



Comments on the Telecom Regulatory Authority of India's Consultation Paper on a National Broadband Plan for India

Dated July 20, 2010

Google is grateful for the opportunity to submit comments on the consultation paper released by the Telecom Regulatory Authority of India (TRAI) on a National Broadband Plan for India. As we discuss below, India has a tremendous opportunity to create untold benefits for its citizens and business by ensuring a proper regulatory, market, and technical framework for the development of a National Broadband Network.

Google imagines an India in which broadband Internet is universally accessible, at world class speeds, at affordable prices. Faster broadband, in more places, delivered over a wider range of technologies, at prices that enable the services to be fully used as part of the daily lives of all Indians, will ensure that they can fully engage in the global digital economy and Indian businesses can more effectively compete on the world stage.

India is a vital country for Google and makes a substantial contribution to Google's worldwide operations. Google India, with offices in Bangalore, Hyderabad, Gurgaon, and Mumbai, provides Google Inc. with local support and representation in India. We're focused on working to continually improve our services in India.

Google is born of a highly competitive ecosystem – the open Internet – in which alternative services are only ever a click away and in which the only way to succeed is to provide superior services, through constant technological improvement, innovation and focussing on earning users' trust. Google does not rely on proprietary lock-ins, bundling or regulatory fiat for our users' patronage. We earn our users in a competitive and open environment, one click at a time.

Google commends TRAI for acknowledging the critical importance of broadband to the future of India and for its proactive, consultative approach in developing a National Broadband Plan. Google agrees with TRAI that India's future productivity, wealth competitiveness and wealth creation relies on world class infrastructure and that in this global economy, no infrastructure is more crucial than advanced communications networks. In particular, we agree that the positive impact of broadband availability is likely to be even more important in developing countries, particularly given that bandwidth requirements are often inversely proportional to literacy level of a user, as TRAI points out in its consultation paper.

The National Broadband Plan represents an historic opportunity to develop a forward-looking regulatory environment to enable Indian consumers to fully participate in all of the benefits of the digital economy. We commend TRAI's initiative in starting the momentum on the process of framing a National Broadband

Plan and strongly endorse its view that urgent policy reform is needed in order to improve India's broadband sector. Overall, we support its stance that this requires a plan focused on upgrading India's broadband infrastructure as a national priority.

In this submission we restrict ourselves to a few suggestions concerning several key points that TRAI should consider when framing the proposed National Broadband Plan for India and designing the best regulatory environment to achieve its' vision for broadbanding India:

- **An open Internet is good for Indian consumers and businesses. To unlock the full potential of a National Broadband Network and the Internet access it will deliver, it is crucial to implement policies that maintain the Internet's fundamentally open, neutral, non-discriminatory nature.**

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 the benefit of consumers, businesses 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

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)

occasions that their tiny company likely would not have flourished had they 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 college 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 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 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, nondiscriminatory Internet is the optimal outcome, the critical task is to determine the appropriate legal, regulatory, and/or market mechanisms to achieve that result. In developing its National Broadband Plan, TRAI should keep this goal firmly in mind.

- **In designing the regulatory environment for a National Broadband Network, TRAI should consider the ways in which broadband providers' practices can threaten the fundamental openness of the Internet. Consideration should be given to promoting a regulatory environment that protects user choice, competition and innovation on the Internet.**

Google submits that in designing the regulatory environment for the National Broadband Plan, TRAI should consider the ways in which broadband providers' practices can threaten this openness. Indeed, TRAI has already noted the importance of network neutrality:

"Network neutrality is the principle that Internet users should be able to access all content they view and all applications they use on the Internet without being discriminated by Internet service provider(s)/ access provider(s). The Internet has operated according to this neutrality principle since its inception. Indeed, it is this neutrality that has allowed many companies (application service providers, content providers etc.) to launch, grow, and innovate. Fundamentally, net neutrality is about equal access to the Internet."²

We believe that no matter what choice TRAI ultimately makes with respect to the forms of technology or the structure of the agency to implement the National Broadband Plan, it must explicitly put in place safeguards to protect network neutrality in the regulatory framework for the project.

² Paragraph 3.6.1, TRAI Consultation Paper No. 19/2006 on "Review of Internet Services", available at <http://www.trai.gov.in/WriteReadData/trai/upload/ConsultationPapers/101/consultation27dec06.pdf>.

- **Google believes that it is essential that access to National Broadband Networks should be provided on a wholesale basis to competitor independent providers on equivalent, non-discriminatory terms (from the perspective of both price and non-price terms and conditions)**

We are happy to note that these concerns already appear to be guiding TRAI, as can be seen in its stress on access to optical fibre infrastructure being made available on a non-discriminatory basis in the options it outlined as to how the Indian National Broadband project could be implemented (Paras 3.35 and 3.36 of the National Broadband Plan Consultation Paper).

However, this commitment to open access networks has not been made fully clear with the third option that TRAI suggests, i.e. an optical fibre network created by a consortium of service providers (Para 3.37 of the National Broadband Plan Consultation Paper). We therefore suggest that TRAI make it clear that this principle of equivalent and non-discriminatory access to the National Broadband Network will form a core pillar of the framework that it envisages for the functioning of this service provider consortium-created optical fibre network. We believe that this is particularly important if the members of the service provider consortium run their own retail services. It is our belief that in such cases, some form of strong and independently enforced functional separation, or structural separation, is necessary in order to achieve the key objective of equivalent and non-discriminatory access. In choosing the appropriate regime, it is important that TRAI focus on the paramount goal of ensuring that the mandate and incentive of the network operator align with promoting consumer choice, competition, and innovation.

In short, we submit that a fundamental goal of the regulatory regime that TRAI plans to put in place for the National Broadband Network must be to separate the ownership of the infrastructure from the provision of services over the new network.

Conclusion

Google would be pleased to discuss any of the issues raised in this submission, as well as other matters connected with this current consultation that TRAI would like our inputs on. We hope that our participation in this consultation helps contribute to this vital public discussion.



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