

EXECUTIVE SUMMARY

Open standards, and particularly royalty-free standards, are the very foundation of the Open Internet as we know it, and Internet leaders are vocal that open and royalty free standards are essential to its future.

So broadband, and the Open Internet on which broadband is based, is not just about *technical and business innovation*, it is also about *standards innovation*.

But the term “royalty-free” is found nowhere in the 59-page Broadband Notice of Information, and “[e]quipment and protocol standards” merits only a single sentence buried in “Other Mechanisms” after “tower siting, pole attachments, backhaul costs, cable franchising and rights of way issues.” Standards need a bigger voice in America's broadband dialog.

Broadband means new services, not just faster speeds for existing services. A prime example is video, a critical element of broadband deployments worldwide, be it in the form of IPTV, “over-the-top” video, online video, or video incorporated into new services like telemedicine and health care records.

It is both ironic and telling that "reasonable and necessary" ("RAND") licensing practices that have developed through the US DTV experience have done little to nothing to contribute royalty-free video technologies or standards now needed for broadband deployments, which today are essentially captured by proprietary solutions. Convergence means worlds and business models collide, but is this really an acceptable, necessary, or desirable outcome, or foundation for future innovation?

Standards strategy has been integral to broadband policies around the world, and needs to be integral to America's broadband policy. Standards can be America's broadband advantage.

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standards”,⁵ even though the subject of standards is complex and multifaceted⁶, the public role of standards is under-studied,⁷ and there is a long historical record of U.S. Government concern of episodic standards abuse⁸. In telecommunications, standards have gone hand-in-hand with network access⁹ and market liberalization.¹⁰

⁵ “All actors seem to claim the high grounds of open standards and of acting in the public interest. These claims deserve critical examination and thought -- given the policy decisions that governments, standards organizations, and private parties are now being called upon to make in re-shaping and re-directing the course of national, regional, and global policies and institutions. Technical standards will continue to not only define and limit the future of technology -- but of society itself. They will determine what the technologies of the future are to be, and, in great part, who owns them, who gets to use them, and whose interest are served by them.” Id. At xi.

⁶ “The purpose of this study is to establish an overall framework, that of Digital Enclosure--Enclosure in the Digital Age--a concept borrowed from legal, economic and public policy discourse for understanding important, contentious and interwoven issues in the current global standardization system. These issues include the rise of new standards-setting “consortia” and the challenge the pose to the traditional standardization process, intellectual property rights (IPRs), competition, anti-trust policy, business and commercial strategies, the Open Source movement, geopolitics, and technical innovation.” Id. at 2.

⁷ “Despite the substantial literature on standardization, it is striking how relatively limited the writings about the public sector’s role has been.” DeLacey, Brian J., Herman, Kerry, Kiron, David J., Lerner, Josh and Lo, Wai-Shun, *Government Intervention in Standardization: The Case of WAPI 3* (September 2006). Available at SSRN: <http://ssrn.com/abstract=930930>

⁸ See for example, *Standardization Across the Boundaries of the Bell System, 1920-1938*, History of Technology Volume 28 (James Sumner and Graeme J N Gooday, eds. By Whose Standards? Standardization, stability and uniformity in the history of information and electrical technologies), 2008, 37-52.

Consider also the example of RCA, originally structured in 1921 as the patent pool for radio patents. After government proceedings in 1924 (FTC and “packaged licensing”) and 1930 (Department of Justice consent decree separating RCA from its owners), RCA entered into a consent decree in 1958 concerning color TV patents (for which RCA was then the key owner), described interestingly in Time magazine : “In a sweeping civil consent decree in one of the biggest Eisenhower Administration Sherman Act suits to date, RCA agreed to 1) put some 100 color TV patents into a royalty-free pool, 2) make available to all comers on a royalty-free basis at least 12,000 other existing radio-TV patents, 3) license all new patents during ‘the next ten years at a “reasonable” royalty rate.” *Boost for Color TV*, Time Magazine, November 10, 1958,

<http://www.time.com/time/magazine/article/0,9171,938051,00.html>

“The 1958 consent decree [with RCA] was part of a drive by the Justice Department’s Antitrust division to open the new electronics-based industries to competition by making the patents of IBM, AT&T, and RCA available to all... [The consent decree] made licenses available to domestic companies without charge... Foreign buyers would continue to pay full freight. ... RCA Labs, in order to maintain licensing income after the consent decree, began to concentrate on licensing to Europe’s Philips and Japan’s leading consumer electronics makers.” Alfred D. Chandler Jr., *Electronic Century: The Epic Story of the Consumer Electronics and Computer Industries* (2001).

⁹ “The regulator must also be concerned with the development of the incumbent network’s technical standards. Traditionally, the network operator determined the standards, and during a period of monopoly, many governments did not find a need to make those standards public or allow other persons to comment on the setting of technical standards. The regulator must ensure that embedded standards are not employed as a vehicle for restricting access to the network.” FCC, *Connecting the Globe: A Regulator's Guide to Building a Global Information Community* (1999) I-6, <http://www.fcc.gov/connectglobe/> (last visited June 7, 2009).

The last comprehensive review of standards by the U.S. Government, completed by the Office of Technology Assessment in 1992, articulated the basic policy approach of the U.S. Government to standards as follows:

“The Federal Government does little to promote voluntary standards. Instead of orchestrating the U.S national standards setting process, the government has focused much of its efforts on the fairness and effectiveness of the standards development process. This preference for voluntary consensus standards was reaffirmed in the 1979 Trade Act, which formally recognizes the private sector’s role in standards setting, and in OMB Circular A-1 19, which directs Federal agencies to use voluntary standards wherever possible. In both instances, however, the Federal Government retains the right to assume a greater leadership role when it considers it necessary.”¹¹

The 1992 report recognized, however, a history¹² of issues related to standards, “identified a number of problems that give cause for concern”¹³, and expressed an overall warning for the future:

"With the evolution of global markets, standards are even more important to facilitate international trade. Unfortunately, they may also be used as trade barriers or to gain advantage over foreign competitors. **The United States has been fortunate to have a pluralistic, industry-led standards setting process that has served us well in the past. Whether it will continue to do so in the future in the face of bruising international economic competition is uncertain.**" ¹⁴ (emphasis added)

The guide was announced as part of a "a new technical assistance initiative to assist developing countries in building independent regulatory regimes that will promote competition, liberalization and privatization."

http://www.fcc.gov/Bureaus/Miscellaneous/News_Releases/1999/nrmc9038.html

¹⁰When a telecommunications market becomes liberalized, technical standards become integral to the development of an efficient competitive network. First, it becomes vital that technical interconnection standards become public and freely available. Second, it becomes vital that all interested persons, including competitors, customers and suppliers of telecommunications and information equipment, have an opportunity to participate in the development of technical standards and an opportunity to comment on proposed standards before they are adopted.

The importance of technical standards to the development of effective competition necessitates that these processes be removed from the hands of the incumbent operator and placed in the hands of an independent, open standards-setting entity, preferably one organized by the private sector." FCC, *Connecting the Globe*, *supra* at I-5-6.

¹¹ U.S. Congress, Office of Technology Assessment, *Global Standards: Building Blocks for the Future* 54 (March 1992).

¹² "In 1979, for example, assertions of antitrust infringements and unfairness led the Federal Trade Commission (FTC) to investigate the system and recommend the government assume a greater role in accrediting standards setting bodies." *Id.* at 11

¹³ *Id.* at 7. Problems identified and elaborated upon included: “A Growing National Stake in Standards Issues... Insufficient Support for Standards Setting ... The Need for Cooperation Rather Than Conflict ... The Need To Strike a More Appropriate Balance Between the Public and Private Sectors ... Inadequate Federal Coordination on and Policymaking ...The Need for Greater Attention to How Other Governments Use Standards to Create Markets for their Nations’ Industries ... Persistent Due Process Issues”.

¹⁴ *Id.* at iii

This report, while prescient, predated not only the explosion of the modern Open Internet, it also predated and thus did not consider one of the central modern trends in standardization: the role of patents, “RAND” licensing, and modern patent pools in standards, and the reaction of royalty-free standardization policies and process¹⁵.

What does all of this talk of standards have to do with a National Broadband Policy? Simply put – broadband, and the Open Internet on which broadband is based – is not just about *technical and business innovation*, it is also about *standards innovation*. And "reliance on uncritical, incomplete, inconsistent, and contradictory notions concerning the practice of standardization and its products constrains possible policy options".¹⁶ Or some might say even more bluntly that standards are political negotiations,¹⁷ hence they have been integral to broadband policies around the world¹⁸, and need to be integral to America's broadband policy too.

DISCUSSION

I. THE NOTICE OVERLOOKS ROLE OF ROYALTY FREE STANDARDS **A. “Royalty Free” is Not Mentioned Once in 59-Page Notice**

As discussed below, open standards, and particularly royalty-free standards, are central to the development of the Open Internet. Royalty-free standards, and their potential preference compared to “reasonable and nondiscriminatory” (“RAND”) standards and proprietary solutions,

¹⁵ The report mentions patent only once in passing and in another context, and contains no mention of patent pools or the modern terms of “reasonable and nondiscriminatory” or RAND licensing – as all of these terms and issues came into common usage after 1992.

¹⁶ Schoechle, *supra* at 7.

¹⁷ "Standardization activities are political negotiations and not a forum for assessing which technologies excel over others." Hajime Yamada, *International Standardization as a Strategic Tool, Standardization and patent pools: Using patent licensing to lead the market* 115 (2006)
http://www.iecchallenge.org/papers/pdf_iecchallenge/yamada.pdf

¹⁸ See, as just one example, the Korean IT839 Strategy, but there are numerous other examples. Cf. "[T]he GOJ will continue to promote R&D projects and standardization projects in a unified manner. In addition, the GOJ will strategically allocate research funds to the technical fields where Japanese industry is expected to expand through the acquisition of international standards." Intellectual Property Strategic Program 2007, May 31, 2007, Intellectual Property Strategy Headquarters, at 101 http://www.ipr.go.jp/e_materials.html

has been a major topic for years, and widely considered and debated in the press, industry fora, and standards groups. Some would say that the standards structure of the Internet is in fact one of its most defining characteristics.

But the term “royalty-free” is found nowhere in the 59-page Broadband notice, and the role of “[e]quipment and protocol standards” is noted only in a single sentence in the middle of the last subsection on “Other Mechanisms” in the section on “Effective and Efficient Mechanisms for Ensuring Access”, after “tower siting, pole attachments, backhaul costs, cable franchising and rights of way issues,”¹⁹

No doubt, the NOI is intended to be listing of a vast array of issues of possible interest in considering a National Broadband Plan, and little ultimate importance should be attached to the position or depth of discussion of a particular topic in the NOI.

Still, it is striking that such an important topic as Internet standards has merited so little apparent initial consideration, and the topic of “royalty-free standards” has appeared to merit none at all. It is hoped that these comments will contribute something to increasing the emphasis and consideration of this topic in this proceeding.

B. Royalty Free Standards Are a Defining Characteristic of the Open Internet

Open standards, and particularly royalty-free standards, are the very foundation of the Open Internet as we know it²⁰, and Internet leaders are vocal that open and royalty free standards

¹⁹ “We also note that the development of equipment and protocol standards is a key element in broadband deployment and seek comment on the appropriate role of the Commission in facilitating the development of such standards.” NOI at paragraph 50.

²⁰ “The Internet is fundamentally based on the existence of open, non-proprietary standards” Vint Cerf, “the father of the Internet” cited in The Importance of Open Standards in Interoperability, OFE Onepage Brief No.1 (31.10.08.) Available at <http://www.openforumeurope.org/library/onepage-briefs/ofe-open-standards-onepage-2008.pdf>.

See also "It was the standardisation around HTML that allowed the web to take off. It was not only the fact that it is standard but the fact that it is open and royalty-free. If HTML had not been free, if it had been proprietary technology, then there would have been the business of actually selling HTML and the competing JTML, LTML, MTML products." Tim Berners-Lee, quoted in Standards and the Future of the Internet, Declaration 25th February 2008, at <http://www.openforumeurope.org/press-room/press-releases/standards-and-the-future-of-the-internet/>

are essential to its future²¹. A particularly complete consideration of the role royalty-free standards as a key enabler of the Open Internet can be found in reviewing the W3C patent policy,²² the business benefits of a rising tide that W3C proposes through its policy,²³ and the reasoning behind the W3C policy.²⁴

Some, inspired in large part by the history and practice of standards relating to the Open Internet²⁵, have gone as far as to push for redefining the terms open²⁶ and open standard as *only*

²¹ "I think it very important that as we move on to new spaces [...] we must keep the same openness we had before. We must keep an open internet platform, keep the standards for the presentation languages common and royalty-free." Tim Berners-Lee, id.

See also "The lesson from the proliferation of new applications and services on top of the Web infrastructure is that innovation will happen provided it has a platform of open technical standards, a flexible, scalable architecture, and access to these standards on royalty-free (\$0 fee patent licenses) terms. At the World Wide Web Consortium, we will only standardize technology if it can be implemented on a royalty free basis. So, all who contribute to the development of technical standards at the W3C are required to agree to provide royalty-free licenses to any patents they may hold if those patents would block compliance with the standard." Testimony of Sir Timothy Berners-Lee CSAIL Decentralized Information Group Massachusetts Institute of Technology Before the United States House of Representatives Committee on Energy and Commerce Subcommittee on Telecommunications and the Internet Hearing on the "Digital Future of the United States: Part I -- The Future of the World Wide Web"

http://archives.energycommerce.house.gov/cmte_mtgs/110-ti_hrg030107.Sir-Tim-Testimony.pdf

²² "In order to promote the widest adoption of Web standards, W3C seeks to issue Recommendations that can be implemented on a Royalty-Free (RF) basis. Subject to the conditions of this policy, W3C will not approve a Recommendation if it is aware that Essential Claims exist which are not available on Royalty-Free terms." W3C Patent Policy, February 5, 2004, <http://www.w3.org/Consortium/Patent-Policy-20040205/>

²³ "Wide deployment of new, unencumbered, standardized, capabilities in Web technology expands the market for applications which may also incorporate proprietary technology. So long as the proprietary features do not undermine interoperability, this is fine. Royalty-free standards can thus be a vehicle for companies to gain revenue from their technology investments...Royalty-Free access to patents...allows patent holders to protect intellectual property....[P]articipants benefit by working in an environment where intellectual property risks are known rather than hidden." Business Benefits of the W3C Patent Policy, <http://www.w3.org/2004/03/pp-points-20040210.html>

²⁴ "W3C takes patent law where we find it: no position on software patents" in "Standards, Patents and the Dynamics of Innovation on the Web", Daniel J. Weitzner, Chair, W3C Patent Policy Working Group <http://www.w3.org/2004/09/psi.pdf>

"In the last few years several patents issued by the United States Patent and Trademark Office have stalled, or at least delayed, W3C technical work." Testimony of Daniel J. Weitzner, Technology and Society Domain Leader, World Wide Web Consortium, Joint Hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy: Standards and Intellectual Property: Licensing Terms, 18 April 2002, <http://www.ftc.gov/opp/intellect/020418weitzner.shtm>

²⁵ For a history of the World Wide Web Consortium's adoption of a royalty free policy, see Andrew L. Russell, *The W3C and its Patent Policy Controversy: A Case Study of Authority and Legitimacy in Internet Governance*, TPRC 2003 - 31st Research Conference on Communication, Information, and Internet Policy (September 19-21, 2003) (available at <http://www.arussell.org/papers/alr-tprc2003.pdf>). For a history of the IETF, including the issues of patents and IPR policy, see Tim Simcoe, *Delays and de Jure Standards: What Caused the Slowdown in Internet Standards Development?* (April 30, 2004) (available at <http://www.rotman.utoronto.ca/strategy/research/working%20papers/Simcoe%20-%20Delays.pdf>). See also [RFC3979] Bradner, S., "Intellectual Property Rights in IETF Technology", BCP 79, RFC 3979, March 2005.

²⁶ "The term "open" is usually restricted to royalty-free technologies" http://en.wikipedia.org/wiki/Open_standard

including royalty-free technologies²⁷, rather than covered by a patent-based license. This movement has drawn vocal opposition from organizations favoring inclusion of “reasonable and nondiscriminatory” (RAND) policies of including licensed patents in standards²⁸, and the entire topic inspires much discussion and controversy²⁹.

Disputes between “royalty free” and RAND appear to actually impact a relatively small percentage of the overall standards universe of thousands of standards,³⁰ but they are particularly important in the area of the Open Internet, broadband, and consumer electronics. Although the number of standards that are subject to potential patent licensing, at least as measured by the

²⁷Many definitions exist, notably the one contained in the European Interoperability Framework (EIF) (note 1) published by the IDABC unit of the European Commission. Most important are the key principles of an Open Standard:

...

Royalty free. If a patent is present then this is irrevocably made available on a royalty free basis, and no royalty bearing licenses are required. This therefore specifically excludes RAND (Reasonable and Non Discriminatory) licensing other than RF RAND (Royalty free version). The term RAND is highly contentious since to many it is exactly the opposite of that. How do you define reasonable when addressing a global market with substantial differences in local GDP? And it does discriminate against for example the FS/OSS licensing. The key requirement for this principal is that it must freely allow all business models."

<http://www.openforumeurope.org/what-is/open-standards/open-standards/>

²⁸ See, for example Critical Issue Paper by ANSI: “The term “open standard” has been used recently to describe a standard that may be copied, used and distributed for no fee and/or whose embedded technology is irrevocably available on a royalty-free basis. This definition has created some confusion among standards developers and users generally because it is contrary to the process-based definition of open” and “openness” long held by the American National Standards Institute (ANSI) and any other recognized standards bodies who understand the term to describe a collaborative, balanced and consensus-based approval process for the promulgation of domestic or international standards. Current Attempts to Change Established Definition of “Open” Standards, Critical Issue Papers, May 2005. <http://publicaa.ansi.org/sites/apdl/Documents/Standards%20Activities/Critical%20Issues%20Papers/Open-Stds.pdf>

²⁹ For a sampling, see the range of views aired at the IPR in ICT standardisation workshop held on November 19, 2009 at http://ec.europa.eu/enterprise/ict/policy/standards/ws08ipr_en.htm and in the Consultation on EIF v2.0 <http://ec.europa.eu/idabc/en/document/7733>. See also Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition, U.S. Department of Justice and the Federal Trade Commission, April 2007 <http://www.usdoj.gov/atr/public/hearings/ip/222655.pdf>

³⁰ "There's only a small number [of IEEE standards] that have a significant amount of [patents] that need a pool—we're probably talking well under a dozen," Jason Johnson, vice president of marketing and business development at Via Licensing, quoted in Rick Merritt, IEEE joins move to patent pools: Pilot program for 2009 focuses on comms tech, EE Times, December 8, 2008, <http://www.eetimes.com/news/latest/showArticle.jhtml?articleID=212202286>. The IEEE Standards organization has an active portfolio of nearly 1,300 standards and projects under development. <http://www.ieee.org/web/standards/home/index.html> (last visited June 6, 2009).

See also "The reality is that an extremely large percentage of RAND based patent declarations to standards bodies do not result in the patent holder seeking to actually license those patents to implementers. <http://standardslaw.com/wordpress/?p=36#comments>"

number that have official patent declarations, has been rising over the last decade and a half, the percentage appears to be under 7% at major standards groups (ITU-T, ISO, IEC, JTC, JISC).³¹ Although price is rarely disclosed, it appears most of these disclosures are not intended to be used for royalty licensing.³²

A potential winner if disputes between the RAND and royalty free visions result in standards gridlock may be proprietary approaches that have been long-recognized as a potential derailer of the Open Internet.³³ When standards stumble, proprietary replacements win³⁴. Also, it is not inconceivable that certain industry groups presenting themselves as standards of broad benefit may be carefully and quietly crafted to benefit the few.

C. New Video And Other Broadband Services Need Royalty Free Standards

Broadband means new services, not just faster speeds for existing services. A prime example is video which is a critical element of broadband deployments worldwide and in the US, be it in the form of IPTV, “over-the-top” video, online video, or video incorporated into new services like telemedicine and health care records. It is both ironic and telling that the RAND licensing practices that have developed through the US DTV experience have done little to nothing to contribute video technologies or standards to broadband deployments, which today

³¹ See Toshio Tatsuta, Standardization vs. Patents at slides 5-6, presentation dated December 16, 2008, [http://www.itu.int/ITU-D/tech/network-infrastructure/Tokyo2008/Presentations/9%20Toshio%20Tatsuta%20Standards%20&%20Patents%20\(with%20Answer\).pdf](http://www.itu.int/ITU-D/tech/network-infrastructure/Tokyo2008/Presentations/9%20Toshio%20Tatsuta%20Standards%20&%20Patents%20(with%20Answer).pdf)

³² "In terms of pricing, only eight percent of the IPR disclosures gave specific terms. In almost every case, these disclosures indicated that the IPR would be freely available." at 3 (examining 1221 disclosures to nine standards organizations from 1981 to 2004) Simcoe, Tim S., Explaining the Increase in Intellectual Property Disclosure (December 1, 2005). Available at SSRN: <http://ssrn.com/abstract=1396332>

³³ See, for example: "There are many ways the Internet spiral could be derailed. Any of the underlying drivers of Internet growth could be undermined. Moving toward proprietary standards or closed networks would reduce the degree to which new services could leverage the existing infrastructure." Kevin Werbach, 29 Digital Tornado: The Internet and Telecommunications Policy 7 (FCC Office of Public Policy Working Paper, March 1997) http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp29.pdf

³⁴ For example, Leonardo Chiarglione, the convenor of the MPEG committee, stated at the MPEG 20th Year Anniversary Commemoration in Tokyo in November 2008: “[T]he MPEG-4 Visual licensing killed half of the standard ... The “use fee” licensing model facilitated the widespread use of proprietary codecs”. Leonardo Chiarglione MPEG: Vision and facts behind the name (November 8, 2008) (available at http://www.itscj.ipsj.or.jp/forum/forum2008MPEG20/03MPEG20_Leonardo.pdf)

are essentially captured by proprietary solutions³⁵. Audio standards and royalties have also brought obstacles to royalty-free standards for the Open Internet.³⁶ Is this really an acceptable, necessary, or desirable outcome, or foundation for future innovation?

II. CURRENT “RAND” POLICY PREFERENCES ARE NOT WORKING

A. DTV Licensing Practices Exemplify Standards Issues in Broadband Policy

For an example of the challenge of standards for broadband policy, one telling example is to look to the emerging yet struggling community of open video codecs for the Web to see the collateral impact current DTV licensing practices have had.³⁷ Despite repeated efforts to create royalty free codecs for the Web, and the wide availability of royalty-free technologies at the IETF and elsewhere, and the preference for royalty-free technologies by such organizations as the World Wide Web, many standards groups appear steadfastly opposed or disinterested in solving or even considering this need.

A similar story could be told about IPTV, Interactive TV, “over-the-top” TV, “app stores”, and other new broadband services technologies -- “semi-openness” is becoming the norm³⁸.

B. Current “RAND” Practices Should Not Carry Forward as Broadband Policy

³⁵ To quote the World Wide Web Consortium's Jan 22, 2008 working draft for HTML 5:

"It would be helpful for interoperability if all browsers could support the same codecs. However, there are no known codecs that satisfy all the current players: we need a codec that is known to not require per-unit or per-distributor licensing, that is compatible with the open source development model, that is of sufficient quality as to be usable, and that is not an additional submarine patent risk for large companies. This is an ongoing issue and this section will be updated once more information is available." <http://www.w3.org/TR/2008/WD-html5-20080122/>

A nascent “open video” movement, including Xiph, Dirac, and OMS Video is emerging that hopes to fill this need, but with little to no support from incumbent standards organizations that have historically developed video codecs. See <http://spreadopenmedia.org/> and <http://openvideoconference.org/>.

³⁶ See for example, Douglas Heingartner, Patent Fights Are a Legacy of MP3’s Tangled Origins, N.Y. Times, March 5, 2007, http://www.nytimes.com/2007/03/05/technology/05music.html?_r=1&oref=slogin

³⁷ For a discussion of how patent overcharging has made US digital television globally uncompetitive, see Reply comments of Rob Glidden, In the Matter of Petition For Rulemaking And Request For Declaratory Ruling Filed By The Coalition United To Terminate Financial Abuses Of The Television Transition, LLC (FCC MB Docket No. 09-23), May 27, 2009.

³⁸ Joel West, *Expect Semi-Open Platforms to Remain the Norm for Tech*, Seeking Alpha, June 3, 2009, <http://seekingalpha.com/article/141116-expect-semi-open-platforms-to-remain-the-norm-for-tech>

The preceding sections paint a picture of a fundamental conflict between “RAND” and “royalty-free”, between “proprietary” and “standards”, and between “open” and “semi-open”. No doubt, much more can be said in favor of each of these positions. But the more fundamental questions in developing a National Broadband Policy should not be about which side should win in their deeply held positions, rather they should be about what should be carried forward. Royalty-free standards for very considered reasons have been the choice of the Open Internet movement which has created the broadband opportunity in the first place, and this observation should weigh heavily in the development of a broadband policy.

III. NEEDED: POLICY PREFERENCE FOR ROYALTY FREE STANDARDS

A. Our Network Age Needs Greater Policy Engagement in Standards

Some recent commentary urges that the Commission move beyond viewing standardization as peripheral to its core mission, and actively embrace standardization as a useful, even necessary, policy mechanism to promote its regulatory objectives³⁹ and there is a growing philosophical and policy analysis supporting this approach in works related to networks⁴⁰, network effects⁴¹, and platform economics.⁴² Also, the IEEE has made suggestions

³⁹ See, for example, Werbach, Kevin D., *Higher Standards: Regulation in the Network Age* (March 29, 2009). Harvard Journal of Law and Technology, Forthcoming. Available at SSRN: <http://ssrn.com/abstract=1369962>

And at a symposium last fall on the legacy of the 1968 Carterfone decision, often invoked as the start of modern telecommunications regulation, Kevin Werbach, co-lead of the Federal Communications Commission Agency Review for the Obama-Biden Transition Project articulated the perspective that although “Carterfone established a principle of interconnection”, the decision alone produced “[n]o significant or game-changing competitive entry” without subsequent implementation standards.

Werbach went on to note “[s]tandards define industry structure ... [c]rucial in network industries”, and to allude to the potential of the “FCC as a catalyst for open standards” and of “Reinvigorating Standardization”. See <http://law.scu.edu/hightech/carterfone-powerpoints.cfm>

⁴⁰ Mark Buchanan, *Nexus: Small Worlds and the Groundbreaking Science of Networks* (2002); Duncan J. Watts, *Six Degrees: The Science of a Connected Age* (2004)

⁴¹ See Carl Shapiro & Hal Varian, *Information Rules* (1998)

⁴² See Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 Harv. J. LAW & TECH. 85 (2003).

about how the FCC can improve its competencies, including reaching outside the FCC for needed competencies.⁴³

B. Royalty Free Standards Enable Open Industry Structure

Much has been written about RAND standards, including potential antitrust issues in Europe⁴⁴ and elsewhere. But a key value of royalty free standards is not just lower price, it is the underlying processes and policies used by royalty-free standards groups that make them and their standards overall more immune to capture, back-room dealings, and long delays in patent pool formation that have plagued many RAND standards⁴⁵.

Standards organizations themselves are of little help in defining what RAND means.

Most do not define the term in any detail⁴⁶, and the confrontational prospects of trying seem likely to make organizations reluctant to make the effort⁴⁷. Moreover, since patent holders are

⁴³See Letter from Russell J. Lefevre, Ph.D. (President, IEEEUSA) to Kevin J. Martin (Chairman, FCC), June 5, 2008, at <http://www.ieeeusa.org/policy/POLICY/2008/060508.pdf>. IEEE recommendations include:

- Reinvigorate the dormant Technological Advisory Council (TAC);
- Seek advice from The National Academies on key long-term policy issues;
- Budget for and contract for supplemental support on novel technical policy issues where staff and capabilities are not available;
- Institute regular dialog with industry and academia to identify out-of-date rules.

See Gerald W. Brock, *Telecommunication Policy for the Information Age: From Monopoly to Competition* 88 (1998) ("Controversy over AT&T's PCA [Protective Connecting Arrangement] requirement caused the FCC to initiate an inquiry into desirable methods of protecting the network and to arrange with a panel of the National Academy of Sciences to evaluate the information submitted....The panel concluded that network protection was necessary and that protection could be adequately provided by either PCAs or a program of standards and certification of equipment")

⁴⁴ "Once an IPR holder is found to hold a dominant position its licensing practices, fall under the scope of Article 82 EC. While a wide range of behavior can fall under Article 82 EC, it seems that two particular practices are likely to be subject to particular scrutiny with respect to IPR licensing: price discrimination between licensees and the imposition of exploitative prices." Geradin, Damien, *Pricing Abuses by Essential Patent Holders in a Standard-Setting Context: A View from Europe* 8-9 (July 2008). Available at SSRN: <http://ssrn.com/abstract=1174922>

⁴⁵ See for example "Eleven Years is an Unreasonable Amount of Time to Establish the ATSC Patent Pool, and the Surrounding Circumstances Raise Concern" in Reply comments of Rob Glidden, In the Matter of Petition For Rulemaking And Request For Declaratory Ruling Filed By The Coalition United To Terminate Financial Abuses Of The Television Transition, LLC (FCC MB Docket No. 09-23), May 27, 2009.

⁴⁶ "It seems clear that the licensing policy documents are of very limited help in the effort to define what RAND exactly means. Most organizations that require RAND or FRAND licensing terms do not define them in any detail." Valimaki, Mikko, *A Flexible Approach to RAND Licensing* 3 (March 31, 2008). Available at SSRN: <http://ssrn.com/abstract=1261642>

⁴⁷ "Perhaps one reason why the organizations have been reluctant to define RAND with more details is that any proposal for a more precise definition could mean unfruitful and exhausting policy battle with unpredictable outcome. Often the particular issue has been royalties." Id. at 3.

also participants in the standards process, they have an obvious interest in encouraging standards to adopt technologies covered by their own patents⁴⁸. And universities and academic institutions, once the major participants in such organizations as the IETF, are now increasingly influenced by the “lottery effect” of patent royalties.⁴⁹

And the issue of royalty-free versus RAND threatens to spill over to other areas of broadband potential, including smart grid, telemedicine, medical records. Some are already raising questions doubting royalty free smart grid standards,⁵⁰ even though Secretary Chu has intimated at the possibility of IPR sharing as being desirable in certain circumstances.⁵¹

⁴⁸ "In principle, the goal of an SSO should be to specify the “best” standard, given technological constraints and cost. But the participants in the standard-setting process are not disinterested technocrats. Many of them are patentees and the standard is likely to take a path through a thicket that includes some of their patents. The SSO participants have an obvious interest in steering the standard through their own patents." Crane, Daniel A., Patent Pools, RAND Commitments, and the Problematics of Price Discrimination(April 1, 2008). Cardozo Legal Studies Research Paper No. 232 at 6 Available at SSRN: <http://ssrn.com/abstract=1120071>

⁴⁹ "The evidence is overwhelming. University tech transfer activities continue to be predominantly patent-centric and revenue driven with a single-minded focus on licensing income and reimbursement for legal expenses. University technology transfer activities do not extend far beyond this narrow focus and entrepreneurship and commercialization activities and/or transferring innovation through other means do not figure prominently." Kesan, Jay P., Transferring Innovation(April 2, 2009). Fordham Law Review, Symposium Issue, Forthcoming; U Illinois Law & Economics Research Paper No. LE09-011; Illinois Public Law Research Paper No. 08-25 at 2207. Available at SSRN: <http://ssrn.com/abstract=1371810>

However, "[a]mong other obstacles, TTOs traditionally must overcome the difficulty of breaking even—typically, it takes between five and ten years for a TTO to break even, if it does at all." Id. at 2180.

⁵⁰ "Many voices call for “open” standards for the Smart Grid. They should be careful to distinguish between the necessary characteristic of universal availability and the much less important goal that all included technologies be royalty free." Jeffrey E. Young, The Impact of Patents on Smart Grid Objectives 5 (April 2009) http://www.smartgridnews.com/artman/uploads/1/The_Impact_of_Patents_on_Smart_Grid_Objectives.pdf

"NIST would be well advised (a) to incorporate patented technologies needed to make the standards truly relevant to the problems and solutions envisioned for the Smart Grid, and (b) to push patent owners to accept RAND license obligations so that anyone can practice the standards at a reasonable cost. If a patented innovation does not clearly stand above competing technologies, a working group should prefer nonpatented alternatives. This approach is consistent with first maximizing the use of royalty-free technologies, but adopting “best” practices if available for a reasonable royalty. A broad understanding of “open standards” as including technologies open to all via royalty-bearing RAND licensing is needed." Id. at 7

⁵¹ "If countries actively helped each other, they would also reap the home benefits of using less energy. So any area like that I think is where we should work very hard in a very collaborative way — by very collaborative I mean share all intellectual property as much as possible." (quoting Steven Chu, Secretary of Energy), Andrew C. Revkin & Kate Galbraith, Energy Chief Seeks Global Flow of Ideas, March 26, 2009, <http://dotearth.blogs.nytimes.com/2009/03/26/energy-chief-seeks-global-flow-of-ideas/>

C. **Broadband Policy Should Promote Transparency, A Level Global Playing Field, Open Value Chains, Ex Ante Disclosure, Proactive IP Analysis and a Preference for Royalty-Free**

In light of the above discussion, it seems that there is much more involved in the policy ramifications of an American Broadband policy as it relates to standards than would be implied by merely considering continued calls for a privatized, unsupervised system of confidential business transactions that are self-policed with a vaguely defined concept of “reasonable and nondiscriminatory” requirements.

Taking a moment to step back and look at broader values and principles that are worthy of consideration in this context, I would propose the Commission consider the following principles:

- Transparency: A principle of public accountability for public standards seems a natural starting point, whether they are mandated, encouraged or subsidized, rather than a presumption of private gain at public expense⁵².

- A Level Global Playing Field: In our globalized world, it is more important than ever to develop a sober, modern perspective on standardized systems for communication networks in the US. A fairness regime is needed to overcome the potential for protectionism⁵³ It is also worth considering the WTO’s Agreement on Technical Barriers to

⁵² See for example comments by Public Knowledge, Consumers Union, Free Press, Media Access Project, and New America Foundation in the CUT FATT proceeding: “The public interest requires that the scope and cost of any mandatory standards be clear to those who would adhere to them. When patent royalties can be openly investigated and compared against known benchmarks, manufacturers and consumers can be assured that licenses, and the costs that go with them, are reasonable and nondiscriminatory. Not only does disclosure prevent cost-raising abuses, but ensuring that essential patents are known and disclosed will prevent users of the DTV standard from being drawn into disputes over patent scope and validity. The time, uncertainty, and cost involved in navigating unanticipated patent disputes would also be minimized by further transparency and disclosure.”

Cited in Rob Glidden, Consumer Groups Request FCC Investigate DTV Patent Licensing, May 28, 2009, <http://www.robglidden.com/2009/05/consumer-groups-request-fcc-investigate-dtv-patent-licensing/>

⁵³ "In an era of increasing globalization, protectionism in the form of nationally-mandated technology standards is not the answer. To persuade countries to forego such measures, however, there must be fairness in the international system for the preparation, adoption and implementation of standards." Gibson, Christopher S., Globalization and the Technology Standards Game: Balancing Concerns of Protectionism and Intellectual Property in International Standards. Berkeley Technology Law Journal, Vol. 22, p. 1401; Suffolk University Law School Legal Studies

Trade (the “TBT Agreement”) which requires that, where relevant international standards exist and other considerations are met, governments must use them as a basis for any mandatory national standards.⁵⁴ Many are beginning to wonder what policies as to IPR should be considered by WIPO.⁵⁵

- Open Value Chains: Networks are never about a single segment of a value chain.

- Ex Ante Disclosure: It is hard to identify how the current system would have been worse with more up-front disclosure and early action on patent pool formation and licensing review, and it is easy to imagine how it could have been better.

- Proactive IP Analysis: Building infrastructures on the uncertain sands of unknown ownership is problematic in the best of circumstances, and not necessary. There are multiple techniques already developed by existing royalty-free oriented standards groups and also other techniques are available such as Freedom to Operate analysis and defensive publishing⁵⁶

Research Paper No. 07-39, at 1-2. Available at SSRN: <http://ssrn.com/abstract=1010125>

⁵⁴ "Where technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems." Agreement on Technical Barriers to Trade, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, Legal Instruments – Results of the Uruguay Round, at art. 2.4, http://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm.

Preamble provides context:

"Recognizing the important contribution that international standards and conformity assessment systems can make in this regard by improving efficiency of production and facilitating the conduct of international trade" Id. at pmb1. ¶ 2

"Desiring however to ensure that technical regulations and standards, including packaging, marking and labelling requirements, and procedures for assessment of conformity with technical regulations and standards do not create unnecessary obstacles to international trade" Id. at pmb1. ¶ 4

⁵⁵ http://www.unctad.org/en/docs/iprs_pb20093_en.pdf,

http://www.wipo.int/edocs/mdocs/scp/en/scp_13/scp_13_2.pdf

<http://www.ipjur.com/blog2/index.php?/archives/43-Thirteenth-Session-of-WIPO-Standing-Committee-on-the-Law-of-Patents-SCP.html>

⁵⁶ "One way to secure FTO is to make an invention public, a practice known as “defensive publishing.”” Henkel, Joachim and Pangerl, Stefanie M., Defensive Publishing - An Empirical Study (May 2008) 1. Available at SSRN: <http://ssrn.com/abstract=981444> "We find that defensive publishing is widely practiced, with more than two thirds of the firms in our sample making use of it. The share of inventions that are defensively published varies strongly between firms, reaching 30% and more in some cases." id. at 2 (exploratory survey of mostly German firms)

- Preference for Royalty-Free: As networks and technologies mature and evolve, it is natural, and inherent in our patent system, that useful technology move into a public domain. Rather than fight this inevitability, it should be embraced as a welcome platform for further progress and innovation.

CONCLUSION

For the reasons set forth above, I respectfully request that the Commission consider taking further action on matters raised by the Petition.

Respectfully submitted,

ROB GLIDDEN

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Rob Glidden

