

NET NEUTRALITY: A RADICAL FORM OF NON-DISCRIMINATION

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Sorry to inform you that you have now sat through roughly 26 minutes of speeches on the subject of net neutrality and you still have not heard a precise definition of what it means. Well, let me tell you what it means from an economist's perspective. Under a net neutrality regime, if a broadband service provider offers prioritized delivery to one content provider, then it must offer the same level of service to all content providers *free of charge*. The practical effect of such a non-discrimination rule would be to unwind all existing and potential contracts for priority delivery between a broadband service provider and content providers.

To see why, consider this real-life example. AT&T enters into a contract with Sony in which Sony pays AT&T a fee to guarantee that Sony's online gaming customers can enjoy their online games in real-time without any disruptions. (This is a blatant appeal to any online gamers in the audience.) Now suppose that Congress passes net neutrality legislation. Overnight, AT&T must offer the *same* service quality to all of Sony's online gaming rivals free of charge. At that moment, Sony would insist that its contract with AT&T be nullified. Why should Sony have to pay for something that its online gaming rivals get by law for free?

I consider such a rule to be a radical form of non-discrimination. A panel member of today's discussion, Professor Peha from Carnegie Mellon, has offered what he calls a more "balanced" non-discrimination rule. As I understand it, Professor Peha would allow a broadband service provider to sell priority delivery to a content provider at some price, but the broadband

1. I would like to thank Richard Clarke, Robert Crandall, Stan Fendley, Robert Hahn, Evan Leo, Stephanie Phillips, Austin Schlick and Greg Sidak for helpful comments.

service provider would then be required to offer that *same contract to all content providers*. Assuming such regulation is necessary (and that's a critical assumption that I plan to address), this is much closer to the idea of non-discrimination that is embodied in the program carriage rules in the Cable Act. Indeed, Art has written in his blog that the Cable Act provides a template for net neutrality on the Internet.

In particular, the Cable Act seeks to protect unaffiliated video programmers or content providers by prohibiting a cable operator from basing its carriage decision on affiliation, or from conditioning carriage on equity or exclusivity. It bears emphasis that those non-discrimination provisions were crafted when, for most U.S. households, cable television was the *only* provider of multi-channel video programming, and slightly more than half of all cable programming services were vertically integrated with cable operators. This has no resemblance to the current state of competition in the broadband market. Second, the program carriage rules were adopted to address an actual proven pattern of historic discrimination by cable operators. Given the limited record here, the program carriage template is really the opposite of what net neutrality advocates want—namely, protections against possible abuses that have yet to materialize. Third, there are technological issues relating to some services, such as high-definition television, that could constrain a broadband service provider's ability to offer priority delivery on the same terms to a second or third content provider. For these reasons, even a sensible non-discrimination rule of the kind advocated by Professor Peha may not be needed and may not be feasible.

Setting aside the issue of whether such protections are needed or feasible, how would the Cable Act's non-discrimination rules be rewritten in the context of the Internet? Well, broadband service providers are not trying to withhold "carriage" or deny access to their customers from content providers—instead, they want compensation for offering prioritized delivery to a select

group of content providers (namely, those who offer real-time applications). Note that the protections for unaffiliated programmers in the Cable Act would not prevent a cable operator and a video programmer from striking a carriage deal at a positive price. Rather, they prevent a cable provider from demanding exclusivity or equity as a condition of carriage, or conditioning carriage on the basis of affiliation. Applied to Internet content, the non-discrimination provisions would read something like this: “A broadband access provider cannot condition the price of priority delivery on the affiliation of the content provider. Nor can it condition the price of priority delivery on exclusivity or equity.”

Given the lack of monopoly power in the access market, the lack of a proven record of discrimination, and given certain technological constraints relating to high-definition television, I doubt that the major access providers would be willing to embrace these conditions. My understanding is that they simply want compensation for providing a service (priority delivery) that has a positive cost. I also understand that they want to avoid having to meet what Bret Swanson in the *Wall Street Journal* recently called the “coming exaflood” of bandwidth-intensive applications, including video sharing, medical imaging, and digital surveillance, *strictly* with fatter pipes. As economist Richard Clarke has demonstrated, meeting that demand with a fully neutral network (or a “dumb” set of pipes) would be simply unaffordable to customers. Access providers, and the analysts who cover them, are genuinely worried about avoiding a traffic jam on the Internet that threatens to undermine everyone’s Internet experience.

What I can say is that the net neutrality proposals, if amended along the lines that I describe, would not be rejected out of hand by economists from every corner of the political spectrum. There are several papers in the economic literature that examine the conditions under which a firm should be compelled to treat unaffiliated upstream providers the same as they treat

their affiliated upstream providers. But to my knowledge there is not one economic paper that examines the conditions under which two parties should be prevented from voluntarily contracting for a lawful service at a positive price.

Now I promised earlier that I would address whether non-discrimination rules are needed in the first place. The argument for such protections goes something like this: If an access provider is allowed to charge a fee to Sony for prioritized delivery, then upstart gaming providers who lacked the resources of Sony would not be able to compete effectively in the market for online gaming. Consumers would be worse off given the barriers to entry created by the surcharge. I call that the “Covet Thy Neighbor” ethic: My rival should be prohibited from investing resources to develop a major product innovation because I cannot overcome that “entry barrier.” While that example may not evoke much sympathy, let me try this one, which is admittedly harder: Suppose that Comcast creates its own gaming website. If Comcast is allowed to charge a fee for prioritized delivery to unaffiliated gamers, then Comcast will set that fee excessively high so as to prevent rival gamers from competing with its own gaming website.

Will the unaffiliated online gaming supplier be prevented from getting its legs underneath it as a result of Comcast’s foreclosure strategy? Stated differently, does Comcast have the ability to foreclose upstart online gaming suppliers? The answer is no. First, the online gaming supplier will still have access to Comcast’s subscribers albeit without priority delivery. Second, the online gaming supplier still can strike deals for priority delivery with other broadband service providers. Because Comcast, *the largest broadband service provider in the United States*, controls access to roughly 23 percent of all broadband subscribers, Comcast lacks the ability to induce the upstart online gaming supplier from exiting the industry or even operating at an inefficient scale. (The next largest providers are AT&T and Verizon, each with roughly 14 percent of the U.S. market).

The minimum efficient scale of an Internet content provider is likely very low, and whatever foreclosure there is would not be enough to prevent the content provider from reaching its minimum efficient scale.

Even if Comcast refuses to sell priority deliver to its unaffiliated rival, the upstart online gaming supplier is free to enter into contracts for enhanced QoS with other broadband access providers that collectively control access to the remaining 77 percent of all U.S. broadband subscribers. To the extent that the Internet content market is international, Comcast's foreclosure share is even smaller. Thus, Comcast lacks the ability to foreclose upstart content providers even if it threatened to deny access entirely. And Comcast cannot impose anticompetitive harm in the content markets without foreclosure. Because a content provider *individually* lacks the ability to foreclose upstart content providers by charging a positive price for priority delivery, the anticompetitive arguments in favor of net neutrality are meritless.

Proponents of net neutrality, including Art, like to cite the *combined* share of all DSL and cable modem providers nationwide (98 percent) to suggest incorrectly that the foreclosure share is extremely high—that is, to suggest that upstart content providers are somehow beholden to DSL and cable modem providers. But this statistic has no meaning in this context. Cable providers and DSL providers are not coordinating to foreclose upstart content providers. Thus, adding their shares makes about as much sense as adding my height to Art's height and claiming that combined we are the tallest person in the room.

More importantly, the 98 percent figure assumes incorrectly that the relevant geographic market to assess this potentially anticompetitive strategy is local—that is, it assumes that a content provider is offering content that is particular to a given locality and therefore requires access to a single broadband provider's subscribers. But Internet content is not local. At a

minimum, it is national, and it is more likely international. The vast majority of Internet content appeals to all U.S. residents, not just the residents of a particular locality. For example, there is next to nothing on YouTube or Google or ESPN that is specific to Pittsburgh. This is precisely why anticompetitive refusals to deal are possible in video markets, where some content such as local broadcast television news and regional sports are in fact local (and those content providers depend on a *single* cable provider), but impossible in Internet markets.

In summary, net neutrality in its current form will jeopardize very large consumer benefits made possible by contracting for priority delivery but will spare us no anticompetitive harm. For that reason, net neutrality should be rejected. Assuming one could demonstrate a significant threat of foreclosure for content providers, a more sensible non-discrimination rule would be to require that carriers charge different content providers the same rate for any given level of service quality, not to prevent any charges for prioritized delivery whatsoever. But it is not clear that even a reasonable non-discrimination rule is required for Internet services given the fact that (1) access providers acting unilaterally lack the ability to foreclose content providers and (2) there is no evidence that access providers are colluding.

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With the advent of streaming video and other bandwidth-intensive applications, the demand for bandwidth is projected to quickly overtake the existing supply. We should not interfere with an access provider's ability to manage this "coming exaflood" with intelligent networks. At best, the price of Internet service will skyrocket if access providers can meet the coming traffic with fatter pipes only. At worst, the Internet experience for all users will deteriorate. Given the tremendous uncertainty over the future of the Internet and the need to

encourage innovation and investment, it seems dangerous to interfere with heavy-handed regulation at this juncture.

The proponents of net neutrality like to assume they command the moral high ground in this debate. Their clients allegedly are looking out for upstart content providers while my clients are selfishly pursuing the bottom line. In that holier-than-thou spirit, I would like to do a little preaching of my own to the students in the audience as a conclusion to my speech. And here is my sermon (my first and hopefully last): Do not define your personal happiness in terms of how your peers are doing. Set your own goals independently and do not measure your success relative to what your friends have achieved. Do not seek to deny someone an opportunity simply because that opportunity is not available to you. The proponents of net neutrality are telling you the opposite. Cloaked in a populist veil, this message is a corruption of a value that many of us cherish: Do not covet your neighbor's possessions. For friends like Art, it is too late. But for the vast majority of you in the audience, your values are still being molded. With luck, my remarks will make some impression.