



**Google Response to Consultation on
draft COMMISSION RECOMMENDATION
on regulated access to
Next Generation Access Networks (NGA)**

Introduction

Google is a leading provider of Web-enabled software applications, content, and services. Google initially became familiar to most Internet users as the provider of the Google search engine, which enables hundreds of millions of users around the world to find information quickly at the click of a mouse. Google now provides various well known specialist search and information services, including Google News, Google Earth and Google Maps. Google is also the provider of numerous other services that help people find, share and organise information.

The one feature that unifies most of Google's diverse services is that they are provided to any and all users. This universal access model is supported by online advertising. Through our AdWords service ("Sponsored Links"), we help businesses across Europe and worldwide connect with customers and audiences, via highly relevant (largely text-based) advertising. And through our AdSense product, websites around the world can choose to run "Ads by Google" on their sites, which provides a steady revenue stream to many web publishers. These services are providing enormous assistance to many small and large businesses across the European Union.

As a significant provider of online services Google has a strong interest in the networks that allow users to connect to the internet. We echo the Commission's view that the development of new high capacity fibre-based networks is a positive trend which should ensure that consumers can avail of higher speed internet access services. We believe these networks need to be both fast and open to ensure that the Internet can deliver its full innovative potential.

We therefore welcome the Commission's draft Recommendation and we support the thrust of the Commission's proposals. We share the Commission's commitment to preserving and promoting competition in telecomms markets and the importance of wholesale regulatory measures as a driver of this process. We hope that regulators will be successful in continuing the move to effective competition in the Internet access market but believe this cannot be taken for granted. We therefore believe that additional consideration needs to be given to safeguards in the interests of consumers and of online entrepreneurs. These are not the subject for this consultation but do need to be taken into account by policy makers.

The Value of the Open Internet

Google believes strongly that the openness of the internet has been a fundamental driver of innovation, creativity, and communication across the European Union. It has delivered significant benefits to users.

From its earliest days, the Internet has operated according to the principle that Internet access providers do not block, degrade, or discriminate among lawful content and applications. Instead, it is an environment of 'innovation without permission', where users are able to create and offer applications or content to others on the network, and users themselves are in control of what content and applications they access. This open, non-discriminatory architecture has given rise to fierce competition, constant innovation and unparalleled social benefits for consumers, businesses, and European and global economies.

The Internet's openness was not the result of mere whim or historical accident. It was deliberately designed to empower end-users in this manner. The Internet routes data equally, not favouring particular application or content providers over others and thus not inherently designed for any use in particular. Instead, it is a general

purpose network to move data of all types, and end-users define its uses. As Dr. Vint Cerf, Google's Chief Internet Evangelist and one of the architects of the Internet, has explained:

"The Internet was designed to allow the implementation of applications to reside largely with users at the "edges" of the network, rather than in the core of the network itself. This is precisely the opposite of the traditional telephony and cable networks, where applications and content are managed in the core (in headends and central offices), away from the users at the edge."¹

As a result of this architecture, new applications and content, from the revolutionary to the merely useful, can be deployed and embraced by millions of individual users worldwide without the need for approval from gatekeepers and with minimal capital outlay (relative to many other networks). Applications and content succeed on their own merits – because users like them, not because particular intermediaries have picked them.

The power of open networks to inspire innovation is central to Google's story. When Google started as a project of two friends from Stanford University, they didn't have to ask anyone's permission to develop an Internet search engine. Rather, they were able to come up with a novel idea, implement it themselves, and let users access it. Google's co-founders, Larry Page and Sergey Brin, have noted on countless occasions that their tiny company likely would not have flourished if they had needed to ask permission first in order to innovate.

Keeping the Internet open is about more than Google; it's about the next Google – and making sure that the Internet remains an open ecosystem, where new ideas can succeed, and new business models can flourish on their own merits. Indeed, Google's story is the story of myriad other companies that have become global brands in a matter of years or even months. Skype went from an Estonian start-up to being a major competitor in international calling. Facebook went from being a small university project to being a platform used by millions.

And it is the story not just of businesses, but also of other entities and individuals. Political and cultural groups as well as other communities of shared interest depend on the Internet to organise. Independent voices that typically could not afford access to traditional mass media

¹ Prepared Statement of Vinton G. Cerf Vice President and Chief Internet Evangelist, Google Inc., U.S. Senate Committee on Commerce, Science, and Transportation Hearing on "Network Neutrality" (February 7, 2006)

platforms can now reach broad audiences. Today, "user-generated content" flourishes online, as individuals increasingly create and share content with one another. For instance, sites like YouTube and Dailymotion allow individuals to share their creativity with local, national, and global audiences. With access to the most basic of computing tools, users can put a video online and develop an audience of millions.

The vibrant ecosystem of innovation that lies at the heart of the Internet has fueled unimagined economic, social, and personal growth. Given that an open, non-discriminatory Internet is the optimal outcome, the critical task is to determine the appropriate legal, regulatory, and/or market mechanisms to achieve that result.

We welcome the Commission's commitment to keeping the internet open, as outlined in the recent Communication on future networks and the internet.²

Contribution of the open internet to telecomms

Providers of internet applications and content make a substantial contribution to growing business opportunities for telecomms operators, in terms of enhancing incentives to invest, stimulating demand for internet/broadband access, and investing significantly in facilities and access services.

There are both academic and real-world illustrations of how an open Internet actually creates enhanced incentives to invest in broadband facilities. For example, a recent econometric study at the University of Florida found that the cable and telephone companies providing broadband services are more likely to further develop their infrastructure, resulting in higher data speeds, if they do not charge web-based content companies for preferential treatment. As the authors concluded, based on detailed economic analysis, "the incentive for the broadband service provider to expand under net neutrality is unambiguously higher than under the no net neutrality regime."³

² Communication on future networks and the internet COM(2008) 594 at http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm

³ Hsing, Bandyopadhyay, and Guo, The Debate on Net Neutrality: A Policy Perspective, University of Florida (2007). Available at: <http://www.hearusrnow.org/fileadmin/sitecontent/TheDebateonNetNeutrality.pdf>

The availability of a wide variety of innovative online services stimulates demand for internet access, which directly benefits telcos and ISPs by increasing their number of customers. Content providers spend billions of euros annually on R&D to create and deploy compelling content, applications and services for consumers, including news, data, video, music, and e-commerce services.

Internet players also make significant contributions in terms of paying for access arrangements. Under the internet's longstanding charging arrangements, each party pays for its own connection to the Internet and is then free to utilise that connection in whatever ways are desired. Internet companies collectively pay billions of euros per year to network operators in order for content and applications to be delivered into the Internet, so it then can be made available to consumers. Internet companies also invest billions of euros per year in advanced Internet infrastructure, such as data centers, in order to support the creation and deployment of compelling applications, content, and services.

The Importance of Competition

In the context of the development of broadband networks and services in the EU, network-based competition represents a very important element of the market mix to ensure that consumers can benefit from the improving choice and quality of services that a competitive market delivers.

Perhaps the best example of entrant operators investing in infrastructure and climbing the ladder of investment is local loop unbundling (LLU). The EU Commission's own Implementation Report for 2007 (p 37) confirms the significant success achieved by LLU

"New entrants, are climbing the ladder of investment by moving away from resale (11.6 million lines) and bitstream access (6.0 million lines) towards local loop unbundling (23.5 million lines) in the provision of broadband services.....LLU, based on incumbents' wholesale offers, now represents 12.8% of the activated PSTN lines in the EU and provides broadband network access to 56.6% of DSL new entrants." ⁴

⁴ 13th Report on the Implementation of the Telecommunications Regulatory Package - 2007 at http://ec.europa.eu/information_society/policy/ecomm/library/communications_reports/annualreports/13th/index_en.htm

LLU has been a significant factor in driving broadband uptake, particularly in larger Member States. For example the ECTA Broadband Scorecard (for Q3 2007) showed that LLU represented over 30% of all broadband connections in France and Germany and over 20% in the UK and Italy.⁵

LLU allows the entrant operator to differentiate from the incumbent's own retail DSL service. This introduces a significant potential for innovation which is underlined by the market success of LLU. Delivery of an LLU-based service requires significant network investment by entrant operators - access to exchanges and equipment for co-location.

The evolution of access networks to NGA represents a challenge to the business model of alternative network operators. Given the very positive outcomes for users from alternative access networks, it is important that the consideration of the regulatory impact of a move to NGAs be assessed in a careful manner and that the gains for consumers in terms of choice and innovation be maintained.

It is also our view that strong competition in the internet access market can help to protect the open nature of the internet, by giving consumers the ability to choose between different providers - for example choosing open networks over discriminatory ones. Absent robust competition, broadband providers will have both the ability and incentive to leverage their market power and unreasonably discriminate among content and application providers. By contrast, while it may not be a panacea, robust competition in the access ISP market can help check discriminatory behavior.

It is also likely that incumbent operators will retain significant advantages in access markets. The depth of infrastructure-based competition in EU markets varies and the movement towards NGA presents an additional challenge to alternative access providers. In this context it is our view that the Commission needs to give consideration to policies that will preserve the fundamental open architecture of the Internet.

⁵ ECTA Broadband Scorecard Q3 2007 at <http://www.ectaportal.com/en/basic650.html>

The Investment Case for NGA

Our view is that strategic investment decisions around moving to next generation capability (in backhaul or access) are commercial in nature and may present incumbents with an attractive investment proposition. We share the Commission's view that the drivers of NGA include substantial savings in operational costs, the opening of new opportunities enabled by higher bandwidth, and a strategic response to infrastructure-based competitors.

A recent study by WIK-Consult for ECTA found that while NGA investment requirements in the EU are very much dependent on national circumstances, significant proportions of households could be profitably covered with a fibre-to-the-cabinet (VDSL) deployment by incumbents – for example 71.5% in Germany, 39% in Portugal, 67% in Spain and 100% in Italy.⁶

The WIK report also cites a 2006 study by JP Morgan which assesses the business case for fibre deployment. Assuming parameters "typical for an average European broadband market" the JP Morgan study finds the incumbent would face a 7 year payback period of its VDSL investment. In addition WIK states that these results do not consider the upside due to the closure of MDF locations disabling ADSL.

In the United States, the major fixed-line operator Verizon has made a number of statements to the investor community to the effect that deploying fibre actually pays for itself - with a net income positive position generally achieved within 5 years. This positive assessment is shared by independent analysts.⁷

NRAs, in setting prices for access services as networks evolve to NGA, will need to balance the SMP operator's investment considerations with the need to preserve and promote investment in alternative infrastructure, which is a key driver of consumer choice in the broadband market.

On the issue of regulated rates of return, the Commission states (on page 18 of its Explanatory Note) that regulated returns should

⁶ 'The Economics of Next Generation Access' WIK Consult (September 2008) page XVII at http://www.wik.org/index_e.htm and JP Morgan (December 2006): "The Fibre Battle"

⁷ 'Ivan G. Seidenberg Interview Excerpts', Washington Post, Jan. 31, 2006. Available at: <http://www.washingtonpost.com/wp-dyn/content/article/2006/01/31/AR2006013101647.html> and see also 'Verizon's Clever Corridor Play' IT Business Edge, March, 21, 2006. Available at: <http://www.itbusinessedge.com/item/?ci=13778>

compensate companies for the relevant risks they face when making the investment. They add that it could be expected that the rate of return related to an NGA investment "will exceed that of typical utility and telecom companies. From this perspective, it should be noted that the nominal pre-tax WACCs for fixed and mobile operators have been roughly 8 to 12% in recent years depending on the Member State."

We are not clear as to the basis for a conclusion that NGA investments have a higher risk profile than typical telecomms investments. We are also unclear as to the relevance of suggesting a particular range of % figures for return on investment. Our view is that national circumstances may differ widely and, as outlined above, incumbent operators have significant advantages which will give them a lower risk premium for fibre roll-out than entrant operators. The Recommendation should reflect these realities.

Google operates within the highly innovative ecosystem that is the Internet. The Internet community is working hard to improve the conditions for innovation, often by lowering the barriers to innovation. The result is a flood of new services and ideas. Collectively these are a major component in creating user demand for higher bandwidth Internet access. We are concerned that, by establishing a higher risk premium for NGA investments, the Commission could be contributing to the creation of a vicious circle equilibrium: demand is uncertain so a risk premium is needed; that reduces the ability for telecom competitors to stay in the market; a less competitive market encourages operators to run their networks in a more closed way; this reduces innovation and achieves the self-fulfilling prophecy of uncertain demand.

The Commission's Explanatory Note focuses on asymmetric remedies which will most likely fall on incumbent SMP operators, but it also refers (on page 13) to the important role of symmetric remedies, such as those available under the Framework Directive, while acknowledging that these are outside the scope of the Recommendation. Investment in fibre access networks by alternative players, including investment by municipal authorities, can play an important part in increasing the availability and choice of high speed services for users. There are two important principles that should be borne in mind in considering such investments. Firstly, it is important that open access principles apply to such alternative infrastructures, particularly where an element of public funding is involved. Secondly, it should be acknowledged that the business case for non-incumbent NGA investments may have a higher risk profile than that applying to incumbents, due to the installed base of incumbent operators.

The Need for Certainty

In the transition to NGA there is a clear need for action at both EU and national level to provide certainty and clarity to all stakeholders and, in particular, to ensure that users do not suffer from any undue disruption to their service. In this context the publication by the Commission of a draft Recommendation is timely. It is also clear that the timeliness of regulatory action at Member State level is important - the sequence and timing of information gathering, market analysis and application of regulatory measures are the key factors here.

The reality of NGA programmes is that some local networks elements will be replaced by fibre. This will impact directly on alternative networks and the services they provide to users. We share the ERG's view that

"Before the current access network is replaced by a NGA, it should be clear whether all the regulated services can continue to be delivered in the NGA. If this is not the case (e.g. phase-out of MDF access), an equivalent alternative should be determined. This equivalent alternative should be developed and implemented. After it is possible to actually buy the equivalent alternative, phase-out of the (old) regulated service should be allowed. The allowance of phase-out is most probably joined by conditions with regard to e.g. a reasonable phase-out period."⁸

We support the measures proposed by the Commission relating to transparency, migration paths, and the availability of a choice of alternative wholesale access services.

Our view is that alternative operators will need adequate notice of planned NGA developments. Alternative wholesale access services should be developed and operational, sufficiently in advance of NGA roll-out, to allow OAOs to migrate their customers in an orderly manner. There is a high degree of uncertainty about the details of investments in NGA and transparency will be a major factor in seeking to address this. We support the Commission's position on the importance of comprehensive reference offers, to be put in place before NGA investments take place, backed up by service level guarantees. In order to ensure that consumers' service is not disrupted a comprehensive suite of access services will need to be available and clear migration paths established.

⁸ 'ERG Common Position on Regulatory Principles of NGA (07) 16 rev2' page XII at http://www.erg.eu.int/doc/publications/erg07_16rev2_opinion_on_nga.pdf