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Consultation on Singapore's Internet Protocol Transit and Peering Landscape

Google appreciates the opportunity to comment on the Infocomm Development Authority of Singapore's ("the IDA") consultation paper on the Internet Protocol ("IP") transit and peering landscape in Singapore. The issue of IP transit and peering is of interest to the company, as we work closely with network operators around the world to deliver Google content and services to our users efficiently and cost-effectively.

Google supports the IDA's view that the current IP transit and peering arrangements have served the market well and regulatory intervention is unnecessary. The IDA's description of the IP transit and peering landscape is factual and reflective of the current situation and dynamics in the market. IP transit and peering arrangements are best left to be decided commercially, which is a widely accepted global best practice. We think market mechanisms should continue to be sufficient to protect Internet users against harmful behavior--provided that content providers are able to secure affordable, high-quality interconnection with each last-mile ISP through multiple options, including transit or third-party peering arrangements. We are encouraged that the IDA's assessment on the subject matter is similar to those made by regulators in other parts of the world, as well as by the IDA's far-sighted view that regulation may have unintended consequences on innovation, development of new business models and technological advancement.

Market Driven Approach

We support the IDA's proposal to leave peering arrangements to the market, as this approach allows various players in the ecosystem to develop optimal solutions that benefit both the end user and the overall ecosystem.

Take for instance the approach that Google has adopted. When we deliver traffic to our users, we aim to carry traffic as far as possible on our network. To achieve this, we invest billions of dollars to build our global backbone network to connect our data centres and transport traffic to Internet aggregation points.

From there on, where possible, we directly interconnect our network with Internet access providers, who then route traffic directly to an individual user. Google



operates an open peering policy, where we will interconnect with any access provider, subject to only a few basic technical, commercial, and legal constraints. We do so at over 70 locations in 30 countries¹.

In addition, we work with Internet access providers to store popular content on servers closer to users (i.e. “caching”), which helps broadband providers as they do not have to send traffic outside of their network.

In Singapore, Google has made investments to build and operate one of our two data centres in Asia and our first in Southeast Asia. More new Internet users are coming online every day here in Asia than anywhere else in the world. This data center allows us to make sure that our users in the region can have the fastest and most reliable access possible to all of Google’s services. More importantly, we work closely with Singapore Internet access providers and Internet Exchanges either through open peering arrangements or caching to optimise delivery of traffic to our users in Singapore.

This multi-tiered approach of investment in infrastructure, open peering arrangements and caching helps to improve the Internet experience for end users and reduces network operators’ costs.

Vibrant Ecosystem

We agree with the IDA’s approach to look beyond IP transit and peering arrangements when considering the interests of the Internet users in Singapore.

A well-functioning market depends on well-informed consumers. In this context, that means consumers having robust information about the speed, price, and quality of services available to them. We are encouraged that the IDA has adopted the approach of measuring the quality of Internet services for end users, and also considered the range of pricing plans and service offerings currently available to consumers in the market.

We also support the IDA’s view and efforts to foster a conducive business environment for Internet services in Singapore, which will in turn facilitate further private sector-led investments and innovations in faster networks.

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¹ Visit <http://www.peeringdb.com/view.php?asn=15169> for details