Testimony before the National Academy of Sciences

Committee on the Impact of Copyright Policy on Innovation in the Digital Era

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Thank you for the opportunity to comment on the important work of this committee. My name is Mark MacCarthy and I teach and conduct research in technology policy in the Communication, Culture and Technology Program at Georgetown University. Prior to that, I was Senior Vice President for Public Policy at Visa Inc.

My testimony today is my own, but is based on my work for the Organization for Economic Cooperation and Development. Their report on the role of Internet intermediaries in promoting public policy objectives is due to be released next year.

Let me summarize my main points and recommendations as follows:

1. A key research area should be studies of the cost and effectiveness of intermediary liability regimes for enforcing copyright law.

2. Quantitative information on the costs and benefits of existing and proposed intermediary enforcement regimes is extremely limited.

3. Additional resources should be devoted to measuring the effectiveness and costs of the notice forwarding, notice and take-down and graduated response regimes already in place in some jurisdictions. In addition, the Content ID system used by YouTube should be evaluated.

4. Proposals for mandatory filtering and for government-created blacklists of infringing websites should be evaluated quantitatively as well.

5. Further assessment of the economic efficiency and equities of cost sharing is needed to determine whether the costs of intermediary enforcement regimes should be borne by content owners, intermediaries, public agencies, or some combination of all three.

6. A disinterested review of the methods used in constructing cost and effectiveness studies in this area would help to guide practitioners. A key area to address is studies of sales displaced by online copyright infringement.

I start with some background comments and then elaborate these points in some more detail.

The copyright laws are intended to provide a reward for authors - to foster their creative activity. And appropriate levels of enforcement are crucial to making this incentive work. But excessive enforcement can do more harm than good if it hinders the sharing of ideas that promotes the growth of economies and cultures, or if the enforcement costs are disproportionate to any gain in the production of information goods. Getting the level of copyright enforcement right can promote innovation and economic growth, but getting it wrong can itself create barriers to innovation and economic growth.

Empirical analysis should be able to address this issue. The standard methodology for measuring the economic contribution of copyright was developed in 2003 by the World Intellectual Property Organization and has been adapted to measure the economic contribution of the fair use industry. It measures the size of the industries that "rely on" or which are "made possible" by copyright or fair use. Some dimensions of the size of the copyright and fair use industries can be seen from looking at the gross industry numbers. The value added of the copyright industry was $1.4 trillion in 2005, up from $1.2 trillion in

2002, while the value added of the fair use industry was $2.2 trillion in 2006, up from $1.7 trillion in 2002. Employment in the copyright industry was 11.3 million in 2005, down from 11.5 million in 2002, while the fair use industry employed 17.3 million people in 2006, up from 16.9 million in 2002. Exports in the core copyright industries of recorded music, movies, publishing and computer software were $111 billion in 2005 up from $89 billion in 2002, while exports for all fair use industries rose from $131 billion in 2002 to $194 billion in 2005.[1]

Unfortunately, the methodology used is limited in several ways. Its underlying notion of "reliance" on copyright or fair use is too broad, with the confusing result that the software industry, the music industry, the newspaper industry, the broadcast industry and others are included as copyright industries by the leading study of the copyright industry and as fair use industries by the leading study of the fair use industry.[2]

Moreover, measuring the size of the copyright industry or the fair use industry does not measure the impact or contribution of copyright or fair use as such. It is only the incremental growth of these industries that is attributable to copyright or to fair use that is relevant.

Last, these general studies of copyright and fair use do not help to evaluate the costs and effectiveness of specific copyright policies or enforcement mechanisms.

One type of enforcement mechanism is to put responsibilities on Internet intermediaries to take steps to control online copyright infringement. Internet intermediaries are the Internet service providers, search engines, web hosting sites, participative networks, online marketplaces, domain name providers, online ad networks and payment systems that link various Internet players. The idea is that these intermediaries are well positioned to detect and deter copyright infringement and so should have some enforcement responsibilities.

Intermediary liability regimes already exist - notice and take-down, notice-forwarding, and graduated response. But there is extremely limited information about their costs and effectiveness.

NOTICE AND TAKE-DOWN

Notice and take down regimes require various Internet intermediaries to take down material upon receiving a notice of infringement from content owners. There is some public information on the number of complaints filed under notice and take down regimes. IFPI estimates that in 2008 they filed complaints involving

3 million links to sites containing allegedly infringing content.[3] Some evidence suggests that service providers honored almost all these complaints.[4]

The copyright owner bears the costs of monitoring for infringement, preparing the notice of infringement and transmitting it to the service provider. The costs associated with receiving the notice, taking down the allegedly infringing material and handling counter notices are borne by the service provider. The costs to the service providers of complying with the various notice and take-down requirements have not been publicly estimated.

There have been no quantitative studies of the effectiveness of this regime in terms of the reduction of copyright infringement, or other measures of benefit.

NOTICE FORWARDING

Since 2001, Canada has had a voluntary "notice and notice" regime, whereby copyright owners send a notice of an alleged violation to an ISP and the ISP forwards that information to its subscriber. In 2009, Bell Canada was receiving 15,000 complaints per month.[5] The effectiveness of the program has not been measured quantitatively. Copyright owners claim, however, that there is no

evidence that this voluntary Canadian notice and notice system has had any appreciable impact on online infringements.[6]

A study by Industry Canada in 2006 estimated the cost of a single notification to be $11.73 for larger Internet providers and $32.73 for smaller Internet providers. The overall cost for administering this program would thus represent tens of millions of dollars.[7] Copyright owners bear monitoring costs and administrative costs to send notice requests to ISPs. ISPs bear capital and operating costs associated with sending the notices to the alleged infringers.[8]

Proposed legislation in Canada would codify the notice and notice system and would allow the government to set a maximum fee to be paid by copyright owners for using the notice and notice system.[9]

In early 2009, many U.S. ISPs began to participate in a voluntary notice-forwarding program. They would forward letters from content owners alleging infringement to their subscribers. One ISP estimated that it had sent 2 million such notices.[10] Verizon has indicated that 70% of the notices they processed were for customers receiving their first notice, suggesting that the program is effective in reducing the number of repeat offenders.[11] AT&T has developed an Automatic Customer Notification Service to forward notices of alleged copyright

infringement and thinks the program is "highly effective."[12] But no quantitative estimates of costs and effectiveness of this program have been made.

CONTENT ID

In 2007, YouTube introduced an automated process to screen uploaded content for copyright infringement.[13] In this program, copyright owners provide audio or video files to YouTube and directions on what they want to happen if YouTube finds a match between content protected by copyright and content uploaded to the platform. If user-uploaded material is found to match the material provided by a copyright holder, the preferences of the copyright holder are applied. They have the option of blocking, tracking or monetising their content.[14] Content that the copyright owner wants deleted is removed from the site. 'Tracking' the content means that YouTube will issue reports to the copyright owner about the number of views per video. 'Monetising' the content means that YouTube will insert advertisements alongside the content and share the advertising revenue with the rights holder.

In 2008, about 300 content companies began to use these systems, including CBS, Universal Music, Lionsgate, and Electronic Arts.[15] YouTube indicated in 2008 that 90% of the claims created by their Content ID system had

been monetised.[16] By August 2009, 9% of the videos on YouTube were accompanied by advertisements.[17]

GRADUATED RESPONSE

France

In October 2009, France adopted a law that would empower a new government agency (HADOPI) to receive complaints from copyright owners about online infringement and forward them to French ISPs for distribution to their subscribers. Subscribers who are the subject of three infringement complaints could have their Internet access suspended for up to a year.[18] Suspension orders have to be reviewed by a French court.

The content owners are responsible for paying the costs associated with discovering alleged online copyright violations and bringing them to HADOPI. The costs associated with evaluating these allegations and providing due process to the alleged offenders will be borne by HADOPI. HADOPI will also compensate ISPs for the notices that they have to send to their subscribers. The enforcement costs are thus borne by HADOPI, which has an annual budget of € 6.7 million.[19]

The benefits in terms of reduced copyright infringement have not been estimated. HADOPI is supposed to provide an estimate of current online infringement activity to provide a baseline for measuring the effectiveness of the program, but it has not produced one so far.

UK

In April 2010, the U.K. Parliament passed the Digital Economy law, requiring ISPs to forward notifications of alleged copyright violations to their users and to provide lists of identified subscribers to copyright owners. Subscribers who received three notifications could have their Internet service suspended after review by an independent body and the provision of an appeals process.[20]

Costs and benefits of this regime were estimated in an impact assessment done by the government as part of the consideration of the bill. The estimated cost to ISPs would be between £290 and £500 million over ten years. This includes the costs of identifying subscribers, notifying them of alleged infringements, running call centers to answer questions, and investing in new equipment to manage the system.[21]

The government has determined that copyright owners will pay 75% of the notification and regulatory costs and ISPs will pay 25%.[22]

To measure benefits, the government first measured the sales displacement effect of current infringing activities. It assumed a sales displacement percentage of 2% - drawn from the range in the literature of 0 to 20%. The result is an estimate of approximately £400 million lost annually to online copyright infringement. Based on the idea that 70% of the infringing users in the UK would stop after receiving a single notice, and that these users account for 55% of the volume of infringing downloads, the study concludes that the graduated response measure could reduce displaced sales by approximately £200 million per year.[23]

These benefits estimates are sensitive to changes in the underlying assumptions. One survey suggested that 70% of UK music consumers would stop illegally downloading if they received a warning from their ISP, and the government relied on this figure. But a later survey found that only 33% of UK consumers would stop piracy after a warning.[24] Using the 33% figure produces a sharply reduced estimate of benefits.

This study is a reasonable example of cost benefit analysis in this area. But because there are few such studies of existing intermediary enforcement regimes,

additional resources should be allocated to assessing the costs and effectiveness of the three major intermediary liability regimes.

This recommendation to conduct effectiveness studies applies to proposals for new enforcement regimes. Two proposals seem especially worthy of attention. One is the idea that ISPs should inspect their traffic for signs of transmission of copyrighted material and block transmissions that are or seem to be infringing. ISPs could use the same inspection technology that is currently being used by YouTube and other sites to detect potentially infringement material as it is posted to their sites. The fact that the inspection would have to be done in real time makes the questions of technical feasibility and cost of paramount importance. Some national European courts have mandated the use of this technology, but the matter is under review by a European –wide court for an assessment of consistency with European law.

The second proposal is for governments to determine that some sites are engaged in infringing activity and to impose requirements on intermediaries to stop interactions with these entities. Concern about cyberlockers and websites that are located offshore is one source of this proposal.[25] It was considered and

rejected as part of the Digital Britain law[26], but a version of it is embodied in S. 3804 that is currently under consideration in the U.S. Senate.[27]

Finally, the issue of cost sharing has to be addressed. In the notice and take down regime, it was simply assumed that content owners would bear the costs of detecting a possible infringement and the intermediary would bear the costs of enforcement action. But it is not clear that leaving the enforcement costs wholly on the intermediary provides the right incentives. If the content owner bears none of the enforcement costs, then there would be an incentive for overuse, that is, to require intermediaries to send notifications even when the marginal benefits of the notification exceed the marginal costs. If the intermediaries do not have to pay enforcement costs, then they will have no incentive to take enforcement actions in the most efficient way possible. If a public agency bears the costs, then neither the copyright owner nor the intermediary faces a cost constraint and there are incentives for both inefficiency and overuse.

Governments are looking at this issue and coming to different conclusions: Canada's proposed codification of notice forwarding would shift the cost to the content owner, France's graduated response regime requires the public agency,

HADOPI, to pay the full notification costs, and Britain has proposed that the content owner pay 75% of the notification costs and ISPs the remaining 25%.

There need to be cost sharing studies to ascertain whether enforcement costs should be borne by content owners, intermediaries, or public agencies, or by some combination of all three.

Every step in an assessment of cost and effectiveness is controversial. But something like it must be done if there is any hope of providing some quantitative structure to decisions in this area. An enormously helpful step would be a review of the literature with a view to establish standard methodology in this area. Disinterested evaluation of methodology in this area could be used to guide the construction of cost benefit tests used in policy making. A review and evaluation of sales displacement studies would be a crucial part of this effort.[28]

Thank you again for this opportunity to comment on the work of the committee. I would be pleased to answer any questions you might have.

[1] Data for the copyright industry are from Stephen E. Siwek, Copyright Industries in the U.S. Economy: The 2006 Report, prepared for the International Intellectual Property Alliance (IIPA), November 2006 ("Copyright Industry"). Data for the fair use industry are from Thomas Rogers and Andrew Szamosszegi, Economic Contribution of Industries Relying on Fair Use, prepared for the Computer and Communications Industry Association, 2007 ("Fair Use Industry"). "Fair use" in this context includes the various exemptions and concepts within copyright law that allow unauthorized use of copyrighted material without liability.

[2] See the appendices in Copyright Industry and Fair Use Industry.

[3] International Federation of the Phonographic Industry, Digital Music Report 2009 pp. 22 and 30, available at www.ifpi.org/content/library/dmr2009.pdf.

[4] In South Korea, for instance, service providers complied with 100% of the notices they received from mid-2009 though early 2010. See Three Strikes Rule: Sleeping for Seven Months, Heesop's IP Blog, March 10, 2010 at http://hurips.blogspot.com/2010/03/three-strikes-rule-sleeping-for-seven.html. This behavior is economically rational. By complying service providers obtain immunity from secondary liability for copyright infringement, making the economic incentives for complying with the request substantial. Hence, the conclusion by many commentators that "the DMCA does not force ISPs to avail themselves of its harbor, but shapes their risk assessment so that almost all do…" See Wendy Seltzer, "Free Speech Unmoored in Copyright's Safe Harbor: Chilling Effects of the DMCA on the First Amendment," Berkman Center Research Publication No. 2010-3, p. 16 March 2010 at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1577785.

[5] See presentation by Bell Canada, Copyright Consultations, August 27, 2009 available at www.ic.gc.ca/eic/site/008.nsf/eng/h_04034.html

[6] International Intellectual Property Alliance, 2010 Special 301: Canada Report, February 18, 2010 p. 11 at http://www.iipa.com/rbc/2010/2010SPEC301CANADA.pdf

[7] See Industry Canada, Internet Service Providers Report, January 20, 2006, at http://www.ic.gc.ca/eic/site/ippd-dppi.nsf/eng/ip01430.html

[8] See presentation by Bell Canada, Copyright Consultations, August 27, 2009 available at www.ic.gc.ca/eic/site/008.nsf/eng/h_04034.html. The Business Coalition for Balanced Copyright, a coalition containing Canadian ISPs, endorses "reasonable cost recovery" if the voluntary program is made mandatory. See Comments of Business Coalition for Balanced Copyright, Copyright Consultations, September 13, 2009 at http://www.ic.gc.ca/eic/site/008.nsf/eng/02534.html

[9] See Section 40.1 of CB-60. This approach is maintained in Bill C-61 available at http://www2.parl.gc.ca/HousePublications/Publication.aspx?DocId=3570473&Mode=1&Language=E Bill C-61 was introduced by the government for consideration by the legislature in 2008, but lacked the consensus to pass in 2009. Comprehensive copyright consultations were held in September 2009 in preparation for the introduction of new copyright legislation in 2010. See the summaries of the documents and presentation of these Copyright Consultations at http://www.ic.gc.ca/eic/site/008.nsf/eng/home

[10] Greg Sandoval, "Comcast, Cox cooperating with RIAA in anti-piracy campaign", CNet.com March 25, 2009 available at http://news.cnet.com/8301-1023_3-10204047-93.html

[11] Comments of Verizon in Coordination and Strategic Planning of the Federal Effort Against Intellectual Property Infringement: Request of the Intellectual Property Enforcement Coordinator for Public Comments Regarding the Joint Strategic Plan (Federal Register Volume 75, Number 35 – FR Doc. 2010-3539), March 24, 2010 available at http://www.whitehouse.gov/sites/default/files/omb/IPEC/frn_comments/VerizonCommunications.pdf

[12] Comments of AT&T in Coordination and Strategic Planning of the Federal Effort Against Intellectual Property Infringement: Request of the Intellectual Property Enforcement Coordinator for Public Comments Regarding the Joint Strategic Plan (Federal Register Volume 75, Number 35 – FR Doc. 2010-3539), March 24, 2010 available at http://www.whitehouse.gov/omb/IPEC/frn_comments/AT_T.pdf

[13] Steve Chen, the State of our Video ID Tools, Google Blog Post, June 14, 2007 at http://googleblog.blogspot.com2007/06/state-of-our-video-id-tools.htm. MySpace also uses Audible Magic to screen its site for copyright infringement. See Brad Stone and Miguel Helft New Weapon in Web War Over Piracy, New York Times, February 19, 2007 available at www.nytimes.com/2007/02/19/technology/19video.html.

[14] YouTube Copyright Policy: Video Identification Tool, at www.google.com/support/youtube/bin/answer.py?answer=83766

[15] Brian Stelter, Some Media Companies Choose to Profit From Pirated YouTube Clips, New York Times, August 15, 2008 available at www.nytimes.com/2008/08/16/technology/16tube.html.

[16] David King, Making Money on YouTube with Content ID, Google Blog Post, August 27, 2008, available agt http://googleblog.blogspot.com/2008/08/making-money-on-youtube-with-content-id.html.

[17] Michael Learmonth, YouTube Moving the Needle on Ad Sales, Advertising Age, April 8, 2009 available at http://adage.com/digital/article?article_id=135859.

[18] HADOPI was a controversial law. Initially, passed in May 2009, it was rejected by the French constitutional court because it did not provide for a court intervention before disconnection. The law passed in September 2009 by the French Parliament provided for such a court review, and in October 2009 the Court accepted the revised bill. See Eric Pfanner, France Approves Wide Crackdown on Net Piracy, New York Times, October 22, 2009, http://www.nytimes.com/2009/10/23/technology/23net.html?_r=1

[19] Budget 2009 Ministère de la Culture et de la Communication 26 septembre 2008 p. 43 at http://www.culture.gouv.fr/culture/actualites/conferen/albanel/budget2009.pdf

[20] Eric Pfanner, U.K. Approves Crackdown on Internet Pirates, New York Times, April 8, 2010 at http://www.nytimes.com/2010/04/09/technology/09piracy.html?scp=1&sq=digital%20economy%20bill%20uk&st=cse. The text of the law can be found at http://www.statutelaw.gov.uk/content.aspx?parentActiveTextDocId=3699621&ActiveTextDocId=3699682The law provides the possibility of that an ISP will be required to impose a "technical measure" which "(a) limits the speed or other capacity of the service provided to a subscriber; (b) prevents a subscriber from using the service to gain access to particular material, or limits such use;(c) suspends the service provided to a subscriber; or (d) limits the service provided to a subscriber in another way. See section 124G of the law at http://www.statutelaw.gov.uk/content.aspx?LegType=All+Legislation&searchEnacted=0&extentMatchOnly=0&confersPower=0&blanketAmendment=0&sortAlpha=0&PageNumber=0&NavFrom=0&parentActiveTextDocId=3699621&ActiveTextDocId=3699634&filesize=10138

[21] [21] Department for Business, Innovation and Skills, the Department for Culture, Media and Sport, and the Intellectual Property Office, Digital Economy Act 2010, Impact Assessments, April 2010 http://interactive.bis.gov.uk/digitalbritain/wp-content/uploads/2010/04/Digital-Economy-Act-IAs-final.pdf p. 76.

[22] Department for Business, Innovation and Skills, HM Government Response To The Consultation On Online Infringement Of Copyright (Initial Obligations) Cost Sharing, September 2010, available at http://www.bis.gov.uk/assets/biscore/business-sectors/docs/o/10-1131-online-copyright-infringement-government-response

[23] Department for Business, Innovation and Skills, the Department for Culture, Media and Sport, and the Intellectual Property Office, Digital Economy Act 2010, Impact Assessments, April 2010 http://interactive.bis.gov.uk/digitalbritain/wp-content/uploads/2010/04/Digital-Economy-Act-IAs-final.pdf, p. 68

[24] Nate Anderson, Stern letters from ISPs not enough to stop P2P use after all, ArsTechnica, June 10, 2009 at http://arstechnica.com/tech-policy/news/2009/06/stern-letters-from-isps-not-enough-to-stop-p2p-use-after-all.ars

[25] BPI commissioned a survey in 2009 that showed a rise in non p to p sources of infringement - offshore websites and cyber lockers. See http://www.bpi.co.uk/press-area/news-amp3b-press-release/article/growing-threat-from-illegal-web-downloads.aspx

[26] See press report at http://www.zdnet.co.uk/news/networking/2010/03/04/lib-dem-peer-on-why-site-blocking-is-needed-40070579/

[27] The text of S. 3804 is at http://thomas.loc.gov/cgi-bin/thomas

[28] For a recent review of the literature see Felix Oberholzer-Gee and Koleman Strumpf, "Filesharing and Copyright," Working Paper 09-132, Harvard School of Business, May 15, 2009 available at http://www.hbs.edu/research/pdf/09-132.pdf