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# SHOULD COPYRIGHT LAWS BE ABLE TO KEEP UP WITH ONLINE PIRACY?

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INTRODUCTION: AN OVERVIEW OF THE LEGAL AND ILLEGAL ONLINE VIDEO MARKET .....	524
I. COPYRIGHT IN CYBERSPACE .....	527
A. <i>Copyright Law: From Constitution to Cyberspace</i> .....	528
B. <i>Jurisdiction over Internets: Long Arm Not Long Enough?</i> ...	531
C. <i>Domain Name Seizures: The Whack-A-Mole Effect</i> .....	533
II. COPYRIGHT CIRCUMVENTING TECHNOLOGY: WHY THERE IS AN ISSUE WITH THE INTERNET .....	535
A. <i>Streaming Online Content</i> .....	536
B. <i>Virtual Private Networks: Tunnels to Liability-Free     Infringement?</i> .....	538
C. <i>Tor: Encrypting Copyright Infringer's Actions?</i> .....	539
D. <i>Seedboxes and Cyberlockers: An Illegal Downloader's     Dream?</i> .....	540
E. <i>Cloud Technology: Unseizable Servers, Ever-Rotating     Jurisdiction</i> .....	541
III. EFFECTIVE LAWS HAVE HIGH COSTS .....	542
A. <i>Increasing Courts' Authority Regarding Copyright     Infringement is Not Ideal</i> .....	543
B. <i>Existing Technology Could Circumvent any Reasonable     Legislation</i> .....	544
C. <i>Privacy and Open Internet Concerns with Effective     Legislation</i> .....	544
D. <i>Should Copyright Law Evolve?</i> .....	545
IV. WHAT ARE COPYRIGHT HOLDERS TO DO WITH THIS CHANGE? ....	547
A. <i>Content Comes at a Price: No Revenue, No Content</i> .....	548
B. <i>Over-the-Top Provision of Content</i> .....	549
C. <i>Alternate Revenue Sources</i> .....	550
CONCLUSION .....	551

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INTRODUCTION: AN OVERVIEW OF THE LEGAL AND ILLEGAL ONLINE  
VIDEO MARKET

Twenty-four percent of all Internet bandwidth across North America, Europe, and Asia-Pacific is being used for copyright infringement.<sup>1</sup> 327 million unique Internet users explicitly sought infringing content in these three regions in January 2013 alone.<sup>2</sup> In the United States, cable subscription growth fell for the first time ever in 2011, as 2.56 million people cancelled their cable subscriptions between 2008 and 2011.<sup>3</sup> Cord cutting, or opting to get media content from somewhere other than traditional multichannel video programming distributors (MVPDs), like cable, telephone companies, or satellite providers, is on the rise.<sup>4</sup> Because the cited 2.56 million people did not include people who choose to never begin a MVPD subscription, there may be an even larger number of U.S. non-subscribers.<sup>5</sup> Online Video Distributors (OVDs) such as Netflix, Hulu, and Amazon Prime have begun supplementing, if not entirely replacing, traditional facilities-based MVPDs as content distributors. Consumers are increasingly watching traditionally MVPD-obtained video from online sources, and when content is not available from legal OVDs, they turn to piracy, often through online streaming sites and file sharing.<sup>6</sup>

Downloading real-time entertainment accounts for over 65 percent of web traffic in North America during peak periods.<sup>7</sup> Hulu, Netflix, iTunes, and Amazon are currently the most commonly used legal streaming sites,<sup>8</sup> but these sites do not provide all of the content offered

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1. David Price, *Sizing the piracy universe*, NETNAMES (Sept. 2013), <http://copyrightalliance.org/sites/default/files/2013-netnames-piracy.pdf>

2. *Id.*

3. Rebecca Greenfield, *HBO, Here Are Those Cord-Cutting Stats You Asked For*, WIRE (Aug. 1, 2012, 2:15 PM), <http://www.thewire.com/technology/2012/08/hbo-here-are-those-cord-cutting-stats-you-asked/55292>; see also *Nielson Report— Cord Cutting Is Real*, SORENSON MEDIA (Jan. 16, 2013), <http://blog.sorensonmedia.com/2013/01/nielsen-report-cord-cutting-is-real>.

4. Sarah Perez, *Nielson: Cord Cutting And Internet TV Viewing On the Rise*, TECHCRUNCH, (Feb. 9, 2012), <http://techcrunch.com/2012/02/09/nielsen-cord-cutting-and-internet-tv-viewing-on-the-rise>.

5. Greenfield, *supra* note 3.

6. *Global Internet Phenomena Report*, SANDVINE INTELLIGENT BROADBAND NETWORKS, 7 (2012), available at <https://www.sandvine.com/trends/global-internet-phenomena>.

7. *Id.* at 6.

8. Deborah Méndez-Wilson, *Cut the cord and say goodbye to cable*, USA TODAY (Dec. 8, 2012, 6:00 AM), <http://www.usatoday.com/story/tech/personal/2012/12/07/cutting-the->

by cable or satellite providers.<sup>9</sup> OVDs only display the content that they have licensed from content providers (such as movie studios and television content providers). But individuals are able to get the rest of their desired popular video content from a variety of online sources. Aereo's ever-expanding Web TV service is one such source.<sup>10</sup> BitTorrent websites,<sup>11</sup> seedboxes,<sup>12</sup> or cyberlockers<sup>13</sup>—all peer to peer (P2P) file sharing technologies—can be used to illegally download videos. File sharing (legal or otherwise) accounts for twelve percent of all Internet traffic in the aggregate (averaging both upstream and downstream activity).<sup>14</sup> And copies of copyrighted video can also be streamed online.<sup>15</sup> Both popular television shows and movies can be streamed from a multitude of foreign and domestic websites, often accessed through indexing websites, or websites that compile links that direct a user to copyrighted content they can freely watch (or for a price, but the savvy streamer never need pay).<sup>16</sup> Videos can be streamed through encrypted pathways such as Virtual Private Networks (VPNs) and Tor, also called onion routing. These pathways allow consumers to either request information through an encrypted tunnel<sup>17</sup> or access the content through a series of different servers that are only able to read pieces of the encrypted request (Tor).<sup>18</sup>

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cord/1754509; see also Danny Davies, *How To Watch TV Shows Online: Top 10 TV Streaming Sites 2012*, ALL MY FAVES (July 23, 2012), <http://www.allmyfaves.com/blog/allmyfaves/how-to-watch-tv-shows-online-top-10-tv-streaming-sites-2012>.

9. *Cord Cutting 2.0: Better Ways to Ditch Your Cable Bill*, YAHOO! EXCHANGE (Aug. 15, 2012, 4:34 PM), <http://finance.yahoo.com/blogs/the-exchange/cord-cutting-2-0-better-ways-ditch-cable-203407378.html>.

10. Peter Ha, *Aereo's Cord-Cutting Web TV Service Will Add 22 Cities This Spring*, GIZMODO (Jan. 8, 2013 1:59 PM), <http://gizmodo.com/5974203/aereos-cord-cutting-web-tv-service-will-add-22-cities-this-spring>.

11. Jacqui Cheng, *Global torrent connections mapped out by the pirate bay*, ARSTECHNICA (Feb. 5, 2009, 12:45 PM), <http://arstechnica.com/business/2009/02/global-torrent-connections-mapped-out-by-the-pirate-bay>.

12. See Sharky, *Speed Up Your Torrent Downloads, Get a Seedbox*, TORRENTFREAK (July 15, 2008), <http://torrentfreak.com/10-reasons-why-you-need-a-seedbox-080715>.

13. See Ernesto, *Kim Dotcom Theory on Corporate Cyberlocker Use Supported by Survey*, TORRENTFREAK (June 16, 2012), <http://torrentfreak.com/kim-dotcom-theory-on-corporate-cyberlocker-use-supported-by-survey-120616>.

14. *Global Internet Phenomena Report*, *supra* note 6.

15. "According to a 2006 study, U.S. studios lost \$6.1 billion in global wholesale revenues in 2005 due to piracy." Mickey Ferri, *A Detailed Look Inside The Illegal Movie Market* (July 6, 2012) (preliminary version), available at <http://home.uchicago.edu/~mferri/Working%20Version%20of%20Downloading.pdf>.

16. See Shreyas, *Top 20 Websites to Stream and Watch Movie Online For Free*, BLOGTECHNIKA (Dec. 29, 2011), <http://www.blogtechnika.com/top-20-websites-to-watch-and-stream-movie-online-free>.

17. See Jeff Tyson & Stephanie Crawford, *How VPNs Work*, HOWSTUFFWORKS, <http://computer.howstuffworks.com/vpn.htm> (last visited Feb. 23, 2013).

18. David M. Goldschlag, Michael G. Reed & Paul F. Syverson, *Hiding Routing*

Technological advancements allow people to access video content freely (and, debatably, illegally),<sup>19</sup> yet these technologies also have legitimate uses, such as providing people with privacy and security. Popular Internet downloading and streaming technologies circumvent copyright law as current copyright laws, including the Digital Millennium Copyright Act of 1998 (DMCA), do not account for such technology. Courts, bound by these already antiquated laws, are unable to remedy those affected by copyright infringement. Additionally, federal long arm statutes limit United States federal courts' reach in copyright infringement claims against foreign sites. And although the U.S. has the ability to seize domain names of copyright infringing sites, this power is limited to U.S.-based domain names and is ineffective as infringing websites can quickly replicate or move their sites to foreign servers.

Copyright infringement on the Internet would be stifled by appropriate legislation, but even draconian measures may not be enough to fully eradicate this problem. Further, the costs of such legislation might be prohibitive. Any effective law created to address copyright infringement would have a negative effect on the openness of the Internet, consumer privacy, consumer security, innovation, and commerce. Legal precedence confirms that copyright laws should be strengthened only to the extent that they serve the purpose that they were originally intended for, which is to promote the useful arts and sciences, and are not to infringe on other important concerns such as privacy and free speech. Therefore, legislation strengthening copyright laws enough to dampen the rampant copyright infringement may not be upheld under judicial scrutiny as it might exceed Congressional powers.

Some argue that even current copyright laws may be hindering, rather than encouraging, the creation of the useful sciences. Upon this premise, copyright laws no longer serve their intended purpose and a new regime may be better suited to ensure that content producers are compensated, and thus encouraged, to continue producing. Instead of fighting changes in the market, content providers could take advantage of this change to create new revenue streams. Whatever the market solution may be, legislators should re-think copyright laws to address the changes in the video market as demonstrated by the changing societal norms, increased technological advancements, and evolving market structure.

This note will touch on these issues in turn: Part I analyzes current copyright legislation and its effectiveness in addressing online copyright

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*Information*, Workshop on Information Hiding, Cambridge, UK (May 1996), available at <http://www.onion-router.net/Publications/IH-1996.pdf>.

19. Andy, *Anti-Piracy Group Admits Streaming Movies Isn't Illegal*, TORRENTFREAK (June 24, 2013), <http://torrentfreak.com/anti-piracy-group-admits-streaming-movies-isnt-illegal-130624>.

infringement; Part II discusses currently used copyright-law circumventing technologies; Part III addresses whether courts can use current precedence and legislation to hold individuals using copyright-law circumventing technology accountable for their infringement; and Part IV suggests how copyright holders can adapt to the changing market, what legislation could prevent further copyright infringement, and what alternatives there are to legislation to address this issue.

## I. COPYRIGHT IN CYBERSPACE

Copyright law first considers the general benefits derived by the public from the labors of authors; reward to the authors is but a secondary consideration that only serves to induce creators to release their creative works to the public.<sup>20</sup> Copyright law has evolved in response to changes in technology.<sup>21</sup> At present, courts have held that the use of P2P file sharing technology to download and distribute copyrighted material constitutes copyright infringement,<sup>22</sup> but have not yet extended the reach of copyright law to streaming technology.<sup>23</sup> Absent specific guidance from Congress, who has the Constitutional authority and the institutional ability to accommodate the varied permutations of competing interests inevitably implicated by new technology. Courts are not willing to rewrite the DMCA or other copyright law to expressly cover new technology.<sup>24</sup> Because of this, copyright holders have aggressively lobbied to create new or expand old laws to address these technologies. However, as concerns of maintaining an open Internet, technological innovation, preventing negative commercial impact, and infringing on individual privacy would play a role in shaping new regulation, as demonstrated by past grassroots pressure on Congress to maintain an open Internet, Congress has been reluctant to regulate in this area.<sup>25</sup>

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20. *Sony Corp. of Am. v. Universal Studios, Inc.*, 464 U.S. 417, 429 (1984).

21. *Id.*

22. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1013-14 (9<sup>th</sup> Cir. 2001).

23. *See Lexmark Intern., Inc. v. Static Control Components, Inc.*, 387 F.3d 522, 545 (6<sup>th</sup> Cir. 2004) (“The [DMCA]...bans devices that circumvent ‘technological measures’ protecting ‘a right’ of the copyright owner....prohibit[ing] devices aimed at circumventing technological measures that allow some forms of ‘access’ but restrict other uses of the copyrighted work,...such as streaming media, which permits users to view of watch a copyrighted work but prevents them from downloading a permanent copy of the work.”)

24. *Recording Indus. Ass’n of Am., Inc. v. Verizon Internet Serv., Inc.*, 351 F.3d 1229, 1238 (D.C.Cir. 2003).

25. Greg Sandoval, *The head of the Copyright Office says the law is broken – but can she fix it in time?*, THE VERGE (Mar. 20, 2013, 12:41 PM), <http://www.theverge.com/2013/3/20/4126936/copyright-register-today-will-embark-on-mission-to-overhaul-us>.

*A. Copyright Law: From Constitution to Cyberspace*

Copyright law stems from Article I, Section 8 of the U.S. Constitution, whereby Congress was empowered to grant both copyrights and patents: “Congress shall have power to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.”<sup>26</sup> Since the 1800s, this idea has expanded from written works to any idea “fixed in any tangible medium.”<sup>27</sup> The policy behind this is utilitarian: society benefits from encouraged innovation, which occurs through the protection of creative works.<sup>28</sup> Absent this protection, people may not publicize their creative works for fear that someone else will copy and profit from it, leaving the creator without an effective legal remedy.<sup>29</sup> This would, it is thought, stifle the public sharing of creative works.<sup>30</sup>

Copyright law allows for the protection of ideas fixed in a tangible medium.<sup>31</sup> This includes, but is not limited to, works of sculpture, oil paintings, books, television shows, and films.<sup>32</sup> Copyright provides creators with the right to (1) reproduce their copyrighted works, (2) prepare derivative works based upon the copyrighted work, (3) distribute copies to the public, (4) perform the copyrighted work publicly, and (5) display the copyrighted work publicly.<sup>33</sup> Copyright law allows the copyright owner to preclude and/or recover for any unauthorized infringement of these rights, with limitations.<sup>34</sup> The copyright holder can recover compensatory or statutory damages upon establishing a case of infringement, obtain injunctive relief, and bring criminal charges upon those who willfully infringe, with limitations.<sup>35</sup> To establish copyright infringement the owners must prove (1) ownership of a valid copyright and (2) that original elements of the work have been copied.<sup>36</sup>

Copyright infringement may not apply when new technologies are involved. Before the enactment of applicable legislation, courts had

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26. U.S. CONST. art.1, § 8, cl. 8.

27. 17 U.S.C. § 102 (1990).

28. *Stewart v. Abend*, 495 U.S. 207, 228-29 (1990).

29. *See Sony Corp. of Am. v. Universal Studios, Inc.*, 464 U.S. 417, 429 (1984).

30. *Id.*

31. 17 U.S.C. § 102 (1990).

32. *Id.*

33. 17 U.S.C. § 106 (2011).

34. 17 U.S.C. § 501 (2011); *see also* 17 U.S.C. §§ 107-112 (2011).

35. *See* 17 U.S.C. §§ 502-508 (2011).

36. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 345 (1991).

difficulty determining whether the scope of copyright law applied to infringers using technology not explicitly covered by statute.<sup>37</sup> The DMCA was enacted in 1998 to address the growing issue of copyright law being circumvented by the rise of digital media.<sup>38</sup> Additionally, the DMCA created limited liability for copyright infringement by Internet Service Providers (“ISPs”) and established a procedure by which a copyright owner could obtain a subpoena from a federal court to order an ISP to disclose the identity of a subscriber allegedly engaging in infringing activities.<sup>39</sup> This “safe haven” provision allows content holders to enforce their copyrights while still allowing ISPs to continue to advance and expand technologically.<sup>40</sup>

The statutory monopoly afforded to the copyright holder is not absolute; fair use and other exceptions provide limits.<sup>41</sup> These limits ensure that competing public interests are properly balanced: the encouragement of creative work weighed against the promotion of broad public availability of literature, music, and other arts.<sup>42</sup> Securing a fair return for an author’s creative labor, should, in turn, stimulate artistic creativity for the general public’s good.<sup>43</sup> Yet the stimulation of artistic creativity does not trump all other laws; considerations must be made regarding the rights of others to freely engage in “substantially unrelated areas” of commerce.<sup>44</sup> Therefore the sale of copying equipment does not necessarily constitute infringement if the product is merely capable of substantial non-infringing uses and satisfies the four-prong fair use test set forth by the fair use doctrine.<sup>45</sup> The fair use doctrine, enacted in the Copyright Act of 1976, acts as a counterbalance to copyright law by permitting courts to avoid rigid application of copyright statute when “it would stifle the very creativity which that law is designed to foster.”<sup>46</sup>

Creativity and innovation are not only valued in commerce, but also in communications technology.<sup>47</sup> As artistic protection is favored,

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37. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 431-32 (1984) (“In a case like this, in which Congress has not plainly marked our course, we must be circumspect in construing the scope of rights created by a legislative enactment which never contemplated such a calculus of interests.”).

38. U.S. COPYRIGHT OFFICE, *THE DIGITAL MILLENNIUM COPYRIGHT ACT OF 1998, SUMMARY* (1998).

39. *Id.*

40. *Id.*

41. *Sony Corp.*, 464 U.S. at 429.

42. *Id.* at 431-32.

43. *Id.* at 432.

44. *Id.* at 442.

45. *Id.*

46. *Monge v. Maya Magazines, Inc.*, 688 F.3d 1164, 1184 (9th Cir. 2012) (Smith, M., dissenting) (citing another source).

47. *MGM Studios, Inc. v. Grokster*, 545 U.S. 913, 928 (2005).

technological innovation may be discouraged.<sup>48</sup> The Supreme Court, when analyzing copyright infringement in the P2P file sharing case against the file sharing service provider Grokster, took into account that imposing liability could limit future development of beneficial technologies.<sup>49</sup> However, the high percentage of infringing downloads that occurred on Grokster's software (90 percent), compelled the Court to hold the copying device liable for secondary liability.<sup>50</sup> The Court's rationale for holding Grokster, rather than direct infringers, liable was that the party that distributes infringement-enabling products or services may produce direct infringement on such a large scale that it is "impossible to enforce rights in the protected work effectively against all direct infringers."<sup>51</sup> Distinguishing *Metro-Goldwyn-Mayer Studios Inc. v. Grokster Ltd.* from *Sony Corp. of America v. Universal City Studios, Inc.*, an earlier case regarding a copy-producing technology, the Court held that when a copying device is primarily used for infringement *and* there is proof of substantial infringement, then the public has no legitimate interest in its unlicensed availability. Further, there is no injustice in presuming or imputing the intent to infringe.<sup>52</sup> In discussing the balance between the interests at stake, the Court confirmed the importance of innovation and vigorous commerce, provided that such innovation and commerce had substantial lawful uses as well.<sup>53</sup>

In light of this decision, lower courts have applied the fair use doctrine to some new technologies,<sup>54</sup> potentially infringing uses of copyrighted material,<sup>55</sup> and have applied theories of secondary liability—contributory and vicarious infringement—to those who have not directly infringed a copyright, but who have played a significant role in allowing the direct infringement committed by others.<sup>56</sup> Judgments extending secondary liability to Internet services have compelled both a change in technology and, often, a move overseas to avoid U.S. courts.<sup>57</sup>

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48. *Id.*

49. *Id.*

50. *Id.* at 929-30.

51. *Id.*

52. *Id.* at 932-933.

53. *Id.*

54. *Fox Broad. Co., Inc. v. Dish Network, LLC*, 905 F.Supp.2d 1088, 1097 (C.D. Cal. 2012); *see also Perfect 10, Inc. v. Amazon.com, Inc.*, 487 F.3d 701(9th Cir. 2007).

55. *Nat'l Football Scouting, Inc. v. Rang, et al.*, 912 F.Supp.2d 985, 993 (W.D. Wash. 2012).

56. *Arista Records LLC v. Lime Grp. LLC*, 784 F.Supp.2d 398, 422-23 (S.D.N.Y. 2011).

57. Todd Ryan Hambidge, *Containing Online Copyright Infringement: Use of the Digital Millennium Copyright Act's Foreign Site Provision to Block U.S. Access to Infringing Foreign Websites*, 60 VAND. L. REV. 905, 906 (2007).



*B. Jurisdiction over Internets: Long Arm Not Long Enough?*

Courts are bound by their jurisdiction, and case law has evolved to extend jurisdiction to issues arising from Internet use. Federal district courts are granted subject matter jurisdiction in any claim for relief relating to copyright issues.<sup>58</sup> Yet there are Constitutional limitations on the exercise of personal jurisdiction, which also must be established before a court hears a case, depending on whether a court seeks to exercise general or specific jurisdiction over a non-resident defendant.<sup>59</sup> General jurisdiction allows a court to exercise personal jurisdiction over a non-resident for non-forum related activities when the defendant has engaged in “systematic and continuous” activities in the forum state, whereas specific jurisdiction requires that the cause of action arises from a particular action within the state.<sup>60</sup> Establishing general jurisdiction in Internet-related copyright cases presents a problem as an individual’s maintenance of an Internet site may or may not be considered systematic and continuous activities that establish the requisite minimum contacts that are needed to both allow an extension of jurisdiction and comply with due process tests.

The Supreme Court has noted that “[a]s technological progress has increased the flow of commerce between states, the need for jurisdiction has undergone a similar increase.”<sup>61</sup> The inquiry regarding specific jurisdiction has evolved to do just that, with a three-fold test. First, the defendant must have purposefully directed their activities at the forum state. Second, a plaintiff’s claim must arise out of or relate to at least one of those specific activities. Third, courts may consider additional factors to ensure that the assertion of jurisdiction comports with fair play and substantial justice.<sup>62</sup> A sliding scale is used to determine whether Internet websites are directing their activities at a forum state. Websites may be passive, in that they merely post information; interactive, in that they are conducting business or allowing users to post information; or targeting, in that the sites exchange information with the host computer. Passive websites do not purposefully direct their activities at a specific forum state, and therefore states cannot exercise specific jurisdiction over them. Interactive websites do direct their activities at a specific forum, for the most part. Websites with online advertising are found to be interactive as long as they have “something more,” such as conducting commercial

58. 28 U.S.C. § 1338 (2011).

59. Mellon Bank PSFS, Nat’l Ass’n v. Farino, 960 F.2d 1217, 1221 (3d Cir. 1992).

60. Helicopteros Nacionales de Colom., S.A. v. Hall, 466 U.S. 408, 414-16 (1984).

61. Hanson v. Denckla, 357 U.S. 235, 250-51 (1958).

62. Marten v. Godwin, 499 F.3d 290, 296 (3d Cir. 2007).

activity over the Internet with forum residents, encouraging residents of the forum state to access the website, or earning income from residents in the forum state.<sup>63</sup> This analysis requires a sliding scale to determine the whether personal jurisdiction can be constitutionally exercised; this should be directly proportionate to the nature and quality of commercial activity that an entity conducts over the Internet.<sup>64</sup>

Federal circuit courts have developed case law to address the need for equitable remedies for claims arising from Internet use, such as *CompuServe v. Patterson*.<sup>65</sup> *CompuServe*, a dispute over a software contract, held that selling software through a company's online network within a forum state establishes minimum contacts.<sup>66</sup> Other states have held that their long arm statute allows for out-of-state corporations to be sued by in-state residents when the solicitation is present.<sup>67</sup> Solicitation through advertising can establish minimum contacts anywhere.<sup>68</sup> However, a passive webpage with advertisements alone may not have created the necessary minimum contacts within a forum state.<sup>69</sup> Until there is clear direction from Congress or the Supreme Court regarding jurisdiction over the Internet, this area of law will remain murky.

United States courts, however, are clearly unable to hold a foreign company liable for alleged infringements carried on in the United States absent general, specific, or federal long-arm jurisdiction.<sup>70</sup> In January of 2013, a United States District Court in the Northern District of Iowa held that a website which had a single sale of a three-day membership to access its site does not satisfy the intentional, continuous, and substantial contact requirement needed to establish general jurisdiction with the state of Iowa.<sup>71</sup> The court further held that although the defendant intentionally infringed upon the plaintiff's registered copyrights and trademarks, these allegations alone fail to demonstrate that the defendant "uniquely or expressly aimed" its tortious acts at the state of Iowa.<sup>72</sup> Although the website was both commercial and interactive, the website was arguably no more directed at Iowa than it was at Uzbekistan.<sup>73</sup> The

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63. *Cybersell, Inc. v. Cybersell, Inc.*, 130 F.3d 414, 418 (9th Cir. 1997).

64. *Id.* at 419.

65. *See CompuServe, Inc. v. Patterson*, 89 F.3d 1257 (6th Cir. 1996).

66. *Id.*

67. *Inset Sys., Inc. v. Instruction Set, Inc.*, 937 F.Supp. 161, (D. Conn. 1996).

68. *Maritz, Inc. v. Cybergold, Inc.*, 947 F.Supp. 1328 (E.D. Mo. 1996).

69. *Mink v. AAAA Dev. LLC*, 190 F.3d 333 (5th Cir. 1999).

70. *Enigmax, U.S. Judge Dismisses "Copyright Shakedown" of Foreign Video Sites*, TORRENTFREAK (Jan. 11, 2013), [torrentfreak.com/judge-dismisses-u-s-copyright-shakedown-of-foreign-video-sites-120111](http://torrentfreak.com/judge-dismisses-u-s-copyright-shakedown-of-foreign-video-sites-120111).

71. *Fraserside IP, L.L.C. v. Youngtek Solutions, Ltd.*, 2013 WL 139510, at \*1 (N.D. Iowa Jan. 13, 2013).

72. *Id.* at 29.

73. *Id.* at 32.

court further held that an analysis of the aggregate number of contacts of the defendant within the United States did little to support the exercise of jurisdiction within the U.S. under the federal long-arm statute.<sup>74</sup> This holding is significant because it would allow foreign sites to avoid liability for their infringement within U.S. courts as long as they do not otherwise systematically and continuously solicit business in the U.S.

The DMCA tried to address this issue in § 512(j)(1)(B)(ii), the Foreign Site Provision, which permits an order to restrain an ISP from providing access to a “specific, identified, online location outside the United States.”<sup>75</sup> Yet a similar provision outlined in the Stop Online Piracy Act (“SOPA”) was criticized as it may affect individual’s freedom to access speech.<sup>76</sup> Because the First Amendment allows U.S. citizens to read and listen to foreign speech, this provision may have been disregarded in lieu of a less invasive measure, the notice-and-takedown procedure, whereby infringing material can be removed from the web, or the domain name seizure program through Immigrations and Customs Enforcement (“ICE”).<sup>77</sup> This provision may also have fallen out of favor in deference to open Internet principles, which the U.S. has been a strong advocate for both nationally and internationally.

### *C. Domain Name Seizures: The Whack-A-Mole Effect*

Domain names are established through the Internet Corporation for Assigned Names and Numbers (ICANN).<sup>78</sup> ICANN is responsible for coordinating the global Internet’s system of unique identifiers and ensuring the stable and secure operation of these identifiers as they coordinate the Internet Protocol (IP) address spaces and assignment of address blocks to regional Internet registries. Domain names are unique identifiers for websites. These names are registered through the ICANN, either directly or through a registrar.<sup>79</sup> Obtaining a domain name provides registrants with property in the domain name.<sup>80</sup>

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74. *Id.* at 46.

75. Hambidge, *supra* note 57, at 908.

76. Trevor Timm, *How PIPA and SOPA Violate White House Principles Supporting Free Speech and Innovation*, EFF (Jan. 16, 2012), <https://www.eff.org/deeplinks/2012/01/how-pipa-and-sopa-violate-white-house-principles-supporting-free-speech>.

77. *Id.*; see also *Lamont v. Postmaster Gen. of U.S.*, 381 U.S. 301, 305-06 (1965).

78. Kevin Poulsen, *Net Dust Storm Blows Into Tunis*, WIRED (Nov. 15, 2005), <http://archive.wired.com/politics/law/news/2005/11/69586?currentPage=all>.

79. David G. Post, *Personal Jurisdiction on the Internet: An Outline for the Perplexed*, TEMPLE UNIVERSITY LAW SCHOOL/ CYBERSPACE LAW INSTITUTE (June 1998), <http://www.temple.edu/lawschool/dpost/outline.htm>.

80. *Kremen v. Cohen*, 337 F.3d 1024, 1029 (9<sup>th</sup> Cir. 2003).

Both ISPs and websites have the duty to remove material that infringes a copyright upon written notification of the claimed infringement from the content holder.<sup>81</sup> If a website does not take down the infringing material, then ICE, through their Operation In Our Sites program,<sup>82</sup> may seize the domain name provided if it is registered in the United States.<sup>83</sup> To seize the domain name, ICE first obtains a seizure warrant from a magistrate judge ordering the website's registry operator to transfer control of its domain name to ICE.<sup>84</sup> Once ICE controls the domain name, it redirects traffic to a new landing page, which indicates that the website's domain name has been seized.<sup>85</sup> Court orders permit domain name seizures on the basis of *ex parte* affidavits, meaning that only the government presents evidence and website operators have no opportunity to be heard or respond to allegations until after their website's domain names have been seized.<sup>86</sup>

In March of 2012, ICANN announced its intent to increase its cooperation with global law enforcement agencies and governments to combat copyright infringements.<sup>87</sup> There are 22 registries and over 700 registrars accredited by ICANN. These registrars may be held responsible, through negligence, for registering domains engaging in criminal activities.

Despite this increased cooperation, domain name seizures are not effective at reducing copyright infringement.<sup>88</sup> A Whack-A-Mole effect,

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81. *Brave New Films 501(c)(4) v. Weiner*, 626 F.Supp.2d 1013 (N.D. Cal 2009).

82. Guy W.C. Huber, "Unfriending" the Internet: U.S. Government Domain Seizures and a Democratic Web, 15 TUL. J. TECH. & INTELL. PROP. 243, 243 (2012).

83. David Kravets, *Uncle Sam: If It Ends in .Com, It's Seizable*, WIRED (Mar. 6, 2012, 6:30 AM), [www.wired.com/threatlevel/2012/03/feds-seize-foreign-sites/all/1](http://www.wired.com/threatlevel/2012/03/feds-seize-foreign-sites/all/1).

84. Richard D. Freer, *American and European Approaches to Personal Jurisdiction Based upon Internet Activity*, EMORY PUBLIC LAW RESEARCH PAPER No. 07-15 (Aug. 3, 2007), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1004887](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1004887).

85. *Id.*

86. Agatha M. Cole, *ICE Domain Name Seizures Threaten Due Process and First Amendment Rights*, ACLU, (June 20, 2012 4:54 PM), available at <http://www.aclu.org/blog/free-speech-national-security-technology-and-liberty/ice-domain-name-seizures-threaten-due>.

87. *ICANN will cooperate in taking down websites for copyright infringements*, EDRI-GRAM NEWSLETTER (European Digital Rights, Brussels, Belgium), (Mar. 28, 2012), available at <http://edri.org/edrigramnumber10-6icann-ipr-enforcement-takedown/>.

88. Nate Anderson, *Do domain seizures keep streaming sites down?*, ARSTECHNICA (Apr. 17, 2011, 7:00 PM), <http://arstechnica.com/tech-policy/2011/04/do-domain-seizures-keep-streaming-sites-down>; see Egnimax, *Hollywood Anti-Piracy Group Takes "Pirate" Domains to Avoid Prosecuting*, TORRENTFREAK (Dec. 10, 2012), <http://torrentfreak.com/hollywood-anti-piracy-group-takes-pirate-domains-to-avoid-prosecuting-121210>; Andrew McDiarmid, *Court Finds Domain Name Seizure Ineffective, Postpones First Amendment Arguments*, CENTER FOR DEMOCRACY & TECHNOLOGY (Aug. 8, 2011), <https://cdt.org/blog/court-finds-domain-name-seizure-ineffective-postpones-first-amendment-arguments/>; Hartley Henderson, *Seizures of Web Domains is Short Sighted*,

whereby websites simply find a new domain name and “pop up” again a short time later, is the common result of such actions.<sup>89</sup> And, as domain name seizure is restricted to those domain names under U.S. jurisdiction (those registered in the U.S.), this barely skims the surface of the problem: because of the global nature of the Internet, unless the United States filters out or blocks all potentially infringing foreign websites, domain name seizure will never be an effective method of controlling copyright infringement. In fact, a recent study from the University of Amsterdam showed that the government-ordered ISP blocking of subscriber access to The Pirate Bay and other related sites did little, if anything, to circumvent copyright infringement.<sup>90</sup>

## II. COPYRIGHT CIRCUMVENTING TECHNOLOGY: WHY THERE IS AN ISSUE WITH THE INTERNET

The Internet provides access to a mostly-free flow of information and ideas, some of which are not necessarily legally obtained. The Internet provides individuals with access to websites hosted not only in their own country, but in other countries as well. The Internet is not a physical or tangible entity; rather it is a giant network that interconnects innumerable smaller groups of linked computer networks. The Internet can rapidly transmit communications without direct human involvement or control and automatically to reroute communications if one or more individual links are damaged or otherwise unavailable.<sup>91</sup>

Messages sent over the Internet are broken down into many parts, called packets.<sup>92</sup> If one particular route to a destination is blocked, a single packet may take a different route while ultimately reaching the same destination.<sup>93</sup> At the destination, the receiving computer re-forms the message by reassembling the packets.<sup>94</sup> This takes place in a matter

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*Ineffective and Probably Illegal*, OFF SHORE GAMING ASSOCIATION (Mar. 12, 2012), [http://www.osga.com/artman/publish/printer\\_10199.shtml](http://www.osga.com/artman/publish/printer_10199.shtml).

89. Kacey Deamer, *Seizing websites to protect copyrights: Do government seizures of domain names raise free speech concerns?*, 35 THE NEWS MEDIA & THE LAW 2, 30 (Spring 2011), available at <http://www.rcfp.org/browse-media-law-resources/news-media-law/news-media-and-law-spring-2011/seizing-websites-protect-co>.

90. Joost Poort, Jorna Leenheer, Jeroen van der Ham, & Cosmin Dumitru, *Baywatch: Two Approaches to Measure the Effects of Blocking Access to the Pirate Bay*, (Aug. 22, 2013) (working paper), available at <http://www.ivir.nl/publications/poort/Baywatch.pdf>.

91. *History of the Internet*, NEW MEDIA INSTITUTE, <http://www.newmedia.org/history-of-the-internet.html> (last visited Feb. 23, 2012).

92. Rus Shuler, *How Does the Internet Work?*, POMEROY IT SOLUTIONS (2002), <http://www.stanford.edu/class/msande91si/www-spr04/readings/week1/InternetWhitepaper.htm>.

93. *Id.*

94. *Id.*

of seconds.<sup>95</sup> This efficient means of information transportation has led to the creation of new technologies, new communities, and the widespread dissemination of information. However, it has also provided individuals with the means to illegally transfer copyrighted material. Napster, a file sharing, Internet-based software, provided one such means. After an individual downloaded Napster's MusicShare software to her computer, the software allowed the user to make their MP3 music files available for copying by other Napster users, allowed users to search for MP3 music files stored on other users' computers, and transferred exact copies of the contents of other users' MP3 files from one computer to another over the Internet.<sup>96</sup> The Internet provided individuals with a low-cost method of copying and distributing copies of copyrighted material, and the law was unprepared. Despite many court cases and some legislative attempts, the law remains unprepared.

Sitting at Starbucks, for the price of a coffee, one can freely access the Internet through Starbucks' public WiFi. Once on the Internet, one can use a free VPN set up in their web browser to access free Tor to connect to a free cyberlocker where they upload copyrighted content, invite others to do the same, and then download copyrighted content. These individuals may possess unauthorized copies, distribute unauthorized copies, and there is no current legal remedy for content providers. Technology has outpaced the law, and, based upon the trend toward further advancements, will continue to outpace the law.

#### *A. Streaming Online Content*

Of all the innovations resulting from the Internet, online video streaming has become a topic riddled with possible legal consequences in copyright law, but, seemingly, without an adequate remedy for copyright owners.<sup>97</sup> Video streaming normally involves three distinct players: the user, who seeks to watch the copyrighted material; the indexing website, which provides links or embeds a video hosted by another server on their site; and the hosting site, which is where the copyrighted video actually resides.<sup>98</sup> One could bypass the indexing website, yet hosting sites are often less user-friendly because they may be in foreign languages or

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95. *Id.*

96. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1011 (9<sup>th</sup> Cir. 2001).

97. Timothy B. Lee, *MPAA "embedding is infringement" theory rejected by court*, ARSTECHNICA (Aug. 3, 2012, 4:15 PM), <http://arstechnica.com/tech-policy/2012/08/mpaa-embedding-is-infringement-theory-rejected-by-court/>; see also Jason J. Lunardi, *Guerilla Video: Potential Copyright Liability for Websites that Index Links to Unauthorized Streaming Content*, 19 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1077, 1095 (2009).

98. *Id.* at 1092-93.

difficult to search. Streaming differs from downloading in that although a copy is made, it is merely a temporary copy that is stored in your browser's cache and is deleted after use.<sup>99</sup>

Yet the temporary existence of this copy may be insufficient to avoid liability for copyright infringement even though courts could hold that a copy in a temporary cache constitutes a copy, as they have in child pornography cases.<sup>100</sup> But for copyrights to be enforced, the legislature must first make clear that the copyright infringement statute applies to the technology in question.<sup>101</sup> New technology does not automatically fall under the purview of copyright infringement law; the technology may be held to be fair use, or exempted for other policy reasons.<sup>102</sup> Based upon the legislative history of the 1976 Copyright Act and the DMCA, it is clear that the legislature meant to afford copyright protection to any work fixed in a tangible medium, now known or in the future. However, it is unclear whether streaming video constitutes being fixed in a tangible medium.<sup>103</sup> Furthermore, a court could hold, as it did when examining the VCR, DVR, and RS-DVR, that streaming is a technology with a substantial amount of non-infringing uses and it is protected under copyright's fair use exception. When considering new technologies, it is not always clear whether they fall under the category of technologies that can be held accountable for copyright infringement. Some technologies' commercial and innovative benefits to society outweigh the potential negative impact on the contribution of creative works. Consequently, it is uncertain whether copyright holders can sue for infringement when individuals at home use streaming technology.

Yet streaming is only one technology currently circumventing copyright law. P2P file sharing may be liability free for direct infringers if ISPs refuse to hand over IP addresses: courts have refused to force ISPs to answer subpoenas under §512(h) of the DMCA when the server is acting as a conduit rather than passing the information directly through its servers. Cyberlockers, cloud technology, and seedboxes also prevent

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99. *How Streaming Works*, STREAMING MEDIA @ UNIVERSITY OF WISCONSIN, [http://streaming.wisconsin.edu/understand/Accessible\\_Tutorials/Tutorial2/p2-2.htm](http://streaming.wisconsin.edu/understand/Accessible_Tutorials/Tutorial2/p2-2.htm) (last visited Feb. 23, 2012); Tracy V. Wilson, *How Streaming Video and Audio Work*, HOWSTUFFWORKS, <http://computer.howstuffworks.com/internet/basics/streaming-video-and-audio4.htm> (last visited Feb. 23, 2012).

100. *Chapman v. Commonwealth*, 697 S.E.2d 20, 23 (VA App. 2010); *U.S. v. Romm*, 455 F.3d 990, 999 (9th Cir. 2006).

101. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984).

102. *Id.* at 430-31.

103. However, the U.S. Copyright Office has stated, in relation to the transmission of computer software, that the "transmission of a work from one person to another over the Internet results in a reproduction on the recipient's computer, even if the sender subsequently deletes the original copy of the work." David A. Costa, *Vernor v. Autodesk: An Erosion of First Sale Rights*, 38 RUTGERS L. REC. 1, 12 (2010-2011).

detection of infringement. If users cannot be held liable for distributing copies, if hosting or indexing sites are not liable under secondary infringement causes of action, if servers cannot be seized due to their ever-rotating jurisdiction in the cloud, and if there is no jurisdiction within the United States over the domain name, there is little copyright holders can do, absent new legislation, to recoup their losses due to this copyright infringement. And as technology becomes increasingly more sophisticated, so do the legal issues surrounding the enforcement of copyright infringement.

*B. Virtual Private Networks: Tunnels to Liability-Free Infringement?*

A VPN is essentially a tunnel across the Internet allowing a network of computers to privately communicate, and allowing copyright infringers to currently infringe without liability.<sup>104</sup> The network is secure because the information packets being sent between the two servers are encrypted and encapsulated in another packet, allowing for a “tunneling” effect.<sup>105</sup> An ISP cannot see, read, or modify the traffic being sent between the two end points.<sup>106</sup> When using a VPN based in a foreign country, the IP address appears to come from wherever the end server is based, even if the initiating user is in a different country. The simplest type of VPN runs at the application level, typically inside a web browser.<sup>107</sup> More sophisticated versions allow for all Internet access to be encrypted, including email programs and other Internet-based applications.

VPNs may or may not maintain logs of their user’s information.<sup>108</sup> If the VPN maintains a log of their user’s information, then it may disclose this information to those with a valid court order or if a lawsuit is

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104. *Virtual Private Networking: An Overview*, MICROSOFT TECHNET (Sept. 4, 2001), <http://technet.microsoft.com/en-us/library/bb742566.aspx>.

105. Bradley Mitchell, *VPN Tunneling*, ABOUT.COM, [http://compnetworking.about.com/od/vpn/a/vpn\\_tunneling.htm](http://compnetworking.about.com/od/vpn/a/vpn_tunneling.htm) (last visited Feb. 24, 2013).

106. *VPN Technologies: Definitions and Requirements*, VPN CONSORTIUM (July 2008), <http://www.vpnc.org/vpn-technologies.html>.

107. Jack Schofield, *Using a VPN to protect your web use*, THE GUARDIAN (May 17, 2012 8:56 AM), <http://www.guardian.co.uk/technology/askjack/2012/may/17/vpn-internet-privacy-security>.

108. Edward Wyatt, *Lines Drawn on Antipiracy Bills*, THE NEW YORK TIMES (Dec. 14, 2011), <http://www.nytimes.com/2011/12/15/technology/lines-are-drawn-on-legislation-against-internet-piracy.html?ref=todayspaper>; Engimax, *Which VPN Service Providers Really Take Anonymity Seriously?*, TORRENTFREAK (Oct. 7, 2011), <http://torrentfreak.com/which-vpn-providers-really-take-anonymity-seriously-111007>.



brought against them.<sup>109</sup> Yet because of the private nature of VPNs, the majority of providers do not keep logs.<sup>110</sup> If they do, they are only temporarily held.<sup>111</sup> In the absence of a log, an individual may not be accountable for anything they do while using a VPN.

Courts have called a VPN “the electronic equivalent to a locked door.”<sup>112</sup> This implies that there is some measure of privacy afforded to those who use a VPN. It also implies that obtaining information from behind this locked door may be difficult, due to privacy concerns of the First and Fourth amendments. If one streams video while using a VPN, how would a copyright holder know? They would be able to see the end site visited, but what would give them the reasonable cause to invade the privacy of the individual to see what content they accessed? And if there is no log of which sites were accessed, there is no way for copyright holders to determine what was done in that closed session absent decryption methods used while the message is being transmitted. Therefore, using a VPN to stream, upload, or download content from the Internet presents a problem for copyright holders.

### *C. Tor: Encrypting Copyright Infringer’s Actions?*

Tor, a network of virtual tunnels, allows people and groups to privately and securely navigate the Internet.<sup>113</sup> Tor prevents websites from tracking individuals, allows users to publish web sites without needing to reveal the location of the site, and protects users against “traffic analysis.”<sup>114</sup> Traffic analysis allows others to track your behavior and interests by providing the source and destination of your Internet traffic. Interested parties analyze the Internet data packets, comprised of a data payload and a header for routing.<sup>115</sup> Tor prevents traffic analysis of the routing header by creating a circuit of encrypted connections through relays on a network. The circuit is extended one hop at a time, and each relay along the way knows only which relay gave it data and which relay it is giving data to. As no individual relay ever knows the complete path that a data packet has taken, traffic analysis can never link the

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109. Ernesto, *How Long Before VPNS Become Illegal?*, TORRENTFREAK (June 15, 2012), <http://torrentfreak.com/how-long-before-vpns-become-illegal-120615>.

110. Enigmax, *Which VPN Service Providers Really Take Anonymity Seriously?*, TORRENTFREAK (Oct. 7, 2011), <http://torrentfreak.com/which-vpn-providers-really-take-anonymity-seriously-111007>.

111. *Id.*

112. Pearl Investments, LLC v. Standard I/O, Inc., 257 F.Supp.2d 326 (D. Me. 2003).

113. *Tor: Overview*, TORPROJECT <https://www.torproject.org/about/overview.html.en> (last visited Feb. 23, 2013).

114. *Id.*

115. *Id.*

connection's source and destination.<sup>116</sup> New circuits are used after a period of time to ensure that older actions cannot be linked to newer actions.<sup>117</sup> Encryption of the data payload further secures the web navigation.

Tor users also have the advantage of accessing what is known as the Deep Web.<sup>118</sup> The increased pressure of the media industry on known websites that provide links to illegal copies of copyrighted material has forced these sites, like NZBMatrix, to close. In place of these sites, other sites that can be accessed only through a direct link by Tor users have developed. The people who developed these sites have servers that can be anywhere in the world, have no idea who their users are, and their users do not know who they are. The Pirate Bay employs similar cloaking systems to protect users' privacy and prevent potential litigation for the copyright-infringing actions that occur on these sites.

#### *D. Seedboxes and Cyberlockers: An Illegal Downloader's Dream?*

Not only can you anonymously navigate the Internet through new technology, but you can also anonymously participate in P2P file sharing or BitTorrenting through the use of cyberlockers and seedboxes. A seedbox is a dedicated high-speed server used for BitTorrent transfers and P2P downloads that use multiple peers to speed up the process. These servers allow uploading speed rates of up to 100Mb/s or higher.<sup>119</sup> These high rates, however, leave your home Internet speed untouched and allow for the seeding of files even when you are not logged into the seedbox, and allows for BitTorrenting from any location: home, school, work, even on public WiFi.<sup>120</sup> Seedboxes also protect your privacy; instead of running your file sharing from your home IP address, those who are downloading or uploading files to you can only see the address of the seedbox.<sup>121</sup>

Cyberlockers also provide this anonymity, but in a different capacity. They are file-hosting services that provide password-protected hard drive space online.<sup>122</sup> They range in size from a several hundred

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116. *Id.*

117. *Id.*

118. Andy, *Stealthed From Hollywood, Usenet Indexer Begins Life in the Deep Web*, TORRENTFREAK, (Nov. 17, 2103) <http://torrentfreak.com/sealthed-from-hollywood-usenet-indexer-begins-life-in-the-deep-web-131117/>.

119. *10 Reasons Why You Need a Seedbox*, WHAT IS A TORRENT, <http://www.whatisatorrent.org/10-reasons-why-you-need-a-seedbox> (last visited Feb. 23, 2013).

120. *Id.*

121. *Id.*

122. Paul Gil, *Cyberlocker: What is a Cyberlocker? Why are They Considered Music*

Megabytes (common for free services) to 2 or more Gigabytes (with paid subscriptions).<sup>123</sup> The one-to-one connectivity boasted by cyberlockers makes them essentially invisible to surveillance tools.<sup>124</sup> The same advantage goes for those trying to transmit secure information, such as personal identifying information, over the Internet.

*E. Cloud Technology: Unseizable Servers, Ever-Rotating Jurisdiction*

Cloud computing provides individuals with virtual servers available across the Internet.<sup>125</sup> Famously, The Pirate Bay (TPB) shut down its file hosting services after they were sued for hosting links to websites that are illegally providing copyrighted material, and moved all of its content to multiple cloud companies in two separate countries.<sup>126</sup> TPB now consists of a load balancer, hosted by a major ISP, which encrypts requests before passing them along to the cloud to ensure that the cloud providers don't know the identity of users accessing TPB, and a transit router.<sup>127</sup> TPB also runs several Virtual Machine instances, which allows them to cut down on operation costs and complexity.<sup>128</sup> Running its service through the cloud allows it to quickly move their content to a new cloud-provider if the initial provider cuts them off, goes offline, or otherwise fails to maintain its service.<sup>129</sup> As the data sent to the servers is encrypted, there is no way for the cloud-hosting servers to know that they are hosting TPB. And, even if they were to be tracked to a specific server, the ease in which they can transition to a new server creates jurisdictional problems for those wanting to seize TPB servers. Even if one was able to ascertain where TPB was being hosted, there is no log of their encrypted actions within the servers, so how would the copyright holders be able to prove infringement? How could a U.S. court exercise

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*Pirate Tools?*, ABOUT.COM, <http://netforbeginners.about.com/od/internet101/f/What-Is-A-Cyberlocker.htm> (last visited Feb. 23, 2013).

123. *Id.*

124. *Id.*

125. Eric Knorr & Galen Gruman, *What Cloud Computing Really Means*, INFOWORLD, <http://www.infoworld.com/d/cloud-computing/what-cloud-computing-really-means-031> (last visited Feb. 23, 2013).

126. Sebastian Anthony, *The Pirate Bay Moves to the Cloud to Evade the Police*, EXTREMETECH (Oct. 17, 2012, 10:30 AM), <http://www.extremetech.com/computing/138037-the-pirate-bay-moves-to-the-cloud-to-evade-the-police>.

127. *Id.*

128. Ernesto, *Pirate Bay Moves to the Cloud, Becomes Raid-Proof*, TORRENTFREAK (Oct. 17, 2012), <http://torrentfreak.com/pirate-bay-moves-to-the-cloud-becomes-raid-proof-121017>.

129. *Id.*

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jurisdiction over a server held in a foreign country? And as TPB only now runs on a transit router, there are no servers for officials to seize, even if they could get past evidentiary and jurisdictional problems.

Cloud computing provides the same benefits—privacy, security, and global access to applications—to businesses. More businesses are moving data and applications to the cloud to cut down on administrative costs, to provide globally accessible information, and to ensure that their information is securely cached on the Internet rather than in physical servers. The recent movement to consolidate data centers to reduce energy use relies heavily on cloud technology. Proposed legislation would require that government data centers begin consolidating through cloud computing use. This technology, therefore, has multiple non-infringing uses that may outweigh the infringing uses, making it a technology protected under fair use.

### III. EFFECTIVE LAWS HAVE HIGH COSTS

Legislation could provide courts with the authority to prosecute any and all copyright-infringers, could block websites, or could ban the use of certain technologies. VPN providers could be required to keep logs and hand over all information when asked by interested parties. Encryption of Tor routing could be decrypted. Seedbox and cyberlocker sites could be forced to allow copyright holders to comb through them for copyrighted material, or outright banned by legislation. However, by the time that Congress has analyzed the issues and created appropriate legislation, technology will likely have already evolved. Even if legislation kept up with the technology and was broad enough to account for all new technologies that would enable an individual to infringe a copyright, copyright owners' potential remedies would be constrained by a court's jurisdiction.

Legislators should take this constraint into account when balancing the conflicting interests at hand to determine if legislation would benefit or harm consumers, the market, and the content industry. User-generated content is increasingly being freely offered on the Internet; this may steadily replace the content being produced by those within the copyright regime. The Internet's openness, both legislators and regulators alike have averred, is essential for continued innovation. Blocking access to websites may infringe on First Amendment rights. Legislation may be ineffective at hindering copyright infringement.

*A. Increasing Courts' Authority Regarding Copyright Infringement is Not Ideal*

One way to prevent individual P2P file sharing and streaming would be to explicitly make use of such technology illegal in the Copyright statute. As stated previously, any protection afforded to copyrights is wholly statutory.<sup>130</sup> That means that courts are not to overreach and include new technologies without the legislative proscription.<sup>131</sup> However, Congress could decide that the judiciary's long-held reticence to expand the protections afforded by copyright without explicit legislative guidance is no longer the best course of action in these times of quickly advancing technology.<sup>132</sup> Yet federal courts are not able to balance conflicting interests as thoroughly as Congress can, who may conduct hearings to determine the full scope of the issue before deciding on the best course of action. Courts are limited by their funding, time, docket size, and resources—making them poorly suited for determining policy.

Courts may differ in opinions regarding what constitutes copyright infringement, leaving legal uncertainty and stifling innovation until the Supreme Court or Congress acts to resolve the issue. Consider the conflicting opinions between *WNET, Thirteen v. Aereo, Inc.* and *Fox Television Stations v. FilmOn X, LLC*, heard in the Second and D.C. Circuit, respectively. Judges in *Aereo* begrudgingly allowed that the technology used was legal based on precedent, stating that a one-to-one transmission of a single copy of the copyrighted work to a single subscriber is permissible. Yet the D.C. Circuit, relying on legislative history, found that the transmit clause and public performance right of the copyright holders could be found to be violated by the same type of transmission.

So is it still “virtually axiomatic that it the public interest can only be served by upholding copyright protections and correspondingly, preventing the misappropriation of skills, creative energies, and resources which are invested in the protected work?”<sup>133</sup> There may be a tipping point: when capital expenditures are reduced in the U.S. because of copyright protections, one industry's concerns may be outweighed by another's. An issue that requires balancing of industry benefits may be

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130. *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 431 (1984).

131. *Recording Indus. Ass'n of America v. Verizon Internet Servs., Inc.*, 351 F.3d 1229, 1238 (D.C.Cir. 2003).

132. *Sony Corp.*, 464 U.S. at 431.

133. *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1255 (3d Cir. 1983) (citing *Klitzner Indus., Inc. v. H.K. James & Co.*, 535 F.Supp. 1249, 1259-60 (E.D. Pa. 1982)).

better decided by Congress than by courts.

*B. Existing Technology Could Circumvent any Reasonable Legislation*

Even with express statutory language and open judicial interpretation regarding what does or does not constitute copyright infringement, existing technology will allow both the downloaders and providers of copyright materials to circumvent these efforts. As mentioned above, VPNs and Tor provide users with encrypted, log-less navigation of the Internet. Without advanced and varied decryption methods, determining which IP addresses are accessing websites that provide for copyrighted will be difficult. And, as websites providing copyrighted material are moving towards the Deep Web and using advanced cloaking technologies, finding the providing websites will present a similar challenge. The same issue applies to illegal downloaders of copyrighted materials and the website providers who host encrypted cyberlockers and private seedboxes to participate in or allow P2P file sharing. The current method of detecting infringers is to join P2P networks and then track the IP addresses listed or place pressure upon websites that provide links to copyrighted materials. As over 327 million unique Internet users explicitly sought infringing content in North America, Europe, and Asia in January 2013 alone, the scale of copyright infringement makes finding and stopping it a daunting task.

Jurisdiction continues to make reducing copyright infringement difficult for copyright holders and any proposed legislation. The jurisdiction of U.S. courts is constrained to U.S. based IP addresses unless long arm statutes apply. But, courts could decide (or legislators) that because IP addresses are using infrastructure within the U.S. they may be subject to jurisdiction. Yet if any website accessed through the Internet backbone were deemed subject to U.S. jurisdiction, other countries, already concerned about the U.S.'s perceived control over the Internet through ICANN and government monitoring, would likely take offense. Still, if jurisdiction continues to be based on server location alone, cyberlockers, seedboxes, VPNs, and Tor, which can be routed through servers in any number of countries, will continue to shield those providing copyrighted material from legal consequences.

*C. Privacy and Open Internet Concerns with Effective Legislation*

One way to circumvent the jurisdictional issue is to block all potentially infringing sites, like sites that host cyberlockers and

seedboxes, and ban the use of VPNs and Tor. Such action would be over-inclusive unless filtering technology has become sophisticated enough that the regulation would only block websites that are infringing. Supporters of the FCC's Open Internet Order and those involved in the grassroots movement that opposed SOPA and PIPA in 2011 may be outraged by even the proposal of such measures. VPNs, Tor, seedboxes, and cyberlockers all have both infringing and non-infringing uses. It would, arguably, not best serve society to block innovative and privacy-enhancing Internet based technologies.

Technological advances and government choices regarding surveillance have made Internet privacy a serious issue. Even the most secure servers can be hacked, and information is being gathered on individuals without their knowledge with every click of the track pad. With privacy concerns on the rise, legislators should not prevent consumer access to technologies that protect sensitive information. Banning Internet based technologies on the presumption that they can be used for copyright infringement would decrease consumers' ability to proactively protect themselves and their information. The Federal Trade Commission may not want to shoulder sole responsibility of ensuring privacy on the Internet; their history of developing industry best practice standards demonstrates that they often rely on the market to provide privacy protections.

#### *D. Should Copyright Law Evolve?*

Copyright law should do what it was intended to: “[p]romote the [p]rogress of science. . .by securing for limited [t]imes to [a]uthors. . .the exclusive [r]ight to their respective [w]ritings.”<sup>134</sup> The limited monopoly privilege is meant to motivate the creative activity of authors and to allow the public access to the products of this genius after the limited period of exclusive control has expired.<sup>135</sup> “The sole interest of the United States and the primary object in conferring the monopoly lie in the general benefits derived by the public from the labor of authors.”<sup>136</sup> A limited monopoly is granted, which consists of the life of the author and at least 70 years after the author's death—longer, perhaps, if it is an anonymous work.<sup>137</sup> A monopoly that extends longer than statutorily-

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134. U.S. CONST. art. I, § 8.

135. *Sony Corp. of Am. v. Universal Studios, Inc.*, 464 U.S. 417, 429 (1984).

136. *Id.* (internal quotation marks omitted).

137. *See* 17 U.S.C. § 302 (1978).

proscribed 20 year patent protection,<sup>138</sup> even when that patent is a pharmaceutical drug that may cure diseases, aid in the treatment of chronic diseases, or allow for the creation of life-bettering engineering, seems excessive. The public benefits from getting such information into the public sphere of knowledge sooner are greater than the public benefits from getting the rights to the lyrics of “Scatman,” into the public sphere.<sup>139</sup> However, it seems absurd to need to afford up to 140 years of protection to encourage the creation of art, music, and literature (assuming that the copyright began when the producer was twenty and the lifespan of the individual was ninety years). If individuals are incentivized to create a life-saving drug for a mere 20-year monopoly, then individuals should be likewise incentivized to create a popular reggae-scat song for a similar term.

There are over 100 hours of video uploaded to YouTube every minute.<sup>140</sup> While not every video will be the creation of art, music, and literature that Congress intended, there is the likelihood that at least some of these videos contain the type of “science” that Congress intended to encourage. Furthermore, there are over 181 million blogs around the world,<sup>141</sup> over 30 million registered members on deviantART,<sup>142</sup> and over 200 million fully open Creative Commons licenses registered.<sup>143</sup> With this much creativity being shared globally, without incentive, it is arguably unnecessary at this point to provide for a potential 140-year term of copyright protection to achieve the goals laid out by the Constitution.

Furthermore, the people who today reap the benefits of copyright laws are the disseminators of the art rather than the producers of art.<sup>144</sup>

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138. 35 U.S.C. § 154 (2014).

139. JOHN PAUL LARKIN, SCATMAN (SKI BA BOP BA DOP BOP) (RCA Records 1994).

140. YOUTUBE, <http://www.youtube.com/yt/press/statistics.html> (last visited Feb. 21, 2014).

141. *Buzz in the Blogosphere: Millions More Bloggers and Blog Readers*, NIELSON (Mar. 8, 2012), <http://www.nielsen.com/us/en/newswire/2012/buzz-in-the-blogosphere-millions-more-bloggers-and-blog-readers.html>.

142. *About deviantART*, DEVIANTART, <http://about.deviantart.com/> (last visited Feb. 21, 2014).

143. Mike Linksvayer, *The Power of Open: over 400 million CC-licensed works, with increasing freedom*, CREATIVE COMMONS (June 27, 2011), <http://creativecommons.org/weblog/entry/28041>.

144. See Dustin Holton, *How Much Do Screenwriters Earn?*, MADEMANUAL (Apr. 11, 2010), <http://www.mademan.com/mm/how-much-do-screenwriters-earn.html#vply=0>; Alison Flood, *Stop the Press: Half of Self-Published Authors Earn Less than \$500*, THE GUARDIAN (May 24, 2012, 6:46 PM), <http://www.theguardian.com/books/2012/may/24/self-published-author-earnings>; Mike Masnick, *RIAA Accounting: Why Even Major Label Musicians Rarely Make Money From Album Sales*, TECHDIRT (July. 13, 2010, 9:06 AM), <http://www.techdirt.com/articles/20100712/23482610186.shtml> (indicating that for every \$1,000 in music sold, the average musician makes \$23.40).



Those who create screenplays and write novels and produce songs see only a minute fraction of the profits unless they are already established in the industry. Copyright laws, at least in the United States, have moved towards supporting a superfluous set of middlemen rather than the artists themselves. And these middlemen are increasing the prices of works to ensure that their conglomerations can stay afloat in the face of increased piracy. Yet it makes sense that people will pirate a movie or an album rather than pay at least \$20 for something that they will, perhaps, derive a few hours of pleasure from. Louis C.K., a famous comedian, sold his latest live show directly to his fans.<sup>145</sup> In four days he sold over 110,000 copies with profits over \$200,000. Louis C.K. has already benefitted from the middlemen promoting his art. He has done stand-up comedy shows on Comedy Central, acted in his own sitcom, and generated a following through the help of the media industry. Yet he was also able to do his own promotion with the sale of this particular video. Because it was affordable and available, people purchased it. And the artist himself, rather than the industry, reaped the benefits of his work.

To find a way to ensure that this scenario is repeated seems daunting without the infrastructure of the content industry. Yet in this age of YouTube singing sensations, it is not implausible to believe that people could create, market, and then sell their own art without the help of middlemen. It is also not implausible to believe that people would be comfortable with a 20-year term of copyright rather than a lifetime.<sup>146</sup> If the creative type is actually earning the lion's share of the earnings, there is no reason that she couldn't recoup her efforts in that period of time, even with marketing costs.

#### IV. WHAT ARE COPYRIGHT HOLDERS TO DO WITH THIS CHANGE?

Copyright holders are both benefitting from and suffering from the rapid dissemination of information through the Internet. The RIAA estimates that overall revenues from sales of sound recordings in the United States have declined by roughly forty percent from 1999 to 2008,<sup>147</sup> resulting in a loss between 200 and 250 billion dollars in 2005

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145. T.C. Sottek, *Louis C.K. sells his latest live show directly to fans, calls anti-DRM experiment a success*, THE VERGE (Dec. 14, 2011, 6:18 PM), <http://www.theverge.com/2011/12/14/2635967/louis-CK-drm-experiment-live-at-the-beacon-theatre>.

146. *Copyright Law: Killing Creativity*, THE ECONOMIST (Apr. 15, 2004), <http://www.economist.com/node/2592996>.

147. Christopher M. Swartout, *Toward a Regulatory Model of Internet Intermediary: File-Sharing and Copyright Enforcement*, 31 NW. J. INT'L L. & BUS. 499, 503 (2011).

due to piracy.<sup>148</sup> The MPAA estimates that 17.53 percent of U.S. Internet traffic is infringing on television and movie content.<sup>149</sup> This is a staggering amount of infringement affecting an industry that supported over 2.1 million jobs in 2010.<sup>150</sup> These industries rely on copyrights to ensure that people pay their set price to view their product. Without this revenue, the industry will flounder. Jobs will be lost, the national economy will suffer, and content may no longer be produced for people to infringe upon. Yet the dissemination of information on the Internet also increases the number of people that copyright holders can reach, makes advertising a new product less expensive, and provides media producers with a new outlet to distribute their product.

*A. Content Comes at a Price: No Revenue, No Content*

With a reported 2.9 million people, or 2.18 percent of all U.S. jobs, involved in the creation or distribution of the arts, generating 58.4 billion dollars in 2010, there is a lot at stake for these industries if they cannot curb piracy.<sup>151</sup> In 2011, the multichannel industry provided services to 100.4 million subscribers.<sup>152</sup> Films accounted for \$10.2 billion in revenue at the box office for U.S. and Canada in 2011, down four percent from the previous year.<sup>153</sup> The average consumer is not especially Internet savvy—infringement may be occurring, industry officials think, because of a lack of knowledge as to what is or is not copyrighted material.<sup>154</sup> Therefore the majority of consumers still obtain their content from cable or satellite providers, movie theaters, iTunes, and music stores. With advancements in piracy, not only will people lose their jobs in the industry, but eventually, content providers will no longer be able to afford to produce content absent new revenue sources. Record companies

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148. *Intellectual Property Theft: A Threat to U.S. Workers, Industries, and Our Economy Fact Sheet 2012*, DEPARTMENT FOR PROFESSIONAL EMPLOYEES AFL-CIO (Jan. 2012), <http://dpeaflcio.org/programs-publications/issue-fact-sheets/intellectual-property-theft-a-threat-to-u-s-workers-industries-and-our-economy/>[hereinafter *DPE Fact Sheet*].

149. *Technical Report: An Estimate of Infringing Use of the Internet-Summary*, ENVISIONAL 1, 3 (Jan. 2011), [http://documents.envisional.com/docs/Envisional-Internet\\_Usage\\_Report-Summary.pdf](http://documents.envisional.com/docs/Envisional-Internet_Usage_Report-Summary.pdf).

150. *The Economic Contribution of the Motion Picture & Television Industry to the United States*, MPAA, [www.mpa.org/Resources/6f8617ae-bdc7-4ff2-882e-746b1b23aba9.pdf](http://www.mpa.org/Resources/6f8617ae-bdc7-4ff2-882e-746b1b23aba9.pdf) (last visited Feb. 24, 2013).

151. DPE Fact Sheet, *supra* note 148.

152. *2012 US Multichannel Subscribers & Geographic Analysis*, SNL KAGAN (May 2012), <http://www.snk.com/Whitepaper.aspx?id=701C0000000h4DL&group=4>.

153. *Theatrical Market Statistics 2011*, MPAA 1, 2, <http://www.bumpercarfilms.com/assets/downloads/movies.pdf> (last visited Feb. 24, 2013).

154. *See The Copyright Alert System*, CENTER FOR COPYRIGHT INFORMATION, <http://www.copyrightinformation.org/the-copyright-alert-system/> (last visited Feb. 24, 2013).

will no longer be able to promote and foster the growth of new artists. However, it is the individuals working in movie theaters, at record stores, and on movie sets who will lose their jobs first. It is estimated that the U.S. economy loses 373,375 jobs annually due to piracy.<sup>155</sup> This does not include estimates of job losses in businesses peripherally supported by the music, movie, and television industry: caterers, video rental operations, and costume dry-cleaners.<sup>156</sup>

Yet the loss of jobs does not represent the full impact of piracy on the industry; cable and satellite providers, which provide consumers access to content, will need to pass off the lost advertising revenue costs that they incur to consumers. This rise in cable prices may lead to an increase in people cutting back costs through cord-cutting, which may lead to even less revenue for the cable companies. And, as cost of content is increasing, perhaps in part due to the losses from piracy, cable companies will be placed in an impossible situation: they cannot lose customers for fear of losing advertising revenue and not being able to afford content, but MVPDs also cannot reduce their content provision for the fear of losing subscribers and advertising revenue.

With the advent of technologies that allow you to bypass commercials, such as Hopper, DVR, and Aereo, advertisers will not be gaining the results that they expect from MVPDs. This adds to what is termed, “the MVPD squeeze.” It can be presumed that with the continued provision of over-the-top content, such as online, real-time streaming sports and television shows, and the increasing integration of television and the Internet through Roku, Apple TV, X-Box, and smart TV sets, MVPDs will be eventually phased out. With increased technology, there is slowly less and less need for middlemen, who used to be the only providers of content to consumers. Content providers, with increased technology, can easily sell their content directly to the users. If the content is accessible, available, and reasonably priced, people are less likely to pirate.<sup>157</sup>

### *B. Over-the-Top Provision of Content*

In response to the growing demand of cross screen services, or the ability to shift watching content from device to device, cable operators such as Time Warner Cable and Comcast have begun selling premium TV to broadband and mobile subscribers through their TV Everywhere

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155. DPE Fact Sheet, *supra* note 148.

156. *Id.*

157. Christina Warren, *Why SOPA and PIPA Won't Stop Real Piracy*, MASHABLE (Jan. 18, 2012), <http://mashable.com/2012/01/18/sopa-and-pipa-wont-stop-piracy>.

initiative.<sup>158</sup> Content providers have rolled out preliminary interfaces to provide their content to subscribers<sup>159</sup> or publicly, with plenty of advertisement interspersed in the content.<sup>160</sup> These sites are supplemented by subscription-only streaming websites like Hulu Plus, Netflix's Instant Video, and Amazon Prime. Although these websites have been criticized for their lack of content,<sup>161</sup> both Hulu Plus and Netflix have enough revenues to produce their own content.<sup>162</sup>

As broadband technology becomes more common across the United States with the work of the National Broadband Plan, the allocation of spectrum for public WiFi, Google's expansion into the fiber-optic market, and an increasingly technology-savvy generation, the demand for cross screen services will only increase. And, barring monopolistic MVPDs in an area, new subscribers will likely choose the cable or satellite provider with the best cross screen provision. As multichannel service provision becomes infeasible, content providers will likely license their content to established streaming providers or create their own subscription service to provide the revenue stream needed to produce their content.

### C. Alternate Revenue Sources

Although it is very doubtful that the MVPD squeeze will quickly phase out these entrenched providers, especially with the long-standing relationships that satellite and cable providers have with content providers, the presumption still stands that as technology continues to develop, both advertisers and content providers will no longer need cable

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158. *Multi-screen in demand: Consumer Interest in cross screen services*, ALCATEL-LUCENT 1, 2, [http://www3.alcatel-lucent.com/wps/DocumentStreamerServlet?LMSG\\_CABINET=Docs\\_and\\_Resource\\_Ctr&LMSG\\_CONTENT\\_FILE=Other/Multi-screen-in-demand-Consumer-interest-in-cross-screen-services.pdf&lu\\_lang\\_code=en\\_WW](http://www3.alcatel-lucent.com/wps/DocumentStreamerServlet?LMSG_CABINET=Docs_and_Resource_Ctr&LMSG_CONTENT_FILE=Other/Multi-screen-in-demand-Consumer-interest-in-cross-screen-services.pdf&lu_lang_code=en_WW) (last visited Feb. 24, 2013).

159. HBO GO, <http://www.hbogo.com/> (last visited Feb. 24, 2013).

160. See ABC, <http://abc.go.com/> (last visited Jan. 31, 2014); AMC, <http://www.amctv.com/> (last visited Jan. 31, 2014); Fox, <http://www.fox.com/> (last visited Jan. 31, 2014); HULU, <http://www.hulu.com/> (last visited Jan. 31, 2014); NBC, <http://www.nbc.com/> (last visited Jan. 31, 2014).

161. Don Reisinger, *Netflix streaming: Mighty popular, but sadly lacking*, CNET (July 26, 2012, 6:11 AM), [http://news.cnet.com/8301-1023\\_3-57480439-93/netflix-streaming-mighty-popular-but-sadly-lacking](http://news.cnet.com/8301-1023_3-57480439-93/netflix-streaming-mighty-popular-but-sadly-lacking).

162. David Carr, *Giving Viewers What They Want*, N.Y. TIMES (Feb. 24, 2013), <http://www.nytimes.com/2013/02/25/business/media/for-house-of-cards-using-big-data-to-guarantee-its-popularity.html?pagewanted=all&r=0>; Anna Heim, *Hulu keeps betting on original and exclusive content, with new series coming in 2013*, THE NEXT WEB (Jan. 8, 2013, 5:04 PM), <http://thenextweb.com/media/2013/01/08/hulu-keeps-betting-on-original-and-exclusive-content-with-new-series-coming-in-2013>.

or satellite companies to reach consumers. And, with appropriate alternate revenue sources, they will not need to. Content providers may be able to sell their content directly to consumers at a rate that would pay for their content and dissuade online users from pirating their content. Furthermore, content providers can create advertising revenue through banner ads, ads placed before or during the content viewing, product placement within media, and by allowing third party tracking sites to gather user-generated data on their site visitors. Internet advertising revenues are rapidly increasing on a yearly basis.

## V. CONCLUSION

Employees are illegally downloading content at congressional offices, the FBI, the Department of Justice, record labels, and movie studios. Even those in the business of enforcing copyright laws (or asking for copyright laws to be enforced) are breaking these laws.<sup>163</sup> This supports the idea that although society knows that this is an illegal activity, it is still considered acceptable.<sup>164</sup> The normalization of copyright infringement demonstrates that the market is evolving as the technology available does. It also demonstrates the desire for increased access to content. Consumers either need to realize that without payment, such content cannot continue to be made available, or copyright holders need to realize that this content needs another source of funding. Congressional action is required to effect change. What that Congressional action should be is going to be the subject of much debate, and hopefully, much further inquiry.

It is clear that new technological developments are allowing online piracy of copyrighted materials to increase, that copyright holders would desperately like to stop this from happening, and that legislators are unsure about how to proceed. On the one hand, Congress wants to promote the useful arts and sciences. On the other hand, Congress needs to consider the repercussions involved in doing so, which may include: inhibiting free speech, stifling innovation, decreasing available Internet privacy protections, invading consumer privacy, encouraging segregation

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163. Ernesto, *FBI Employees Download Pirated Movies and TV-Shows*, TORRENTFREAK (Feb. 9, 2013), <http://torrentfreak.com/fbi-employees-download-pirated-movies-and-tv-shows-130209>.

164. See Enigmax, *70% of the Public Finds Piracy Socially Acceptable*, TORRENTFREAK (Feb. 28, 2011), <http://torrentfreak.com/piracy-socially-acceptable-110228> (describing a Danish study supporting this contention); Milo Yainopoulos, *Why is online piracy considered socially acceptable?*, THE TELEGRAPH (Jan. 18, 2011, 5:46 PM), <http://www.telegraph.co.uk/technology/8267238/Why-is-online-piracy-considered-socially-acceptable.html>.

of the web, reducing investment in U.S. based servers and other Internet technology, antagonizing foreign nations, and circumventing the development of a new market for content. Legislators, who are better suited address this issue than courts are, should carefully consider all the costs involved before acting.