Stanford Law School

Crown Quadrangle
559 Nathan Abbott Way
Stanford, CA 94305-8610
Tel 650 723-2465
Fax 650 725-0253
info@law.stanford.edu
www.law.stanford.edu

December 9, 2010

ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Notice of *Ex Parte* Meetings, GN Docket No. 09-191, WC Docket No. 07-52

Dear Ms. Dortch:

On December 8, 2010, I, Barbara van Schewick, met with Dave Grimaldi, Chief of Staff to Commissioner Clyburn, and Angela Kronenberg, Wireline Legal Advisor to Commissioner Clyburn.

I also met with John Giusti, Chief of Staff to Commissioner Copps, and Margaret McCarthy, Commissioner Copps' Policy Advisor, Wireline.

Both discussions focused on the Chairman's recent Open Internet proposal. The discussion covered the following areas:

Underlying values
There are a number of factors that have allowed the Internet to foster application innovation, improve democratic discourse, facilitate political organization and action, and provide a more decentralized environment for social and cultural interaction in which anybody can participate. They need to be preserved, if the Internet is to serve as an engine of innovation and as a platform for free speech and social and cultural interaction in the future. To make sure they are indeed preserved, these factors should serve as guiding principles when choosing among alternative options for network neutrality rules, as well as when interpreting any network neutrality rules that should be adopted in the future. As I explained in earlier testimony in this proceeding and in my book, these factors are:[1]

- **Innovator choice:** Innovators independently choose which applications they want to pursue; they do not need support or "permission" from network providers in order to realize their ideas

[1] The factors that have fostered application innovation in the past are described in detail in van Schewick (2010a). For a short overview, see my testimony at the FCC workshop in January (van Schewick (2010d)). For a brief discussion of the factors that are at the core of the Internet's political, social and cultural potential, see van Schewick (2010a), pp. 359-365.

for an application (this factor has also been called **"innovation without permission"**). Adding additional decision makers who need to endorse the idea or take action before an idea can be realized reduces the chances that innovative ideas can be realized.[2]

- **User choice:** Users independently choose which applications they want to use, without interference from network providers. Letting users, not network providers choose which applications will be successful is an important part of the mechanism that produces innovation under uncertainty.[3] At the same time, letting users choose how they want to use the network enables them to use the Internet in a way that creates more value for them (and for society) than if network providers made this choice.[4]

- **Application-Blindness:** The application-blindness of the network ensures that network providers cannot interfere with these (i.e. innovators' and users') choices, that they cannot distort competition among applications (or classes of applications) or reduce application developers' profits through access charges (we may call this "innovation without fear").[5]

- **Low costs of innovation:** The low costs of innovation not only make many more applications worth pursuing,[6] but also allow a large and diverse group of people to become innovators, which in turn increases the overall amount and quality of innovation.[7]

---

2 On innovation without permission in the original Internet, see van Schewick (2010a), pp. 204, 211, 293. On the impact of innovation without permission on innovation, see van Schewick (2010a), pp. 345-348.

3 See van Schewick (2010a), pp. 349-351 and van Schewick (2010d), p. 6.

4 See van Schewick (2010a). pp. 362-363: From van Schewick (2008a), pp. 7-8: "Why the emphasis on user choice? First, user choice is fundamental if the Internet is to create the maximum value to society. The Internet is a general purpose technology. It does not create value through its existence alone. It creates value by enabling users to do the things they want or need to do. Users know best what this is. As a result, users, not network providers should be able to decide how they would like to use the network, and what is important to them. Of course, in order for users to behave efficiently, they also need to bear (at least some of) the costs of their actions, something which the current system does not sufficiently provide.

User choice is also a fundamental component of the mechanism that enables application-level innovation to function effectively. In the current Internet, it is impossible to predict what future successful applications will be. Enabling widespread experimentation at the application-level and enabling users to choose the applications they prefer is at the heart of the mechanism that enables innovation under uncertainty to be successful.

By singling out specific applications, network providers start picking winners and losers on the Internet. As we have seen, whom they pick may be driven by a number of motivations that are not necessarily identical with what users would prefer, leading to applications that users would not have chosen and forcing users to engage in an Internet usage that does not create the value it could. Consumers, not network providers, should continue to choose winners and losers on the Internet."

5 A network is application-blind, if it cannot distinguish between the applications and content on the network. The original Internet was application-blind, which was a consequence of applying the broad version of the end-to-end arguments. See van Schewick (2010a), pp. 72-75, 217-218. For a short summary of the importance of application-blindness, see van Schewick (2010d), pp. 3-4. For a detailed analysis of the impact of application-blindness on network providers' incentives to discriminate and on the pricing strategies available to network providers, see van Schewick (2010a), chapter 6.

6 For a short version of the argument, see van Schewick (2010d), pp. 2-3, 5-6 and van Schewick (2010c), pp. 4-5. On low cost of application innovation in the original Internet, see van Schewick (2010a), pp. 138-148. On the impact of low cost innovation on who can innovate, see van Schewick (2010a), pp. 204-213.

Non-discrimination rule

The current proposal bans discrimination that is "unjust" and "unreasonable." Whether these criteria are met, will be decided by the FCC in case-by-case adjudications. As explained in detail in prior filings in this proceeding,[8] a rule that doesn't clearly define what behavior is and is not allowed does not provide enough certainty for industry participants and puts start-ups and innovators with little or no outside funding at a disadvantage.

Instead, the FCC should adopt a rule that clearly defines which behavior is and is not acceptable. As proposed earlier in this proceeding, I suggest that a non-discrimination rule that bans application-specific discrimination (i.e. discrimination based on the specific application, the identity of the application provider or the class of application), but allows application-agnostic discrimination would be preferable.

Such a rule would provide certainty to market participants. It would protect the application-blindness of the network and preserve the principle of user choice, factors which have fostered application innovation in the past. It would prevent network providers from distorting competition among applications or classes of applications, while providing room for the network to evolve. In particular, it would allow certain, but not all forms of Quality of Service.

In particular, it would allow forms of Quality of Service that meet the following conditions:
(1) The different classes of service are offered on a non-discriminatory basis, i.e. without regard to the specific application or content or the specific application or content provider (e.g. Skype or Vonage), or the type of application or content (e.g. Internet telephony);
(2) The user is able to choose whether and when to use which class of service;
(3) The network provider is allowed to charge only its own Internet service customers for the use of the different classes of service.[9]

By banning discrimination based on applications *and* classes of applications, the rule would ban a practice called "like-treatment." Under rules that require "like-treatment," network providers are required to treat like traffic alike: they are allowed to treat classes of applications differently, as long as they do not discriminate among applications within a class. For example, under rules that require like-treatment, network providers would be allowed to treat Vonage, an Internet telephony application, different from Gmail, an e-mail application, but they would not be allowed to treat Skype, another Internet telephony application, differently from Vonage.

---

7 If there is uncertainty (e.g., about technology or user needs) or user needs are heterogeneous, a larger and more diverse group of innovators will create more and better application innovation than a smaller, less diverse group of innovators, and these applications will better meet the needs of Internet users. For the short version of the argument, see van Schewick (2010d), pp. 5-6 and van Schewick (2010c), pp. 4-5. For the detailed version, van Schewick (2010a), pp. 298-349. In the current Internet, there is uncertainty and user needs are heterogeneous, so the conditions under which innovator diversity increases the amount and quality of innovation are met. See van Schewick (2010a), p. 356.

8 See, e.g., van Schewick (2010b).

9 I explained the rationale for this criterion in van Schewick (2010c). While the first two conditions are a consequence of the proposed non-discrimination rule, the third condition would have to be encoded separately.

Like treatment negatively affects several of the factors that have fostered application innovation in the past. First, allowing network providers to treat classes of applications differently requires the network provider to identify the different applications on its network in order to decide which class they belong to and determine the appropriate form of Quality of service, removing the application-blindness of the network. The concept of "like applications" is not easily well defined, which enables network providers to distort competition among applications or classes of applications. Disputes over which classes of applications are alike, or whether a certain application belongs to a certain class, are likely to be frequent and difficult to resolve, creating high costs of regulation. Under "like treatment", network providers, not users choose which application should get which Quality of Service (violating the principle of user choice). Since users' preferences for Quality of Service are not necessarily the same across users and may even vary for the same user over time, letting network providers determine which applications gets which Quality of Service will result in Quality of Service which does not accurately meet user preferences. Finally, "like treatment" harms application innovation by requiring innovators to convince network providers that their application belongs to a certain class. Requiring network providers to take action before an application can get the Quality of Service it needs violates the principle of innovation without permission and reduces the chance that new applications actually get the type of service they need.

By contrast, the types of user-controlled quality of service allowed under my proposal as outlined above do not raise similar concerns. They preserve the application-blindness of the network, the principle of user choice, and the principle of innovation without permission:

First, the proposal maintains the application-blindness of the network: The provision of Quality of Service is not dependent on which applications users are using, but on the Quality-of-Service-related choices that users make; thus, the network providers does not need to know anything about which applications are using its network in order for this scheme to work. The network provider only makes different classes of service available, but does not have any role in deciding which application gets which Quality of Service; this choice is for users to make. As a result, network providers cannot use the provision of Quality of Service as a mechanism to distort competition among applications or classes of applications. Second, since users choose when and for which applications to use which type of service (in line with the principle of user choice), they can get exactly the Quality of Service that meets their preferences, even if these preferences differ across users or (for a single user) over time. Third, in line with the principle of "innovation without permission," an innovator does not need support from the network provider in order for his application to get the Quality of Service it needs. The only actors who need to be convinced that the application needs Quality of Service are the innovator, who needs to communicate this to the user, and the user, who wants to use the application. This greatly increases the chance that an application can get the type of service it needs.

Access fees (including Paid Prioritization)

It seems that the proposed rule would not clearly ban access fees – that is, it would not prohibit a network provider from charging application or content providers who are not its Internet service customers for access to the network provider's Internet service customers, or for prioritized or otherwise special access to these customers (this latter type of access fees is often called "paid

prioritization"). I assume that fees for interconnection among networks are not affected by the Open Internet proceeding.

For reasons I discussed in my testimony at the workshop in Seattle and in my book,[10] the rules should clearly ban access fees. Leaving the legality of access fees to case-by-case adjudications creates uncertainty in the market. At the same time, those who will be most affected by access fees (such as innovators with little or no funding, or public interest groups) would be least able to bear the burden of defending themselves in a future adjudication.

Wireless

The current proposal does not provide the same protections for wireless as for wireline networks. It only prohibits the blocking of websites and applications that compete with the provider's voice or video telephony services. This leaves many applications without any protections. Since voice or video telephony applications are only protected if the network provider offers a competing application, a network provider can prevent competitors from establishing a first mover advantage in video telephony. Finally, 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.

Instead, the rules should provide the same protections to wireline and wireless services. The threats for application innovation, free speech and user choice are the same in both technologies. Wireless networks have been historically controlled by network providers, so the bias towards network provider control may be even stronger in wireless networks. Thus, the rationale for protection is the same. At the same time, the technology is evolving rapidly. In the absence of strong protections, technology may evolve in a way that will make it more difficult to protect the values that network neutrality rules are designed to protect in the future. At the same time, since mobility or location-awareness are specific to mobile services, the space of potential applications is larger and even less explored than in the wireline space. Thus, the potential for application innovation (and the dampening effect of a lack of protections against discriminatory behavior on investment) is particularly large.

Any technical differences – to the extent they exist – can be accounted for when applying the reasonable network management exception. For example, if specific characteristics of wireless networks made it impossible to solve certain network management problems on specific wireless networks in application-agnostic ways, the "reasonable network management exception" described below would allow network providers to use application-specific ways of solving the problem.

Reasonable network management exception

As I have explained in prior testimony,[11] network providers often have an incentive to solve specific networking problems in application-specific ways, even if there are application-agnostic ways of solving the problem. Given the increase in bandwidth use, it is likely that instances of

[10] van Schewick (2010c) and van Schewick (2010a), pp. 278-280, 290-293.

[11] van Schewick (2008a), pp. 4-8 and van Schewick (2008b).

discriminatory network management will become more common. At the same time, the harm to users and innovators is the same, whether a network provider acts to harm a competitor or to manage its network. As a result, the need for protection is independent of the motivation of the provider. Thus, a rule that allows blocking or discrimination as long as it is done to manage the network would not sufficiently protect innovators and users. Instead, network management should be as application-agnostic as possible (and respect the principle of user choice to the extent possible) in order to make sure that network management preserves the beneficial characteristics of the Open Internet (such as application-blindness and user choice) as much as possible.

Definition of Broadband Internet Access Service

The definition of Broadband Internet Access Service in the legislative proposal initiated by Representative Henry Waxman seems to be too broad. In particular, it is unclear whether services that provide access to only parts of the Internet (for example, to the top 50 websites, effectively blocking access to the rest) would be subject to the Open Internet rule.

I also met with Doug Sicker, Chief Technologist, Henning Schulzrinne, Distinguished Engineering Fellow, Julius Knapp, Chief of the Office of Engineering and Technology, Walter Johnston, Chief of the Electromagnetic Compatibility Division, and David Tannenbaum, Special Counsel. I discussed the benefits and drawbacks of user-controlled quality of service and Quality of Service based on like-treatment along the lines outlined above. I also discussed potential problems associated with the definition of Broadband Internet Access service.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

/s/ Barbara van Schewick

Barbara van Schewick
Associate Professor of Law and (by courtesy) Electrical Engineering
Faculty Director, Center for Internet and Society
Stanford Law School
650-723-8340
schewick@stanford.edu

Sources

van Schewick, Barbara. 2008a. *Official Testimony at the Federal Communications Commission Second En Banc Hearing on Broadband Management Practices.* Federal Communications Commission.

van Schewick, Barbara. 2008b. *Oral Testimony at the Federal Communications Commission Second En Banc Hearing on Broadband Management Practices.* Federal Communications Commission.

van Schewick, Barbara. 2010a. *Internet Architecture and Innovation.* Cambridge, MA: MIT Press.

van Schewick, Barbara. 2010b. "Network Neutrality: What A Non-Discrimination Rule Should Look Like." Paper presented at 38th Research Conference on Communication, Information and Internet Policy (TPRC 2010).

van Schewick, Barbara. 2010c. *Opening Statement at the Workshop on Approaches to Preserving the Open Internet.* Federal Communications Commission.

van Schewick, Barbara. 2010d. *Opening Statement at the Workshop on Innovation, Investment and the Open Internet.* Federal Communications Commission.

cc:
Dave Grimaldi
Angela Kronenberg
John Giusti
Margaret McCarthy
Doug Sicker
Henning Schulzrinne
Julius Knapp
Walter Johnston
David Tannenbaum