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No longer self evident: is all internet content created equal?

By: Joshua Gans
25 August 2006

The internet is living through some interesting times. Its use is widespread and more and more people are relying on it for all sorts of information and, increasingly, entertainment. But a debate has arisen about the rules upon which the Internet operates. At the moment there is a situation of independence. That is, regardless of what content you are downloading - be it a web page or a song bought from *iTunes* - there is no distinction as to the speed at which it arrives. Larger files take longer to download but otherwise network operators do not discriminate on the basis of content.



An interesting debate has emerged about this in the United States. The US Congress has considered but dismissed (for the moment) enshrining current practices forever more under the concept of "network neutrality." This is the idea that Internet networks should not discriminate based on content. The debate involves lots of rhetoric and a lack of clarity on the economics of the situation. Here I hope to provide some of that missing clarity, because what happens in the US on this matter may drive what happens to users here.

Basically, network neutrality, if adopted, would constrain internet backbone providers and ISPs from engaging in discriminatory practices with respect to websites. They would have to treat all web requests as equal in terms of traffic priority. Specifically, they would be prevented from charging web content providers (such as *Google* or *CNN*) for more favourable treatment on the network (e.g. faster downloads). Proponents of the concept argue that this will keep the Internet fair and allow equal access for content providers. Its critics say that it will reduce opportunities to earn greater returns on network investment and to reduce prices to Internet users. On that score, it is about as traditional a competition policy debate as you get.

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Joshua Gans

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To begin thinking about this, I note that the main push against network neutrality, not surprisingly, is from those who would be constrained by it -- the AT&T's, Verizons and the like - Internet infrastructure providers. According to the *Washington Post*, AT&T Chair Ed Whitacre said that content providers were getting a free ride: "They don't have any fiber out there. They don't have any wires. . . . They use my lines for free -- and that's bull," he said. "For a Google or a Yahoo or a Vonage or anybody to expect to use these pipes for free is nuts!"

Seems reasonable until you think about it for two seconds. First, the content providers do actually pay for use. They reside on an infrastructure provider's network and pay for data transmitted. Moreover, that infrastructure provider is paid by its own users (those requesting content) and also by other infrastructure providers through interconnection (although, by choice, those payments between them are often set at zero -- a practice called peering). Second, the content providers, by investing in content, generate demand from users who are the infrastructure provider's customers. So they are paying, in the sense that their efforts provide a reason for others to pay for the use of the pipes. You can't look at one side without considering the other. The notion of free riding is ridiculous - even more so when you think that when Google or Yahoo make improvements that generate more traffic, it is the AT&T's or Telstras of the world that reap the extra dollars from users.

Perhaps it would be more instructive to consider the infrastructure provider's incentives to invest in higher speed Internet connections. Their argument there is that content providers benefit from this as it improves the quality of their products to users and hence they can make more money either directly from that (users paying for movie downloads and the like) or indirectly (from advertising). So the infrastructure providers want to be able to capture some of those additional returns by charging the content providers for the improved performance. And that means being able to have differential speeds for content providers depending upon whether they have paid or not - a violation of network neutrality.

The proponents of network neutrality get concerned at this point. They worry that there will be two classes of content providers - those who pay for high speed and those who do not. Absent any other reason to prefer one over the other, users will go to the high speed sites. Smaller content providers won't stand a chance, they argue, and the free flow of ideas and innovation will be harmed.

While they are correct about the effect of such non-neutrality, the proponents of network neutrality don't really hit on the key point: that users who choose a high-speed content provider over another do not internalise the costs they are causing by this. This is the core problem of network non-neutrality: it is not neutral for the providers but too neutral for the users. That is, there is **'neutral networkity . '**

The alternative to network non-neutrality as a means of funding high-speed connections is non-neutral networkity. In this situation, users pay for a high-speed connection. Then, regardless of which content provider they turn to, speed won't be the issue. People will only get a high speed Google if they have paid for it. It will not depend on whether Google has paid for it or not. Now Google may want them to have a high-speed connection but they are going to have to give users a broad reason for paying for it. The advantage of this, however, is that there will be no disadvantage to content providers - small or large. Moreover, infrastructure providers will be able to get a return on investments in network improvements so long as users are willing to pay for them. What this suggests is that when it comes to high-speed connections, the choice between network neutrality and non-neutrality is a choice between these:



- (**Network neutrality**): having the users decide the speed of their connection, with access to all content on equal terms, or
- (**Neutral networkity**): having the content providers decide the speed of their connections, with access to all users at equal speeds.

There will be have and have-nots either way. The question is what that is defined over - content or speed. For proponents of network neutrality, the dividing line is to be over speed.

There is a sense that even this is a little simplistic. It is tempting to suggest putting costs with the users because it is they who request Internet traffic. But there are probably more elaborate models than requiring the user to make a choice between getting all their traffic at high speed or none. In reality, they will want high speed for some services but may be willing to wait for others. Ironically, movie or music downloads are an excellent example of the latter while streaming video would be an example of the former. So what you would want would be for users to nominate which web sites they want at high speed and which they do not want and pay for it accordingly - just like peak-load pricing for energy or congestion pricing for roads.

The problem with network neutrality and neutral networkity is that we are forced to choose. The ideal would be a site-by-site option. In the absence of that, we would need a situation where ISPs were sufficiently diverse so that consumers might be able to choose options that approximated this. It is unclear that there is sufficient competition between infrastructure providers to generate that. Thus, policy-makers will face a difficult trade-off but will ultimately have to make a choice on the issue.

In the end, what is of greater concern is the potential for exclusivity or exclusionary deals. Without network neutrality, the concern is that an AT&T would sign on a Blockbuster or iTunes or someone exclusively and so to get high-speed access to them, a user would have to be an AT&T subscriber. This may generate market power and reduce competition between infrastructure providers. Network neutrality blocks this possibility but not the idea that a Blockbuster may pay AT&T some kickback based on the number of high-speed subscribers it has. Thus, a backdoor form of exclusionary conduct could still arise.

Similarly, in Australia, Telstra's BigPond - the ISP with the greatest share of the market - has a number of content deals;, e. g., with the AFL. This enables it to allow its users to access those sites without counting the usage in their monthly download allowance. It can do the same for its proprietary music and movie download services. Providers of other similar services are, therefore, at a disadvantage with respect to BigPond customers. Other ISPs need not be at a disadvantage though if they can also effectively set a lower price to users who access those services. However, to the extent that these are owned by Telstra, they have an advantage there.

For this reason, the debate should not be over network neutrality per se but the use of exclusive deals offered through particular content providers and integration of content and infrastructure providers. It is there that some real problems could arise.

About the author

Joshua Gans is Professor of Management (Information Economics) at the Melbourne Business School, University of Melbourne.

He maintains a blog on these issues at www.economics.com.au.

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