Stanford Law School

Barbara van Schewick
Professor of Law
Helen L. Crocker Faculty Scholar

Crown Quadrangle
559 Nathan Abbott Way
Stanford, CA 94305-8610
Tel 650 723.8340
Fax 650 725.0253
schewick@stanford.edu

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ELECTRONIC FILING

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

Re: Notice of *Ex Parte* Meeting, GN Docket No. 09-191, GN Docket No. 14-28

Dear Ms. Dortch:

On April 15, I, Barbara van Schewick, met with Jonathan Sallet, Acting General Counsel, and Stephanie Weiner, OGC.

We discussed potential motivations for engaging in blocking or discrimination and factors that the FCC should use to evaluate discriminatory conduct.

Motivations for Engaging in Blocking or Discrimination

First, Internet service providers may engage in blocking or discrimination to increase their profits. This includes the following practices:[1]

- Blocking or discrimination against applications that compete with the ISPs offering or with that of a partner;[2]
- Excluding applications to price discriminate among Internet service customers (e.g., allow the use of video conferencing only for users of its premium Internet service, not for users of its basic Internet service);[3]

[1] For a detailed analysis of incentives to block or discriminate to increase profits, see van Schewick (2010a), pp. 222-264, 275-278.
[2] van Schewick (2010a), pp. 222-264.
[3] For a detailed analysis of network providers' incentives to engage in this strategy and of the impact on application developers and users, see van Schewick (2010a), pp. 275-278 (price discrimination). For a real-world example of this strategy, see Wu (2003), pp. 151-152, 165; van Schewick (2010a), p. 471 fn. 237 (price discrimination).

- Discriminating among applications by charging different Internet transport prices for different applications (e.g., charge higher Internet-service fees for an e-mail packet than for a packet of Web content of equal size);[4]
- Other forms of blocking or discrimination that increase profits (e.g., stripping out ads, inserting ads, search hijacking).[5]

Second, Internet service providers may engage in blocking or discrimination to exclude unwanted content that threatens the company's interests or does not comply with the network provider's chosen content policy.[6]

Finally, Internet service providers may engage in blocking or discrimination to manage their networks.[7]

Factors for Evaluating Discriminatory Practices

We also discussed factors that the FCC should use to evaluate discriminatory conduct.[8] As I have explained elsewhere,[9] 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, cultural and political interaction in which anybody can participate. They need to be preserved to allow the Internet to continue to do so in the future. These factors should serve as guiding principles not only when choosing among alternative options for network neutrality rules, but also when evaluating discriminatory conduct.[10,11] They are:[12]

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[4] For a detailed analysis of network providers' incentives to engage in this strategy and of the impact on application developers and users, see van Schewick (2010a), pp. 273-275 (application-specific pricing). Application-specific pricing may also be used to discriminate among applications or classes of applications (van Schewick (2012), p. 12). For a real-world example of this strategy, see (Allot Communications & Openet (2010), p. 7.

[5] Kreibich, et al. (2011b); Kreibich, et al. (2011a); Giles (2011).

[6] For a more detailed discussion, including examples, e.g., van Schewick (2010a), pp. 266-270; van Schewick (2012), p. 18, Box 7.

[7] See, e.g., van Schewick (2010a), pp. 264-266; van Schewick (2008), pp. 5-6.

[8] The text in the following subsection is adopted from van Schewick (Forthcoming 2015), Section "A Framework for Evaluating Network Neutrality Rules."

[9] See, e.g., my Opening Statement at the Federal Communications Commission's Workshop on Innovation, Investment and the Open Internet in January 2010 (van Schewick (2010c)); van Schewick (Forthcoming 2014).

[10] See, e.g., van Schewick (2010c) (asking the FCC to choose network neutrality rules that preserve application-blindness, user choice, innovation without permission and low costs of application innovation); van Schewick (2010d), pp. 1-2 (arguing the FCC should use "these factors 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.").

[11] This paragraph is adopted from van Schewick (2010d), pp. 1-2.

[12] The factors that have fostered application innovation in the past factors are described in detail in van Schewick (2010a). For a short overview, see van Schewick (2010c). 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; Benkler (2000), pp. 565-568; Balkin (2009). The original Internet created an environment characterized by these factors as a consequence of its architectural design. In particular, they are the result of the application of the layering principle and the broad version of the end-to-end arguments. There are two versions of the end-to-end arguments, a narrow

- *Innovator without permission:* 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 for an application. 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.[13]

- *User choice:* Users independently choose which applications they want to use, without interference from network providers.[14] Letting users, not network providers choose which applications will be successful is an important part of the mechanism that produces innovation under uncertainty.[15] 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.[16] (See *Box 1: The Importance of User Choice*.)

- *Application-Agnosticism:* The network is application-agnostic. While an application-agnostic network may have information about the applications on the network, it does not make distinctions among data packets based on that information.[17] This ensures that network providers cannot interfere with innovators' and users' choices, that they cannot distort competition among applications (or classes of applications) or reduce

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version and a broad version, which are often confused in policy debates. van Schewick (2010a), pp. 57-81, 377-79; van Schewick (2004). While both versions shaped the original architecture of the Internet (van Schewick (2010a), pp. 90-103, 110-12, 379-81; van Schewick (2004)), only the broad version, together with the layering principle, is responsible for the application-blindness of the network. van Schewick (2010a), pp. 72-75, 217-18; van Schewick (2004). See alsoReed (2010). On the layering principle and its relationship to the architecture of the Internet, see van Schewick (2010a), pp. 46-57, 88-90. On early arguments that the architecture of the Internet, due to the end-to-end arguments, created a beneficial environment for innovation that regulation should preserve, see Lemley & Lessig (1999) (in the context of the debate over open access to cable networks) and, in the context of network neutrality, Lessig (2001); Lessig (2002); Wu (2003); Wu & Lessig (2003); van Schewick (2004); Wu (2004); Cerf (2006); Lessig (2006); Lessig (2008).

[13] 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. See also Cerf (2006), pp. 1,4; Balkin (2009) (focusing on the social, cultural and political implications).

[14] van Schewick (2010a), pp. 144, 152-155, 293-295, 362-364; Cerf (2006), pp. 1-3, 7.

[15] See van Schewick (2010a), pp. 349-351; van Schewick (2010c), p. 6; s*ee also* note 16 below.

[16] See van Schewick (2010a). pp. 362-363. See also Cerf (2006), pp. 1-3, 7. On the importance of user choice for the Internet's social, cultural and political potential, see, e.g., Balkin (2009); van Schewick (2010a), pp. 359-365.

[17] The original Internet was application-blind and application-agnostic. This was a consequence of its architecture, in particular of the broad version of the end-to-end arguments and of the layering principle. See van Schewick (Forthcoming 2015), *Box 2: Application-Agnostic v. Application-Blind*, footnote 12 above and van Schewick (2010a), pp. 72-75, 217-218; van Schewick (2004). See also, e.g., Lemley & Lessig (1999) , para 17, Cerf (2006), pp. 1-4, 7; Reed (2010). For a short summary of the importance of application-blindness, see van Schewick (2010c), pp. 3-4. For a detailed analysis, see van Schewick (2010a), pp. 215-281, 286-295, 349-353, 355-365. While the analysis in these sources focuses on the impact of application-blindness, the analysis equally applies to application-agnosticism. An application-blind network is necessarily application-agnostic. In particular, both create the same environment for application innovation and network use (see van Schewick (Forthcoming 2015), *Box 2: Application-Agnostic v. Application-Blind).* Thus, their economic, social, cultural and political impact is the same. See also Benkler (2000), pp. 565-568; Balkin (2009); van Schewick (2010a), pp. 359-365 (all focusing on the social, cultural and political implications).

application developers' profits through access fees[18] (we may call this *"innovation without fear"*). (On the relationship between application-agnosticism and applications-blindness, see *Box 2: Application-Agnostic v. Application-Blind*.)

- *Low costs of application innovation:* The low costs of application innovation not only make many more applications worth pursuing, but also allow a large and diverse group of people to become innovators.[19] 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.[20] 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.[21]

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

Sincerely,

/s/ Barbara van Schewick

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

cc:
Jonathan Sallet
Stephanie Weiner

[18] Access fees are fees that the network provider imposes on application and content providers who are not its Internet service customers. Access fees come in two variants: In the first variant, a network provider charges application or content providers for the right to access the network provider's Internet service customers. In the second variant, which is sometimes called "paid prioritization" or "third-party-paid prioritization," a network provider charges application or content providers for prioritized or otherwise enhanced access (e.g., access that does not count towards the users' monthly bandwidth cap) to these customers. On access fees, see, e.g., van Schewick (2010b).

[19] For a short version of the argument, see van Schewick (2010c), pp. 2-3, 5-6 and van Schewick (2010b), pp. 4-5. On low cost of application innovation in the original Internet, see van Schewick (2010a), pp. 138-148, 204-205, 289-290. On the impact of low cost innovation on who can innovate, see van Schewick (2010a), pp. 204-213, 292-293. See also Benkler (2000), pp. 565-568; Balkin (2009) (both focusing on the social, cultural and political implications).

[20] For a short version of the argument, see van Schewick (2010c), pp. 5-6 and van Schewick (2010b), pp. 4-5. For the detailed version, van Schewick (2010a), pp. 298-349.

[21] See van Schewick (2010a), p. 356.

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