and (4) consumers are entitled to competition among network providers, application and service providers, and content providers. Although the Commission did not adopt rules in this regard, it will incorporate these principles into its ongoing policymaking activities. All of these principles are subject to reasonable network management.”

<sup>3</sup> Nielsen Netrating Consumer Panel

<sup>4</sup> <http://venturebeat.com/2008/05/14/social-network-ad-spending-projections-take-a-dip/>

In an updated report in May 08, eMarketer revised its projects for the amount of money spent on social networks in the United States however the projection for 2010 remained over US\$2billion.

<sup>5</sup> <http://www.itwire.com/content/view/full/16020/1095/> Cisco CEO, John Chambers, has been reported telling journalists at CES 2008 in Las Vegas that video is the next killer app, and in particular, the combination of video and social networking, which Cisco has dubbed 'Visual Networking'.



discriminatory practices by certain network operators and access providers in the past year. We predict that these discriminatory practices will continue to increase in line with consumer demand for more innovative video and voice services online.

### **Discriminatory practices: Blocking and degrading internet traffic**

The discriminatory practices of network operators and access providers over the past year can be summarized as blocking access by the end-user to the content of their choice and in some cases, the de-prioritization of certain types of content (e.g. peer-to-peer traffic).

The most recent and widely publicized case is the Federal Communications Commission (FCC) investigation of a petition filed against Comcast to stop blocking of peer-to-peer (P2P) traffic in the United States.<sup>6</sup> This demonstrates that major ISPs are capable of using technical measures to single out certain types of traffic for blocking or de-prioritization. There is an inherent conflict of interest since Comcast would like to offer similar and competing services, and route consumer demand for these services to their own. In the United States, CEOs and CTOs of the largest communications and cable companies have been publicly calling for a tiered approach to broadband access, which would take the form of a multi-lane highway, with “fast lanes” for preferred content, and “breakdown lanes” for unaffiliated content. These companies are on public record, stating that they wish to exact payment from Internet content and application providers, to ensure that such content are optimally delivered to their customers. The FCC recognized the potential for anti-competitive activity in this area and issued the 2005 Policy Statement on Network Neutrality (widely known as the four principles of Internet Freedom)<sup>7</sup>, and has acted to enforce basic “Net Neutrality” protections against operators.<sup>8</sup> The FCC also imposed a “Net Neutrality” condition on two of the dominant suppliers of broadband services as part of the review of the SBC/AT&T and Verizon/MCI transactions.

Similarly, the Canadian Radio-Television and Telecommunications Commission (CRTC) is currently investigating an application filed by the Canadian Association of Internet Providers (CAIP) pursuant to sections 7, 24, 25, 27, 32, 36, and 62 of the Telecommunications Act and Part VII of the CRTC Telecommunications Rules of Procedure. CRTC has been requested by CAIP to issue certain orders directing Bell Canada to cease and desist from “throttling” (which is the act of slowing down certain internet applications such as Bit Torrent) wholesale ADSL services, and in particular, its Gateway Access Service. The CRTC has launched a public inquiry into the practices of Bell Canada and Rogers Communications, the two largest access providers in Canada, for traffic shaping.<sup>9</sup> The CRTC is expected to issue a decision by late September. The comments submitted by Skype before the CRTC dated 12 June 2008 are attached, in particular, Skype suggests that the resolution of the proceeding in question be guided by

---

<sup>6</sup> <http://www.ecommercetimes.com/story/60125.html> US consumers supported by internet advocacy groups and several academics filed a petition with the Federal Communications Commission to prevent Comcast blocking peer-to-peer traffic.

<sup>7</sup> See footnote 2 above.

<sup>8</sup> See e.g. Madison River Consent Decree.

<sup>9</sup> <http://www.cbc.ca/technology/story/2008/05/15/tech-internet.html>



three core ideas: balance, proportionality and consumer empowerment. This would involve the CRTC satisfying itself that the balance struck results in consumers having more choice for their Internet access service and the widest variety of Internet applications, including Skype. Skype has further requested that the CRTC make a declaration that application-specific throttling techniques, such as outright bans on P2P traffic, are presumptively unreasonable.

Until recently, there has been less public debate about these matters in Europe, but in actual fact the situation is perhaps in some respects more acute than it is in the US or Canada. For example, some of the major European mobile network operators have modified their contracts to explicitly prohibit their customers from making use of VoIP, and some operate "walled gardens" and/or have implemented technical measures which deliberately and severely restrict Internet access, for certain applications (virtual private network tunnels, online, games, peer-to-peer or VoIP applications). This is not done on grounds of lack of capacity or for network management purposes (applications such as real-time bidirectional instant messaging and VoIP required only a small amount of bandwidth), but to protect historical revenue streams, in particular revenue streams from traditional voice services and from limited short messaging services or SMS (limited in comparison with e.g. the instant messaging applications and services available on the Internet). The evidence is mounting that some network operators and access providers are taking advantage of the unproven fear of a capacity crunch, particularly related to peer-to-peer facilitated networks, for their own commercial advantage. There is no reason to believe that this could not also happen on fixed networks. The European Commission is cognisant that the unwritten principles of net neutrality are at stake, and the increasingly bold attempts by incumbents are no longer an idle threat to the proper functioning of the Internet and the future online economy. At the OECD Ministerial Meeting held in South Korea on 18 June on the subject of the Future of the Internet economy, Vivienne Reding defined the role of policymakers as being *"to prevent powerful interests putting at risk the openness of the internet as a public space and weakening innovation on networks"*.<sup>10</sup>

The issue of open access networks and non-discriminatory practices are also subject of debate at international forums. At the recent OECD Ministerial meeting in Seoul mentioned above, a statement of principles<sup>11</sup> called the Seoul Declaration was crafted by the OECD Trade Union Advisory Committee. This sets out the policy goals for the Future Internet Economy which *"should be considered within the broader framework of protection of human rights, the promotion of democratic institutions, access to information, and the provision of affordable and non-discriminatory access to advance*

---

<sup>10</sup> <http://news.zdnet.co.uk/communications/0,1000000085,39436030,00.htm> "As the internet is, like the space, the seas, the air, shared by mankind, we have to debate and decide upon such key issues at the global level and in close co-operation with the internet community of users," Reding said. "The discussion on network neutrality is not a technical question to be answered by regulatory authorities but firstly a political question to be answered by the people: the internet is theirs!"

<sup>11</sup> <http://thepublicvoice.org/events/seoul08/seoul-declaration.pdf>; press report on the statement of principles - <http://arstechnica.com/news.ars/post/20080617-internet-workers-unite-eff-unions-call-for-net-neutrality-open-access.html>



*communication networks and services.*” The Seoul Declaration specifically addressed the issue of Net Neutrality asking the OECD member countries **“to oppose discriminatory practices by network providers against particular applications, devices or content”**.<sup>12</sup>

### **Focusing on Consumers**

The Internet has become a powerful communications medium because it empowers consumers to personalise their communications as they see fit and enables users to choose from a variety of different applications. More content and communications services will be delivered over the public Internet. It is imperative to protect consumers in the long run by enshrining the core principles – ***the ability of end-users to access any lawful content and use any applications and services of their choice*** – as part of a forward looking policy and regulatory framework. A clear statement to support end-user access is required to future-proof the principles of an open access network and to ensure there is clear authority to take action where access has been inappropriately limited by network operators or communications service providers.

Consumers can also be protected by increasing transparency and information regarding access limitations or restrictions, and enabling ease of switching between providers. This is beneficial for the market as a whole by inspiring confidence and enabling consumers to make easy comparisons between different providers. Increased transparency and disclosure of information will also help to encourage competition between services based on the accuracy and completeness of the information on services accessible by the public.

The FCC investigation into Comcast shows that there is an increasing awareness on the part of consumers to seek protection of their rights against harmful or deceptive practices by network operators or access providers. The Internet industry, academia and consumer groups are becoming organized for the detection, analysis and incident report of ***“anti-competitive, discriminatory or other restriction actions on the part of access providers or their affiliated entities, such as blocking or disruptive manipulation of applications, protocols, transmissions or bandwidth; or other similar behaviours not specifically requested by their customers.”***<sup>13</sup> In Canada, the industry consumer watchdog in Quebec filed a class-action lawsuit against Bell Canada alleging that by deliberately slowing down Internet speeds, Bell had misrepresented its service; and for possible breach of the end-user’s privacy.<sup>14</sup> The class action lawsuit was filed shortly after Bell had admitted it

---

<sup>12</sup> See the OECD statement of principles (page 2) under heading Promoting Open Standards and Net Neutrality: ***“Standards-making processes should be open and should encourage competition. This promotes innovation and development. We support the procurement policies that promote open standards, open data formats, and free and open software. We further recommend that the OECD member countries oppose discrimination by network providers against particular applications, devices or content and preserve the Internet’s role in fostering innovation, economic growth, and democratic communication.”***

<sup>13</sup> <http://www/nnsquad.org/> The Network Neutrality Squad (NNSquad) is an open-membership, open-source effort, enlisting the Internet’s users to help keep the Internet’s operations unhindered from unreasonable restrictions. Suspected or confirmed Internet neutrality-related incidents can be reported and are discussion at – <http://forums.pfir.org/main/messages/714/717.html?1195571186>

<sup>14</sup> <http://www.cbc.ca/technology/story/2008/06/02/tech-quebec.html> “Bell Sued for Throttling Internet Speeds.”



is using so-called deep packet inspection, or DPI, technology to slow down certain uses of the internet — primarily peer-to-peer file-transfer applications such as Bit Torrent — during peak periods.<sup>15</sup>

### **Focusing on Innovation**

Incumbent carriers are spending millions to develop infrastructure to support tiered levels of service. They may use their oligopoly hold over bandwidth access in an attempt to leverage income from content providers. Some network operators are considering using reserved bandwidth on top of what's already available for broadband internet to deliver its broadband voice and video offerings. This appears to be gearing up to offer broadband Internet at a fraction of the possible maximum speed, while reserving bandwidth for proprietary services on top of that.

Incumbents, particularly in a monopoly position, have a strong incentive to block market entry of innovative technologies that threaten their existing business model. The presumption that the market or new technologies will necessarily overcome the problems of last-mile economics – such as the hope that eventually wireless technologies of some kind will solve the problem - is misguided. The downside with this approach is that allowing discrimination to persist is both costly and ineffective. In Skype's view, the large potential costs to the health of the applications market is at stake and the price is too high to pay. The open and non-hierarchical nature of the Internet is testament to a proven track record of decentralized innovation at the Internet's edge that has spurred economic growth and enabled consumers to reap the benefits. By providing affordable and simple communication choices for consumers and businesses over the Internet, Skype has helped to break down the traditional barriers giving consumers more choice. Skype could not have reached a global audience without an open competitive Internet access, and rules are needed to prevent favouring some content applications over others.

### **Functional Separation**

In many countries, including Australia, network operators have the power to discriminate based on their control of the physical infrastructure of the network. Skype supports an approach that encourages multiple broadband delivery platforms, but as much as we would like to believe that alternative broadband suppliers are available to Skype users, the simple truth is the broadband access market is not fully competitive. Unless counter-balanced by government policy and regulation, the major network operator would be free to leverage the market power derived from control of the network to limit competition and, therefore, consumer choice.

While net neutrality rules are necessarily pre-emptive in the preservation of the Internet and ensuring that consumers continue to benefit from innovative services, applications and content which are available today, these same rules alone are insufficient in some markets to prevent discriminatory behaviour from a dominant and vertically integrated operator. The opportunity cost is the inability of the marketplace to reach its full potential

---

<sup>15</sup> <http://www.digitalhome.ca/content/view/2586/206/> Rogers admit to violating net neutrality.



and to embrace a digital economy of the future. In markets where wholesale and retail access is dominated by a single vertically integrated operator, the separation of the parts becomes an important tool for governments and regulators to facilitate the delivery of open access networks.

This debate surrounding the use of functional separation in Europe, currently taking place in Brussels at the EU level, has been implemented in the UK and is being considered by the National Regulatory Authorities (NRAs) in markets such as Sweden, Italy and Poland. While functional separation in some cases may be considered as a measure of last resort, there is an understanding that forced competition in the retail access market will enable consumers to benefit from an increased range of products, services and content. The remedy would need to be part of a carefully calculated option by governments and regulators to reap the full benefit of a competitive retail access market by prescribing the equal treatment of all downstream businesses by a dominant and vertically integrated operator. The UK is a useful reference point to support the claim that functional separation is an effective remedy to stimulate competition in the retail access market.

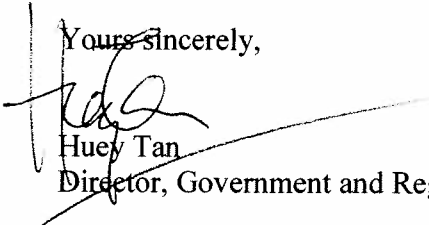
## Conclusion

Skype believes that full and open access to the Internet is a basic user right. It should be up to users to decide which companies succeed or fail in the Internet space. The Internet user has a basic expectation to hold opinions and to receive and impart information and ideas without interference and regardless of frontiers.

Where market failure is apparent, for example in cases where a single network operator dominates, rules on network neutrality and functional separation are necessary to the creation and subsequent preservation of a vibrant and competitive Internet access marketplace. Such rules are needed to prevent blocking of Internet content or applications or favoring some content or applications over others. Nevertheless, while competition among network operators may serve to reduce anti-competitive practices, operators may still discriminate against unaffiliated content and service providers that rely on the Internet to deliver their content and services. Simple rules that codify a basic principle of non-discrimination represent a “best practice” and ensure that the many benefits of the Internet are preserved during the transition to IP-based networks.

Please do not hesitate to contact me if you have any further questions or if Skype can be of any further assistance in this matter.

Yours sincerely,



Huey Tan

Director, Government and Regulatory Affairs, Skype (International)

Skype ID: Huey.Tan

E-mail: Huey.Tan@skype.net