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Sent by email to IDA_Consultation@ida.gov.sg

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Comments to the Consultation Paper issued by the Info-Communications Development Authority of Singapore (IDA) on Net Neutrality, 11 November 2010

Statement of Interest

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


Skype welcomes the opportunity to comment on this important IDA consultation paper on its proposed policy approach towards Net Neutrality. Please find hereby Skype’s submission.

(i) Current state of net neutrality developments in the local Internet access service market

The IDA’s initiatives through the Next Gen National Broadband Network (NGNBN) Singapore Internet Exchange (SGIX) to upgrade Singapore’s transmission infrastructure are certainly steps in the right direction in the transition to a digital economy. The introduction of both operational and separation regulation to ensure that access level competition is achieved in the NGNBN structure is seen as a constructive move in addressing potential anti-competitive conduct between network and service providers in a vertically integrated industry.

To consumers, the real value and utility of fast-speed broadband networks are the applications, services and content that they are able to access and use to enhance their communication, transaction and lifestyle experiences. Going forward, ubiquitous access to the global public best efforts Internet should be a key policy objective of the IDA, along with measures to preserve the consumer’s continued ability and right to access and use the content, applications and services of their choice on the Internet without discrimination – which is the essence of Net Neutrality.

Skype does not have any operations in Singapore. Users of Skype simply download the Skype software from our Luxembourg operated website www.skype.com. We are pleased



to note from local media reports, the acceptance and use of Skype by various institutions in Singapore¹.

With Skype on 3G mobile, users can now use Skype while on the move. The subscription plans offered by the three mobile operators in Singapore generally make available a local data bundle (e.g. 12GB, 30GB) as an add-on to a basic local call plan². Skype believes that there should be no distinction as far as access is concerned between data bundles and all consumers that have subscribed to any data plan should be able to access all the mobile applications, services and content (as is the current practice).

It would be regressive for public policy to allow a situation where only consumers with higher data subscriptions are allowed to access to the applications of their choice, while those on lower priced subscriptions have the choices made from them by the operator. This would accurately be characterised as a financial prohibition. Such arbitrary discriminatory approaches would only serve to exacerbate the digital divide, as from a user perspective, it would mean that only the richer segments of society can afford to access certain applications on the mobile Internet. The cases in Korea³ and the EU⁴ are examples of what should not be permitted to happen and the IDA should take measures to prevent any policy creep in this area.

(ii) Possible developments in net neutrality in the future

Skype would be happy to share with the IDA our recent submissions in the US, EU⁵ and UK⁶ on Net Neutrality. Summarising our views on a number of key policy developments –

- There should be clear guidance on *ex-ante* Net Neutrality principles to underpin the protection of the open Internet. These principles should apply to both fixed and wireless broadband networks.
- Traditional *ex-post* competition law approaches are inadequate (and inappropriate) to redress the harmful effects of discriminatory anti-competitive conduct in the Internet ecosystem. In the mobile Internet access market for example, cases of abuse may not even qualify for an *ex-post* competition hearing due to a lack of

¹ http://www.channelnewsasia.com/cna/cgi-bin/search/search_7days.pl?status=&search=skype&id=1071284;
<http://news.asiaone.com/News/AsiaOne%2BNews/Singapore/Story/A1Story20100419-211090.html>

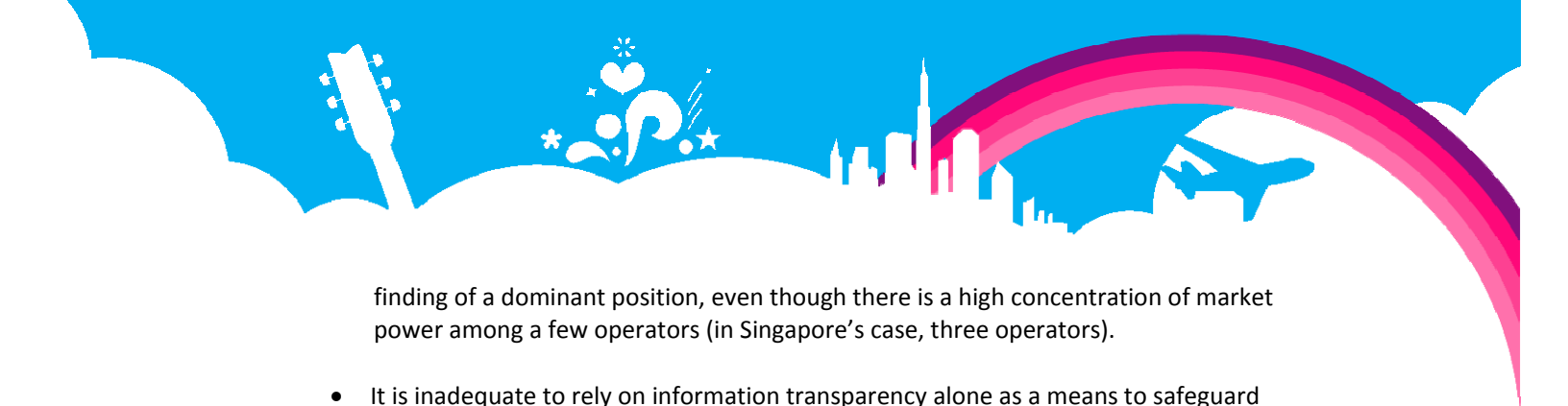
² <http://info.singtel.com/personal/communication/mobile/postpaid-plans/price-plans>;
<http://www.starhub.com/mobile/packagebuilder.html?product=plan>;

³ <http://seoulspace.co.kr/en/2010/12/07/kt-disables-voip-3g-network/>

⁴ http://www.newamerica.net/publications/resources/2010/response_to_the_european_commission_questionnaire_for_the_public_consult

⁵ http://ec.europa.eu/information_society/policy/ecomms/doc/library/public_consult/net_neutrality/comments/07internet_application_content_providers/skype.pdf

⁶ <http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/responses/Skype.pdf>



finding of a dominant position, even though there is a high concentration of market power among a few operators (in Singapore's case, three operators).

- It is inadequate to rely on information transparency alone as a means to safeguard the open Internet. Relying solely on transparency would create a *de facto* loophole for operators to practice restrictions of their own volition as long as users are informed.
- Network management practices should be deployed only on an exceptional, needs only basis and only for legitimate reasons (e.g. at times of acute network congestion, or to protect the security of the network). It is important that network management techniques should not be permitted to be used to arbitrarily discriminate between Internet content, services and applications and other conduct that would deny citizens the right to access the global public Internet.
- There is scope for 'managed'-type services as a value-add feature to basic Internet access services. However, access to the open Internet must be a right of every citizen as a cornerstone of digital cohesion policy objectives and this should form the fundamental construct of Net Neutrality principles.
- Having a competitive Internet access market does not necessarily reduce incentives for ISPs and network operators to engage in blocking or discriminatory conduct. Since, ISPs and network operators may have common incentives to discriminate against third party content and applications, and consumers who wish to change service providers may be discouraged from doing so due to the associated costs of switching.

(iii) IDA's policy approach towards net neutrality


Skype supports in general, the IDA's overall market development policies and recommended policy approach to Net Neutrality as outlined in para27 of the consultation paper.

No blocking of legitimate Internet content

Skype supports the IDA's position against the blocking of legitimate Internet content by ISPs and telecom network operators. This prohibition against blocking of Internet content should also, for the avoidance of doubt, include the blocking of legitimate Internet services and applications (such as Skype).

We would also add that mere access to legitimate Internet content, services and applications would be insufficient insofar that the consumer may be prevented or discouraged from using the service or application of their choice as a result of additional service or application specific fees applied by the operator, unduly lengthy download speeds or poor network coverage, for instance. In addition to access, consumers must also be able to use the applications and services of their choice.

As examples –

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- In the EU, the Better Regulation Directive (new Framework Directive) includes a policy principle that NRAs should promote end-users ability to access and use content, applications and services of their choice⁷.
 - In Norway, the Guidelines on Internet Neutrality principle (2) states that Internet users are entitled to an Internet connection that enables them to send and receive content of their choice and to use services and run applications of their choice.
 - In the US, the 2005 Internet Principles⁸ promulgate that consumers should have access to their choice of legal content and that consumers should be able to run applications of their choice.

Comply with Competition & Interconnection Rules

The requirement for licensees to comply with codes of practice issued by the IDA and any supplemental, additional guidelines is an existing condition in the FBO and SBO Licenses⁹. Skype notes that the Telecoms Competition Code 2005 governs the conduct of and between licensees. A significant shift in the Internet broadband ecosystem is the increasing importance of the role and contribution of new players at the edge of the network in delivering to consumers the benefits of a digitally connected society. Take Skype as an example.

Skype's vision is to enable the world's conversations. To realise this, Skype is moving towards integration with a broader array of consumer electronics and devices. We now have partnerships with companies like LG, Panasonic, Nokia, Sony and others to offer new ways to stay in touch with business partners, family and friends and enhance the Skype experience.

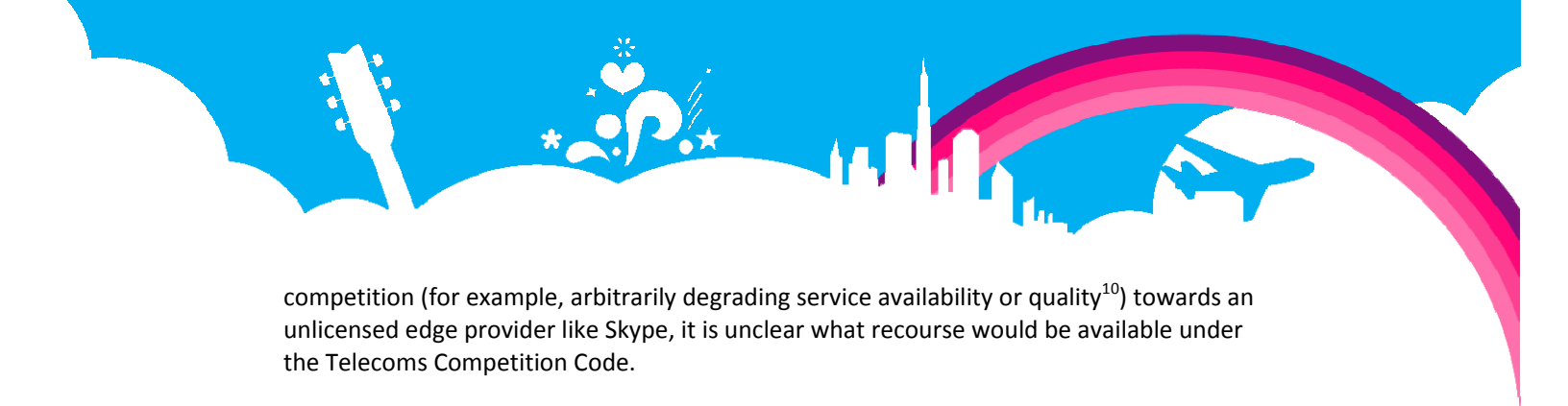
Like Skype, many of these players in the Internet broadband ecosystem may not be traditional players in communications policy and in many cases, they may not be licensees either. Nonetheless, each of these edge providers supplies innovative products that give consumers another reason to subscribe to ever-faster broadband connections. The reality is that without the innovation of edge providers, IP-enabled next generation networks in themselves (as transmission conduits) will not have much to offer to consumers.

In the Internet ecosystem, multilateral relationships exists between traditional licensed telecom operators, ISPs and the software, hardware, content developers, edge providers who do not require licensing by the IDA. In such an ecosystem, the remit of the Telecoms Competition Code 2005 may struggle when seeking to address any anti-competitive behaviour. In a situation for instance, where a licensee engages in an unfair method of

⁷ Directive 2009/140/EC, article 8.4(g)

⁸ Preserving Internet Freedoms: Guiding Principles for the Industry, February 8, 2004

⁹ Condition 25 of FBO License; Condition 19 of SBO License



competition (for example, arbitrarily degrading service availability or quality¹⁰) towards an unlicensed edge provider like Skype, it is unclear what recourse would be available under the Telecoms Competition Code.

Even without significant market power, and even in a market exhibiting competitive dynamics, an operator might still engage in arbitrary discriminatory practices that would frustrate consumer choice and innovation¹¹. Such practices are present in many supposedly competitive markets today¹². As such, traditional *ex-post* competition law approaches are not well suited to address anti-competitive behaviour in the Internet ecosystem since abuse can be conducted by operators who are not dominant in competition law terms but whose conduct would distort competition and impede consumer choices and experiences. A case in point would be the mobile Internet access market which is characterised as a competitive market in Singapore (and therefore none of the three mobile operators are subject to dominant licensee provisions under the Telecoms Competition Code), but competition law would struggle to deal with certain behaviours of the three operators which collectively enjoy a gatekeeper role to mobile Internet access.

A competitive Internet access market does not necessarily reduce incentives for ISPs and network operators to engage in blocking or discriminatory conduct. Studies have shown that ISPs and network operators have common incentives to discriminate against third party content and applications, and consumers who wish to change service providers may be discouraged from doing so due to the associated costs of switching¹³. In assessing the competitiveness of the Internet access market, IDA should also consider the ease of consumers switching service providers if for example, certain applications like Skype are being blocked by service providers. Typical two-year service contracts with handset bundles that come with prohibitive early termination fees are often sufficient to deter consumers from switching even if they feel strongly against such discriminatory conduct.

Skype is of the view that *ex-ante* Net Neutrality principles could be enshrined in the form of legally binding guidelines and conditions of licenses to be enforced by the IDA.

¹⁰ Telecoms Competition Code 2005, s.8.4.2.1

¹¹ Dr. Barbara van Schewick, Stanford Law School, *Towards an Economic Framework for Network Neutrality Regulation*, Journal on Telecommunications and High Technology Law, Vol.5, pp.329-391, 2007, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=812991

¹² http://www.newamerica.net/publications/resources/2010/response_to_the_european_commission_questionnaire_for_the_public_consult

¹³ Dr. Barbara van Schewick, *Internet Architecture and Innovation*, p255-264 (MIT Press, 2010); Ofcom press release: "Nearly half of consumers put off by switching communications provider" <http://media.ofcom.org.uk/2010/09/10/nearly-half-of-consumers-put-off-by-switching-communications-provider-2/>), 'Consumer Switching and Bundling', Research for Ofcom prepared by Saville Rossiter-Base (<http://stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching/annexes/switching-bundling.pdf>) and 'Consumer switching: Experimental economics research', Research for Ofcom prepared by London Economics (<http://stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching/annexes/economics-research.pdf>), both published on 10 September 2010.



Provide Information Transparency

Skype supports the IDA's proposal to improve transparency to users by requiring ISPs and telecom network operators to disclose to end-users their network management practices, and for ISPs providing both fixed and mobile Internet access services to additionally disclose expected average Internet access speeds. However, transparency is useful only to the extent that the information disclosed would assist end-users to make an informed choice of service provider and service plan. We would stress that **transparency alone is not sufficient**.

Cases in the EU have shown that proposals which rely solely on transparency have resulted in creating a *de facto* loophole for operators to practice restrictions of their own volition so long as consumers are informed. In Sweden for example, until last year all mobile network operators offered access to the full unrestricted Internet. But since the PTS pronounced transparency as the only safeguard for the open internet early this year, the leading mobile operators have introduced restrictions on users' ability to use VoIP¹⁴.

As regards network management practices, the standard cannot be that so long as end-users are informed of an operator's network management practice, that the network operators have a free reign to determine in their terms what constitutes reasonable network management practices. Rather than monitoring network management practices of ISPs and network operators (para31), Skype proposes that the IDA should instead proactively set, in open consultation with all stakeholders, the principles on network management that are legitimate and reasonable and issue these as clear guidelines.

Meet Minimum QOS Standards

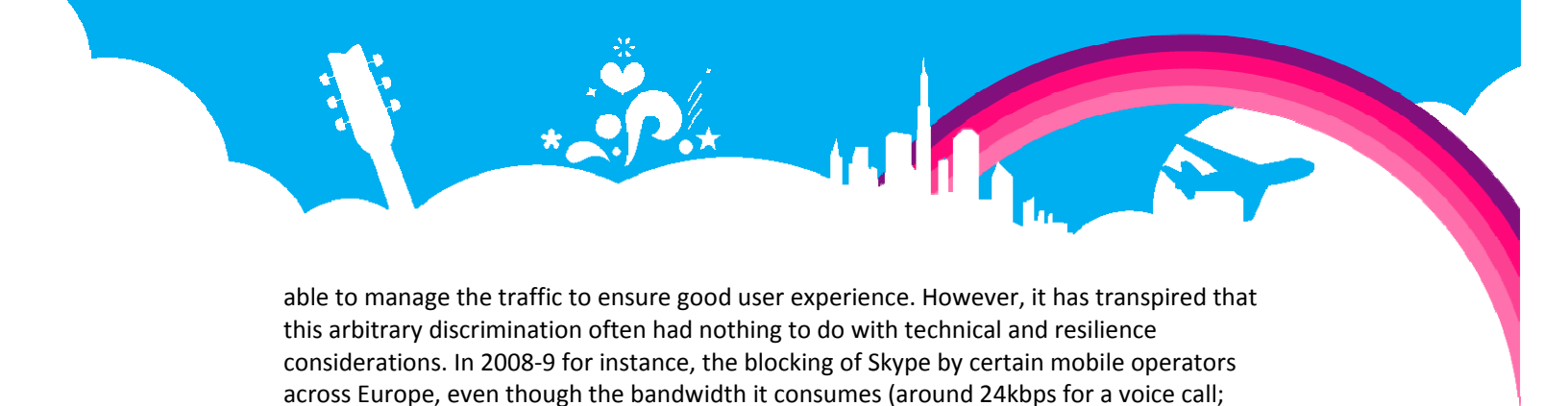
As a software application that runs on the public Internet, Skype (like many other software applications) depends on consumers having unfettered access to the public Internet via robust broadband connections. Where this broadband connection is being tampered with to degrade the user experience such as by delaying, blocking, throttling specific traffic, such 'network management' practices are effectively discriminating against certain Internet applications and must not be permitted. While the Telecoms Competition Code 2005 has identified such potential abuse, its application is narrow, i.e. by a dominant network operator for interconnection purposes¹⁵.

For example, in the EU, many European mobile operators in particular routinely forbid users from accessing VoIP, peer-to-peer and video streaming applications – one of the arguments has been that Internet traffic can get so congested at times and network providers should be

¹⁴ See Telia Sonera's and Telenor's Terms and Conditions here :

https://www.tewss.telia.se/privat/produkter_tjanster/mobilt/surfaimobilen/?sl=privat_produkter_tjanster_mobilt_surfaimobilen and <http://www.telenor.se/privat/abonnemang/tillagstjanster/alla-mobiltjanster.html#C45-2100-P45-5468>

¹⁵ s8.2.2.2: A Dominant Licensee must not engage in predatory network alteration. IDA will find that a Dominant Licensee has engaged in predatory network alteration and, therefore, abused its dominant position, if the Dominant Licensee alters the physical or logical interfaces of its network in a manner that imposes significant costs on interconnected Licensees, absent a legitimate business, operational or technical justification.



able to manage the traffic to ensure good user experience. However, it has transpired that this arbitrary discrimination often had nothing to do with technical and resilience considerations. In 2008-9 for instance, the blocking of Skype by certain mobile operators across Europe, even though the bandwidth it consumes (around 24kbps for a voice call; approximately the same as downloading a web page) can hardly be said to pose any technical problems for ISPs, has become a *cause celebre* for the debate over the open Internet and net neutrality in Europe. This unjustifiable discrimination against certain Internet innovations manifests itself also by the arbitrary degradation of the corresponding Internet traffic, and the application of differential and punitive pricing for consumer usage of certain Internet content, services and applications compared to others.

While Skype appreciates the need for broadband network operators to manage congestion on their networks, 'network management' cannot and should not be used as a *carte blanche* and excuse to engage in discriminatory practices. There must be parameters to set the boundaries on what would constitute legitimate network management that is reasonable. A good reference would be the Canadian Radio-television and Telecommunications Commission (CRTC)'s balanced and principled approach to traffic management practices of ISPs that are considered legitimate¹⁶ –

- Only those network management practices that are narrowly tailored toward addressing a legitimate purpose should be endorsed;
- Network management practices must be transparent so that consumers and edge providers of applications and devices know what to expect and have a degree of certainty regarding their broadband business and service plans;
- To the extent possible, network management practices that put the control in the hands of end users should be encouraged over unilateral approaches adopted by the network operator.

In the EU, the French Regulator ARCEP has provided some good directions. As a starting point, it has scoped the appropriateness of traffic management as "... practices that ISPs employ to ensure Internet access remain exceptional and comply with the general principles of relevance, proportionality, efficiency, transparency and non-discrimination"¹⁷.

In Japan, the Guidelines on Packet Shaping 2008 allow some restriction of traffic in cases of high bandwidth demand (targeted at continuous downloading of high bandwidth video) but prohibit the blocking of high-bandwidth applications to end-users.

¹⁶ Telecom Regulatory Policy CRTC 2009-657, Review of the Internet traffic management practices of Internet service providers, 21 October 2009

¹⁷ ARCEP consultation *Discussion points and initial policy directions on Internet and network neutrality*, May 2010, English version; http://www.arcep.fr/uploads/tx_gspublication/consult-net-neutralite-200510-ENG.pdf



Niche or Differentiated Services Allowed

As we progress to a digital economy, the notion of a basic open Internet access intrinsically evolves and at some tipping point, overtake the traditional circuit switched PSTN as a significant means of communication and transaction for e-commerce. Consequently, it should be recognised that access to the open Internet and all (lawful) content, services and applications thereon, should be enshrined as a universal service right in the digital economy, similar to the concept of the universal service obligation (USO) in the PSTN world. Skype believes that a fundamental construct and key position of any net neutrality policy would be that every citizen should have a right of access to the public Internet and open access to legitimate Internet content, services and applications.

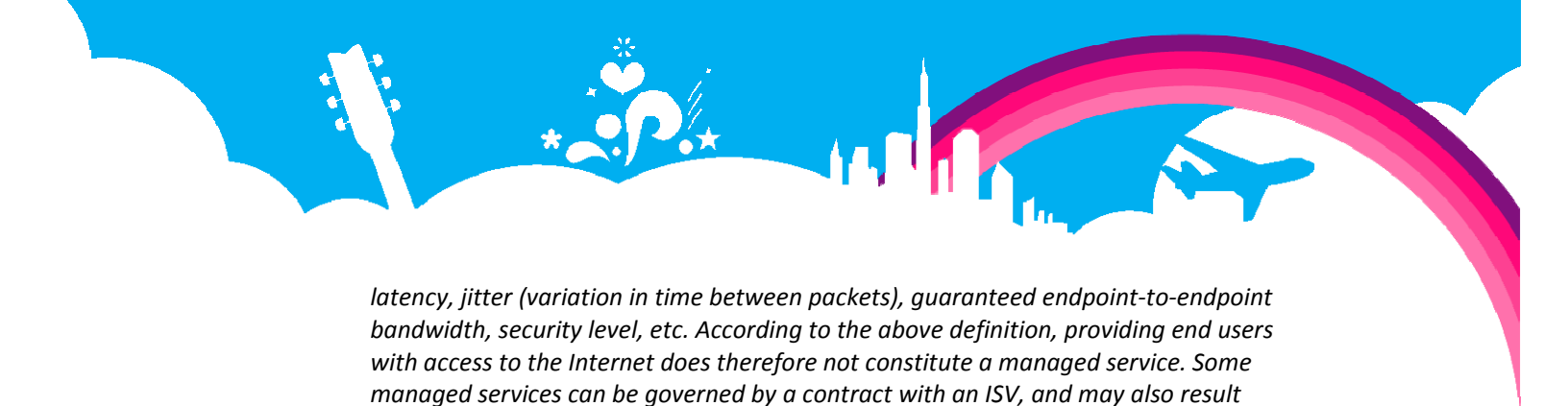
Building on this fundamental construct, Skype would support the IDA's broad policy approach to provide flexibility for players in the Internet ecosystem to differentiate their services for economic efficiencies and innovation. We agree with the IDA's starting policy position to 'managed'-type services that "... *niche or differentiated Internet services ... may include 'managed'-type Internet access services ... or a special application like online medical consultation service **bundled** with the Internet access service.*" (para27) For the avoidance of doubt, this policy should be reinforced by clarifying that –

- 'Managed'-type services should be a compliment or add-on feature to basic Internet services; and that
- 'Managed'-type services should not be a replacement or substitute for basic Internet services.

There should be a clear distinction and definition between the best efforts public Internet and 'managed'-type services. Skype believes that an end-user should always be able to access the best-efforts global public Internet subject to a minimum QoS for both fixed and mobile Internet access, regardless of whichever services they may also be subscribing to. There is scope for 'managed'-type services as a value-add feature that would complement the best efforts Internet but not as a substitute as an open Internet access package. We would point the IDA to the distinction proposed by the French Regulator ARCEP¹⁸ and would encourage the IDA to adopt this approach:

- *"Internet access: a service that consists of providing the public with access to online communication and information services and applications⁴. This service provides the public with the ability to send and receive data by using the IP communication protocol, from all or virtually all points from all of the interconnected public and private networks around the world that make up the Internet. "*
- *"Managed services: services providing access to content/services/applications through electronic means, marketed by the network operator which guarantees certain specific features thanks to the process it uses on the network it owns and operates. Some of the classic features include guaranteed reliability rate, minimal*

¹⁸ ARCEP, *Ibid*, Pages 7-9. ARCEP refers to content, applications and services providers as 'Information Society Service Vendors' or 'ISVs'



latency, jitter (variation in time between packets), guaranteed endpoint-to-endpoint bandwidth, security level, etc. According to the above definition, providing end users with access to the Internet does therefore not constitute a managed service. Some managed services can be governed by a contract with an ISV, and may also result from an offer made available to the end user, whether as a standalone offer or in the form of an option bundled with Internet access.”

(iv) IDA’s proposal to improve information transparency on the actual or expected Internet access speeds, and issues to consider including potential benefits for consumers, impact on ISPs and the development of the Internet access market, and the extent of information that should be made available.

On the IDA’s proposal to improve information transparency on the actual or expected Internet access speeds, Skype’s view is that any information that improves user’s ability to make an informed choice (such as publishing actual broadband speeds) is a good thing but we must again stress that providing more information and improving transparency alone cannot be a substitute for proper *ex-ante* Net Neutrality guidelines.

We sincerely hope that these inputs are useful and constructive towards developing IDA’s policy on Net Neutrality. Please feel free to contact me for any further information or discussion.

Yours Sincerely,



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