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The FCC's Open Internet Proposal – Lessons from Silicon Valley

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Since I posted the letter by Zediva, an online video company, that describes what the current Open Internet proposal would mean for them and how the proposal should be improved to protect them and other innovators, many have asked me about the broader lessons from Zediva's story. Others have asked for a bit more detail about the proposed improvements to the rules.

What Zediva's story teaches us about network neutrality

1. Concerns about discrimination impede application innovation today. Thus, the FCC needs to act now. As the Chairman's current proposal shows, he understands this with respect to wireline networks, but thinks we can wait and see how the wireless ecosystem evolves. After all, he says, it is "evolving rapidly." But the idea that waiting has no costs is wrong. Waiting to extend meaningful protections to wireless will allow networking technologies to evolve in discriminatory ways that may be difficult to change later on. As the story of Zediva shows, the lack of protections will immediately have a dampening effect on in innovators' inclination to dedicate the next few years of their life to a wireless application (and on potential investors' willingness to fund these efforts). The ongoing network neutrality debate motivated network providers' to stay away from discrimination in order not to fuel the debate. An order that explicitly determines that only the blocking of a restricted set of applications, content and services should be prohibited at this time may fundamentally change this calculus. After all, if the FCC thinks this type of behavior is o.k., why not engage in it? Skype's experience (pdf, p. 7) in Sweden underscores this point: Until last year, mobile operators in Sweden generally allowed the use of Skype over the mobile Internet. But since the Swedish regulator decided at the beginning of this year that rules that require network providers to disclose any blocking or discrimination are all that's needed to protect innovators and users, both leading mobile operators have introduced restrictions on users' ability to use Skype.

2. Banning only anticompetitive discrimination is not enough. If Zediva cannot get to its users it is harmed, regardless of whether the network provider interfered with its service in order to harm a competitor or to manage congestion. Thus, the fact that a discriminatory measure is designed to manage congestion does not mean it should be allowed. Instead, we need to make sure that the Internet remains a level playing field even during times of congestion by imposing strong constraints on the types of network management for which network providers would be allowed to violate the general ban on blocking and discrimination. Otherwise, users and innovators will not be sufficiently protected against what I believe will become one of the most common motivations for discrimination as the increased use of bandwidth-intensive applications puts pressure on networks.

3. As Zediva's examples illustrate, **access fees would seriously stymie the ability of start-ups or other innovators with little or no outside funding to compete against established players**. As if this were no bad enough (throughout the history of the Internet, innovators with little or no outside funding have developed many important applications, and there is no reason to believe that this would change in the future), **access fees may impose serious collateral damage on values like free speech or a more participatory culture** by making it more difficult for individuals or non-profit groups to be heard or to find an audience for their creative works.

Consider the case of Miro, an open source, not-for-profit Internet video application that was developed by a non-profit group in Boston called the Participatory Culture Foundation (PCF). As I argued (together with other academics) here (pdf, pp. 31-38, citation from pp. 34-35), "[u]sing peer-topeer protocols, Miro allows anyone—from amateur high school teachers to professional television networks—to create and distribute to anyone online their own "television" channel at low cost to PCF and free to users. Unsurprisingly, the collective set of video channels currently available on Miro exhibit an enormous diversity of subject matter—diversity that far exceeds what is available on today's cable networks", making it "a powerful avenue for free speech, both for speakers and listeners." But if YouTube always loaded faster than Miro or if watching YouTube didn't count towards users' monthly bandwidth caps since YouTube paid for all this, but Miro couldn't, people would be much less interested in watching the content available on Miro.

4. Details matter. Many people have given up on the debate because it has become so detailed. But as the story of Zediva shows, details matter. Different versions of network neutrality rules offer very different protection for users and innovators. Thus, it is not enough to strengthen the non-discrimination rule by clearly banning application-specific discrimination. If the reasonable network management exception still allows the network providers to engage in discriminatory network management as long as it is "tailored," Zediva and many other start-ups are still not sufficiently protected. Similarly, it is not enough to protect some wireless applications, content and services against blocking – applications that are not part of this group are still not sufficiently protected. And so on. Thus, attention to details is important, and I hope you (and the Commissioners) will take the time to understand these issues.

What the FCC should do

As Zediva explains in its letter, the FCC's current proposal does not adequately account for these insights. It does not do enough to protect users and innovators against the risk of discrimination. But it is not too late. The proposal can still be improved. Here is what should be done:

1. Adopt a non-discrimination standard that clearly bans application-specific discrimination, but allows application-agnostic discrimination

The FCC's current proposal bans discrimination that is "unjust" and "unreasonable" and leaves it to later case-by-case determinations by the FCC whether specific discrimination meets these criteria. As Zediva's letter explains, this rule does not provide the type of certainty that application developers [for brevity, I use "applications" as a shorthand for "application, content and services"] and their investors need, and tilts the playing field against those – end users, application developers and start-ups – who do not have the resources necessary to engage in extended fights over the legality of specific discriminations in the future.

Instead, the FCC should adopt a non-discrimination standard that clearly bans application-specific discrimination (i.e. discrimination based on application or class of application), [for brevity, I use "applications" as a shorthand for "application, content and services"] but allows application-agnostic discrimination.

Thus, a network provider would not be allowed to treat Vonage differently from Skype, or Comcast's Fancast differently from Hulu. That would be discrimination based on application. Nor would it be allowed to treat online video differently from e-mail. That would be discrimination based on class of application. But it would be allowed to treat data packets differently based on criteria that have nothing to do with the application or class of application. For example, during times of congestion, a network provider could give one person a larger share of the available bandwidth than another, for example because this person pays more for Internet access or has used the Internet less over a certain period of time. But it could not throttle the bandwidth available to Zediva in particular, or online video in general. That would be application-specific discrimination.

This proposal would prevent network providers from distorting the playing field between applications or classes of applications. It would provide certainty to all market participants. Network providers would know how they can manage their networks, and

application developers (and their investors) could be sure that they won't be discriminated against. The proposal allows networks to evolve. In particular, it allows certain (but not all) forms of Quality of Service.

2. Clarify that "reasonable network management must be as application-agnostic as possible"

As Zediva has shown, the current proposal does not sufficiently constrain what counts as "reasonable network management," leaving users and innovators vulnerable to network management practices that single out specific applications or classes of applications. This could seriously constrain users' ability to see the Internet as they see fit during peak times, when people want to use the Internet most, and impede the ability of those applications that were singled out for network management purposes to compete.

Instead, the rules should make clear that reasonable network management must be as application-agnostic as possible. This proposal gives network providers the tools they need to manage their networks, while preserving application innovation and user choice as much as possible. Since network providers can allocate bandwidth among users using application-agnostic criteria, they can prevent aggressive users from overwhelming the network. But how users use the bandwidth available to them, and whether they would like to give some of their applications priority over others, would be choices left to the users. At the same time, the exception provides a safety valve that allows network providers to react in more application-specific ways if a problem cannot be solved in an application-agnostic way.

3. Clearly ban pay-to-play access fees

The current proposal does not clearly ban access fees. This is not only the wrong policy choice. The failure to specifically ban such schemes creates uncertainty, and investors may hesitate to invest in innovative new applications if such applications must compete with established players who can pay for special treatment. It also places the risk associated with such uncertainty on the party least able to bear it — the emerging entrepreneur rather than the established Internet service provider, who has the resources to fight over the legality of access fees under the proposed "unjust or unreasonable" standard.

Instead, the FCC should clearly ban access fees. That is, it should prohibit a network provider from charging application, content or service providers who are not the network provider's Internet service customer a fee for access to users or for prioritized or otherwise enhanced access to users (this second type of access fees is often called "paid prioritization").

4. Extend meaningful protections to wireless

The current proposal prohibits the blocking of only some applications – of websites and of applications that compete with video telephony or voice applications offered by the network provider. They do not prohibit discrimination. The limited rule against blocking leaves many applications, content and services unprotected. Moreover, banning blocking, but allowing discrimination effectively makes the rule against blocking meaningless by providing an alternative to blocking that is equally effective and less costly.

Ideally, the same protections should apply to wireline and wireless networks. It should not matter over which network technology users access the Internet. The threat of discrimination and the rationale for protection are the same. There may be some technical characteristics of specific wireless technologies or special problems associated with mobility that make it impossible to solve certain network management problems in an application-agnostic way. In these cases, the reasonable network management exception described above would allow network providers to solve these problems in more application-specific ways. Thus, these problems, to the extent they exist, can be accounted for when applying the reasonable network management exception. But they will be problems associated with specific wireless technologies (for example, people in the industry usually agree that LTE does not pose any issues that are fundamentally different from the issues faced by, let's say, the provider of a DSL network). They do

not justify applying fundamentally different levels of protection to wireline and wireless networks in general.

What you can do

If you agree with me and want to do something, you could e-mail the FCC Commissioners, in particular write to Chairman Genachowski, Commissioner Copps, and Commissioner Clyburn. (Commissioner Baker and Commissioner McDowell have publicly rejected any network neutrality rules.) Tell them that you share the concerns outlined in my post and ask them to improve the proposal along the lines explained here. The sunshine period which is designed to shield the FCC's final deliberations from outside influence starts on Tuesday, December 14, around 5 pm EST, so if you want to write,
you need to do it before then if you want your e-mail to make a difference.

You should also spread the word (even after the sunshine period starts). This rule will affect all of us, whether we use the Internet for work, school, or in our free time, and the more people understand the issues, the more likely that public opinion will make a difference now or in the future. Share this post and others about the same topic – post on Facebook, on Twitter, on Tumblr, on WordPress, or on whatever innovative application that's part of your life and the product of an open Internet."

If you want to learn more

This is a complicated debate. Although this is a long post, it doesn't come close to doing justice to what are complex, multi-faceted issues. If you want to learn more, here is what you can do:

Watch
You could watch my recent talk at Stanford (it is 45 minutes long, followed by Q&A). It provides a good overview over the network neutrality debate (including a discussion of access fees). It also discusses alternative proposals for non-discrimination rules and makes the case for the non-discrimination rule described above.

Read
You could read more of my writing and testimony.

On network neutrality in general
This testimony describes the factors have fostered application innovation in the past and that should guide any evaluation of network neutrality rules.

On non alternative proposals for discrimination rules, problems associated with case-by-case adjudications, and my proposal for a non-discrimination rule
Read abstract and download PDF here.

Reasonable network management
This testimony explains why we need non-discriminatory network management. A more detailed description about what exactly should be done with respect to reasonable network management and why is here (pp. 4-8).

Access fees
This testimony explains the problems with access fees and paid prioritization – i.e. with allowing network providers to charge application and content providers who are not the network providers' Internet service customer for access to the network providers' customers or for prioritized access to these customers. An additional aspect of the problem is described here (pp. 4-6).

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