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Statement of Annemarie Bridy  
Alan G. Shepard Professor of Law  
University of Idaho College of Law

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## THE ENDURING SOUNDNESS OF SECTION 512

### *Introduction*

Committee Chairman Goodlatte, Subcommittee Chairman Coble, Ranking Member Conyers, and members of the subcommittee, thank you for the opportunity to appear before you today. I am Annemarie Bridy, the Alan G. Shepard Professor of Law at the University of Idaho College of Law. I have a doctorate in English literature and a law degree, and I have taught copyright and Internet law since entering the legal academy seven years ago.

I appreciate the opportunity to address the effectiveness of § 512 of Title 17, which was enacted as Title II of the Digital Millennium Copyright Act of 1998 (DMCA). I would like to make two points about Section 512 that I believe are important to bear in mind as the Committee contemplates the scope and shape of what Register Pallante has called the Next Great Copyright Act. The first point is that the balancing of interests struck in Section 512 remains both sound copyright policy and sound innovation policy. Section 512 has three groups of beneficiaries: owners of copyrights in digital content, users of copyrighted digital content, and online intermediaries that act as conduits and repositories for that content. Over the years, all three groups have been well served by the nuanced enforcement framework embodied in § 512.

The second point is that Section 512 has proven to be remarkably resilient in the face of the Internet's evolving culture and technology. No one doubts that the scale of copyright infringement online is massive or that willful infringers online are adept evaders of enforcement. Perfect copyright enforcement online is a chimera, however; it is technically impossible and economically infeasible. What § 512 facilitates is not perfect enforcement but fair and workable enforcement. The notice-and-takedown regime in § 512(c) has scaled well for enforcing copyrights in the voluminous content hosted by online service providers (OSPs). Corporate copyright owners and OSPs have cooperated to automate the notice-and-takedown process to the greatest extent possible, thereby lowering the significant costs associated with enforcement for both groups. For copyright owners who cannot afford automated systems, many of the larger online user-generated content platforms provide fillable forms that can be electronically submitted. Section 512 has scaled less well for enforcing copyrights over peer-to-peer (P2P) networks, but usage of such networks has been declining significantly as legal download and streaming services expand for both music and video.<sup>1</sup>

Under the division of labor created in § 512, copyright owners are responsible for investigating and identifying specific instances of infringement, and OSPs are responsible for removing or disabling access to infringing material when they receive notice of it. The

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<sup>1</sup> See Angela Moscaritolo, *Illegal Music File-Sharing "Declined Significantly" in 2012*, PC MAG, Feb. 26, 2013, <http://www.pcmag.com/article2/0,2817,2415896,00.asp>.

framework imposes significant costs and responsibilities on both parties, in recognition of the fact that online enforcement must be collaborative if it is to be effective. To the extent that the costs of enforcement fall more heavily on copyright owners, the allocation is a reasonable one, particularly when the OSPs in question are, as they very often are, startups with very limited resources. Imposing on Internet startups a larger share of the enforcement burden than § 512 now does would erect a potentially insurmountable barrier to entry.

The legislative history of the DMCA frames the statute as a means of ensuring the continued global growth of the Internet.<sup>2</sup> If growth of the Internet is a metric by which we can gauge the success of § 512, then § 512 has been wildly successful. Fifteen years after the DMCA's enactment, there are over 2.4 billion Internet users worldwide, a growth rate of over 550% between 2000 and 2012.<sup>3</sup> As the Internet has grown and thrived, so, too, have the copyright industries, which have successfully adapted their business models to meet robust consumer demand for music and films distributed online in digital formats. According to the International Federation for the Phonographic Industry (IFPI), global revenue from digital music sales was \$5.8 billion in 2012, which represented growth of 8% over the previous year.<sup>4</sup> There were 4.3 billion paid downloads, a 12% global increase.<sup>5</sup> If the music industry stumbled in its initial transition to online distribution, it has since returned to a very sure footing. Thanks in no small part to the workable balancing of interests accomplished by § 512, copyright owners, OSPs, and the American public are all sharing in the fruits of the Internet's cultural and commercial flourishing.

## *Discussion*

### *1. SECTION 512 IS BOTH SOUND COPYRIGHT POLICY AND SOUND INNOVATION POLICY.*

In the “Online Copyright Infringement Liability Limitation Act” (Title II of the Digital Millennium Copyright Act (the “DMCA”), now codified at 17 U.S.C. § 512), Congress attempted to strike a balance among the rights and obligations of three separate constituencies, each holding substantial, and often conflicting, interests in regard to the distribution of copyrighted works on the Internet: Copyright owners, fearing massive infringement of their protected works;<sup>6</sup> OSPs, concerned with uncertain and potentially astronomical liability under ordinary principles of direct and secondary copyright infringement;<sup>7</sup> and Internet users, seeking

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<sup>2</sup> See S. REP. NO.105-190, at 1–2 (1998) (“The ‘Digital Millennium Copyright Act of 1998’ is designed to facilitate the robust development and world-wide expansion of electronic commerce, communications, research, development, and education in the digital age.”).

<sup>3</sup> See Internet World Stats: Usage and Population Statistics, available at <http://www.internetworldstats.com/stats.htm>.

<sup>4</sup> See IFPI Facts and Stats, available at <http://www.ifpi.org/facts-and-stats.php>.

<sup>5</sup> *Id.*

<sup>6</sup> See S. REP. NO. 105-190 (1998), at 8.

<sup>7</sup> See *id.* (“[W]ithout clarification of their liability, service providers may hesitate to make the necessary investment in the expansion of the speed and capacity of the Internet”).

to participate in a growing Internet containing content “as diverse as human thought,”<sup>8</sup> a rich array of entertainment, information, goods, services, and ideas that was becoming, as the Supreme Court described it at the time, “a unique and wholly new medium of worldwide human communication.”<sup>9</sup>

Over the last fifteen years, the scheme that Congress implemented in the DMCA, as interpreted by the federal courts in a number of significant and high-profile cases, has been resoundingly successful at forging an equitable balance among these conflicting interests. OSPs have a clear and straightforward set of ground rules to follow, allowing them to conform their operations to the law and, thereby, to avoid the specter of potentially crushing liability. At the same time, copyright owners, through the notice-and-takedown process spelled out in § 512(c), have simple and cost-effective means to curtail large numbers of unauthorized and infringing uses of their protected expression.

The benefits that Internet users – *i.e.*, the public – have reaped from this compromise have been profound. Along with its companion provision in federal law, 47 U.S.C. § 230,<sup>10</sup> which similarly provides OSPs with a safe harbor from claims arising from their users’ activities, the DMCA has fueled extraordinary and unprecedented growth in innovative Internet services based entirely on user expression. This explosion of participatory (often referred to as “user-generated content,” or “Web 2.0”) online services has, in turn, fueled the growth and evolution of the Internet itself as a truly global communications platform, one that has become, as news headlines continue to remind us, a powerful tool for grass roots democratic movements around the world.<sup>11</sup> Thousands of Internet businesses, many of which are now household names across the globe – *e.g.*, Facebook, Twitter, YouTube, Blogger, Craigslist, Pinterest, Tumblr, Flickr, and many, many others – have emerged over the past fifteen years sharing one common characteristic: they provide virtually no content of their own (copyrightable or otherwise), but rely instead entirely on their users to make their sites valuable, engaging, and attractive for other users. Internet users have responded to the Web 2.0 phenomenon in truly breathtaking numbers.<sup>12</sup>

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<sup>8</sup> *Reno v. American Civil Liberties Union*, 521 U.S. 844, 870 (1997).

<sup>9</sup> *Id.* at 850.

<sup>10</sup> 47 U.S.C. § 230(c)(1) protects “provider[s] [of] interactive computer service(s)” against claims arising from “any information provided by another information content provider,” and has been applied to immunize service providers against a wide range of federal and state law claims. *See, e.g., Zeran v. America Online, Inc.*, 129 F.3d 327 (4th Cir. 1997); *Chicago Lawyers’ Committee for Civil Rights Under Law, Inc., v. Craigslist, Inc.*, 519 F.3d 666 (7th Cir. 2008). By its express terms, however, § 230 does not encompass any intellectual property claims, *see* 47 U.S.C. § 230(d)(2) – precisely the gap that Congress filled in 1998 in Title II of the DMCA.

<sup>11</sup> *See, e.g., Jennifer Preston, While Facebook Plays a Star Role in the Revolts, Its Executives Stay Offstage*, NY TIMES, Feb. 15, 2011, at A10 (describing role of Facebook and other “social media” websites in the 2011 uprising in Egypt).

<sup>12</sup> For example, recent estimates put the volume of user uploads to the video-sharing site YouTube at 100 hours of video per minute. *See* YouTube Statistics, <http://www.youtube.com/yt/press/statistics.html>. The photo sharing site Flickr has an average of 3,000 photos uploaded by users per minute. *See* Statistic Brain, <http://www.statisticbrain.com/social-networking-statistics/>. And Facebook users share 70 billion pieces of content per month. *See id.*

It is difficult, if not impossible, to imagine this development in the absence of strong DMCA safe harbors. It is no coincidence that *all* of the service providers listed in the preceding paragraph are based here in the United States, where Congress had the foresight in the early days of the Internet to understand that unlimited or uncertain service provider liability for third-party conduct would have drastic, negative consequences for the realization of the Internet's full economic and cultural potential.<sup>13</sup> Without the limitations on liability provided by the DMCA's safe harbors, the legal exposure for a service provider relying upon legions of users freely sharing content with one another would be unmanageable;<sup>14</sup> a business built on such a foundation could hardly have attracted financing in any rational marketplace, given the scope of the potential liability.

At the same time, the DMCA safe harbors provide copyright owners with a direct, efficient, and effective remedy against infringing conduct on the massive scale made possible by participatory media platforms. Through the notice-and-takedown procedures set forth in § 512(c), millions of infringing works have been quickly removed from circulation over the Internet through a process that avoids costly and time-consuming adjudication while simultaneously providing due consideration of the interests of all parties involved.<sup>15</sup>

The DMCA also protects Internet users, whose expressive rights could be compromised by over-enforcement. Sections 512(f) and (g) indicate deep Congressional concern with the implications of the notice-and-takedown system for ordinary Internet users, who could easily find themselves caught between overly-assertive copyright owners on the one hand and overly-risk-averse OSPs on the other. Section 512(g) protects OSPs against claims arising from their "good faith disabling of access to, or removal of, material or activity claimed to be infringing."<sup>16</sup> In the case of removals pursuant to the notice-and-takedown procedures, this protection applies *only* if the OSP has both provided notice of the removal to the users responsible for posting the material<sup>17</sup> and afforded those users an opportunity to provide a "counter notification" stating their "good faith belief that the material was removed or disabled as a result of mistake or misidentification."<sup>18</sup> If the OSP receives such a counter notification, it can invoke the safe harbor

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<sup>13</sup> See S. REP. NO. 105-190 (1998), at 40 (noting that the "liability of online service providers and Internet access providers for copyright infringements that take place in the online environment has been a controversial issue," and that the Title II of the DMCA was designed to "provide[ ] greater certainty to service providers concerning their legal exposure for infringements that may occur in the course of their activities").

<sup>14</sup> A copyright holder is entitled to "an award of statutory damages for all infringements [of] any one work, . . . in a sum of not less than \$750 or more than \$30,000 as the court considers just," which can be increased at the court's discretion to \$150,000 in cases involving "willful infringement." See 17 U.S.C. § 504(c)(1) and (2). At the scale and volume at which many user-generated content websites are operating, the potential infringement liability for even a day's worth of activity can mount into the millions or billions of dollars.

<sup>15</sup> See *Viacom Int'l Inc. v. YouTube, Inc.*, 718 F. Supp. 2d 514, 524 (S.D.N.Y. 2010) (noting that "the present case shows that the DMCA notification regime works efficiently: when Viacom over a period of months accumulated some 100,000 videos and then sent one mass takedown notice on February 2, 2007, by the next business day YouTube had removed virtually all of them"), *aff'd in part and vacated in part*, 676 F.3d 19 (2d Cir. 2012).

<sup>16</sup> 17 U.S.C. § 512(g)(1).

<sup>17</sup> 17 U.S.C. § 512(g)(2)(A).

<sup>18</sup> 17 U.S.C. § 512(g)(3)(C).

only if it (a) “promptly provides . . . a copy of the counter notification” to “the person who provided the [takedown] notification”<sup>19</sup> (i.e., the copyright holder who initiated the takedown), and (b) “replaces the removed material and ceases disabling access to it not less than 10, nor more than 14, business days following receipt of the counter notice,”<sup>20</sup> unless, in that intervening period, the copyright holder has informed the OSP that it has “filed an action seeking a court order to restrain the subscriber from engaging in infringing activity relating to the material on the service provider’s system or network.”<sup>21</sup> Finally, § 512(g) provides that OSPs that *replace* infringing material in compliance with the counter notice, like those that *remove* infringing material in compliance with the original takedown notice, are not liable for any claims arising from that action.<sup>22</sup>

Section 512(f), for its part, helps to ensure that all of the information being provided in this complex notice-and-counter-notice scheme is accurate and reliable. It imposes liability on anyone who “knowingly materially misrepresents . . . that material or activity is infringing” (in the copyright holder’s takedown notice) or that “material or activity was removed or disabled by mistake or misidentification” (in the user’s counter-notice).<sup>23</sup>

The scheme is carefully wrought and finely balanced. It contemplates a world in which copyright owners initiate infringement remediation through § 512(c)(1)(C) takedown notices, knowing that they will be responsible for any material misrepresentations contained therein.<sup>24</sup> OSPs, relying on the information provided in the takedown notice, may remove the material so identified and inform the users responsible for uploading the material that they have done so. If the OSP receives a counter-notice from a user (who is likewise subject to the § 512(f) prohibition on material misrepresentations) informing the OSP that the user has a good faith belief that the material is *not* infringing, the OSP informs the copyright holder of the counter-notice and restores the material in question, unless the copyright holder chooses to file suit to protect its rights. In that case, the OSP leaves the disputed material off-line.

The goal Congress was pursuing in §§ 512(f) and (g) is clear: Infringing material should be rapidly and permanently removed, but *non*-infringing material should remain available and accessible. Users and copyright owners are charged with acting in good faith in declaring works to be in one category or the other. If OSPs respond to notices and counter-notices within the parameters laid out by the statute, they are effectively insulated from having to adjudicate what are, in the end, disputes between copyright owners and users. By carrying out their duties, OSPs

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<sup>19</sup> 17 U.S.C. § 512(g)(2)(B).

<sup>20</sup> 17 U.S.C. § 512(g)(2)(C).

<sup>21</sup> *Id.*

<sup>22</sup> See 17 U.S.C. § 512(g)(4) (A service provider’s compliance with the notification and counter-notification procedures set forth in § 512(g)(2) “shall not subject the service provider to liability for copyright infringement with respect to the material identified in the [takedown] notice provided under [§ 512(c)(1)(C)].”).

<sup>23</sup> 17 U.S.C. § 512(f).

<sup>24</sup> See *Lenz v. Universal Music Group*, 572 F. Supp. 2d 1150, 1154-55 (N.D. Cal. 2008).

can be assured of protection against claims that they are infringing copyright (when they replace material that has been removed) and against claims that they are violating the contractual rights of their users (when they remove material at the direction of copyright owners).

Section 512 thus balances the competing interests of copyright owners, users, and OSPs in a nuanced enforcement regime that requires each group to make a proportional investment of time and resources to ensure that unlawful content is removed from circulation and lawful content remains available online. While § 512 does not guarantee perfect enforcement, it has successfully protected the interests of copyright owners through their difficult transition from brick-and-mortar to online distribution, and it has successfully protected user-generated content platforms in the early stages of their development, when success is uncertain and resources are scarce.

## 2. *SECTION 512 HAS BEEN RESILIENT IN THE FACE OF AN EVOLVING INTERNET.*

To facilitate the goal of ensuring the continued growth of the Internet, the DMCA was crafted to minimize obstacles to growth for both copyright owners, who would not expand the digital distribution of their works without assurances that they would be protected from “massive piracy,” and OSPs,<sup>25</sup> who would not expand their sites and networks without assurances that they would be protected from massive liability for copyright infringement.<sup>26</sup> In light of the legislative history’s focus on promoting Internet growth, the DMCA can be understood as a mechanism for simultaneously scaling up online copyright enforcement and scaling back online copyright liability—a unified solution designed to give rights owners the security necessary to expand content distribution and OSPs the security necessary to expand applications and network infrastructure.

The DMCA scales up enforcement while scaling back liability through provisions in Title I that prohibit circumvention of technological protection measures<sup>27</sup> and provisions in Title II that create safe harbors for service providers, conditioned on their assisting rights owners in the expeditious resolution of online copyright infringement disputes.<sup>28</sup> There are two provisions from Title II on which copyright owners have relied heavily in their efforts to make enforcement scale

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<sup>25</sup> In the statute, the term “service provider” is defined broadly to include both providers of Internet access (ISPs) and providers of online services. See 17 U.S.C. § 512(k).

<sup>26</sup> See S. REP. NO. 105-190, at 8 (“Due to the ease with which digital works can be copied and distributed worldwide virtually instantaneously, copyright owners will hesitate to make their works readily available on the Internet without reasonable assurance that they will be protected against massive piracy. . . . At the same time, without clarification of their liability, service providers may hesitate to make the necessary investment in the expansion of the speed and capacity of the Internet.”).

<sup>27</sup> See 17 U.S.C. § 1201.

<sup>28</sup> See 17 U.S.C. § 512(a)–(d). As Edward Lee has noted, Title I expands copyright liability, while Title II contracts it. Edward Lee, *Decoding the DMCA Safe Harbors*, 32 COLUM. J.L. & ARTS 233, 233 (2009).

for the digital environment: § 512(c), which establishes the notice-and-takedown framework,<sup>29</sup> and § 512(h), which allows rights owners to serve subpoenas on service providers outside of litigation to obtain the identities of alleged infringers.<sup>30</sup> Tacitly premised on the reality that litigation is not an efficient means of resolving the voluminous infringement claims that arise in the context of online services, § 512(c) and § 512(h) require service providers to act cooperatively with rights owners, without intervention from a court, to remove allegedly infringing content from their services and to identify those ostensibly responsible for its distribution.

Despite initial resistance from both groups, OSPs and rights owners have adapted quite well over the last fifteen years to doing business within the parameters defined by the DMCA's notice-and-takedown system.<sup>31</sup> On YouTube, for example, the § 512(c) notice process can be initiated with the click of a mouse following completion of a simple, fillable online form.<sup>32</sup> Facebook, Scribd, and Pinterest also offer standardized online notice forms that can be submitted electronically.<sup>33</sup> The forms are structured to comply with the requirements of § 512(c)(3)(A), so that even copyright owners lacking counsel or legal sophistication can easily seek redress. On the Internet's most popular content-sharing sites, the notice-and-takedown system has come to operate as a well-oiled, always-on copyright enforcement machine.

Notwithstanding this fact, corporate rights owners have argued since the DMCA's enactment, and more loudly since the dawn of Web 2.0, that the notice-and-takedown machinery in the DMCA is inadequate to protect their rights.<sup>34</sup> Viacom, for example, has pressed this argument in ongoing litigation against YouTube, now on appeal for the second time in the Second Circuit.<sup>35</sup> In its initial opinion granting YouTube's motion for summary judgment based

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<sup>29</sup> See 17 U.S.C. § 512(c); see also Jennifer M. Urban & Laura Quilter, *Efficient Process or "Chilling Effects"?* *Takedown Notices under Section 512 of the Digital Millennium Copyright Act*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 621, 624–31 (2006) (giving a detailed explanation of the mechanics of notice and takedown under the DMCA).

<sup>30</sup> See 17 U.S.C. § 512(h) ("A copyright owner or a person authorized to act on the owner's behalf may request the clerk of any United States district court to issue a subpoena to a service provider for identification of an alleged infringer . . . . The request may be made by filing with the clerk . . . a copy of a notification described in subsection (c)(3)(A); a proposed subpoena; and a sworn declaration to the effect that the purpose for which the subpoena is sought is to obtain the identity of an alleged infringer and that such information will only be used for the purpose of protecting rights under this title.").

<sup>31</sup> See Jerome H. Reichman, Graeme B. Dinwoodie, & Pamela Samuelson, *A Reverse Notice and Takedown Regime to Enable Public Interest Uses of Technically Protected Copyrighted Works*, 22 BERKELEY TECH. L.J. 981, 994 (2007) (concluding that "the past decade of experience with the DMCA notice and takedown regime suggests that a relatively balanced and workable solution to this particular dual-use technology problem has been found.").

<sup>32</sup> See YouTube Copyright Infringement Notification, [https://www.youtube.com/copyright\\_complaint\\_form](https://www.youtube.com/copyright_complaint_form).

<sup>33</sup> See, e.g., Pinterest Copyright Infringement Notification, <http://www.pinterest.com/about/copyright/dmca/>.

<sup>34</sup> See, e.g., Anthony Bruno, *RIAA to Google: Help Us Fight Piracy*, BILLBOARD.BIZ, Aug. 19, 2010, [http://www.billboard.biz/bbbiz/content\\_display/industry/e3if6a7faa5026473498f596f5a73238fa5](http://www.billboard.biz/bbbiz/content_display/industry/e3if6a7faa5026473498f596f5a73238fa5) (reproducing the text of a letter from the RIAA and other industry groups to Google CEO Eric Schmidt, in which the senders state that "[t]he current legal and regulatory regime is not working for America's creators"); Declan McCullagh, *RIAA: U.S. Copyright Law 'Isn't Working'*, CNET NEWS (Aug. 23, 2010), [http://news.cnet.com/8301-13578\\_3-20014468-38.html](http://news.cnet.com/8301-13578_3-20014468-38.html) (quoting RIAA president Cary Sherman).

<sup>35</sup> See *Viacom*, 940 F. Supp. 2d 110, 113 (S.D.N.Y. 2013) (granting summary judgment to YouTube on remand from the Second Circuit). In its complaint, Viacom accused Google of "shift[ing] the burden entirely onto copyright

on the company's consistent compliance with the terms of the DMCA's safe harbor provisions, the district court rejected Viacom's contention that the notice-and-takedown system is an enforcement failure.<sup>36</sup> On the contrary, the court concluded, evidence in the record suggested that the system is both functional and efficient: "Indeed, the present case shows that the DMCA notification regime works efficiently: When Viacom over a period of months accumulated some 100,000 videos and then sent one mass take-down notice on February 2, 2007, by the next business day YouTube had removed virtually all of them."<sup>37</sup>

Viacom's power to eliminate 100,000 instances of alleged infringement overnight, with a single notice, is a testament to the DMCA's success in making online enforcement scalable without creating growth-inhibiting burdens for online services whose business models are founded on content sharing. Although copyright owners continue to advocate interpretations of the DMCA that would require OSPs to be more proactive in their efforts to enforce third-party copyrights, the DMCA is quite clear that active monitoring for infringing content is not a burden that Congress saw fit to allocate to service providers when it balanced the need to make the Internet safe for copyright owners against the need to promote growth and innovation in online services. That allocative choice was reasonable in 1998, and it remains reasonable in 2014.

It is not the end of the story, however, to say that the DMCA's enforcement machinery has proven to be scalable with respect to service providers that host content for users. The DMCA has not scaled well for enforcing copyrights infringed by means of P2P file-sharing networks, because the statute was designed primarily to address infringements that occur when users upload copyrighted material to a provider's servers or link to infringing content posted by others.<sup>38</sup> When it enacted the DMCA, Congress did not anticipate the distributed nature of P2P networks or the correspondingly distributed nature of the infringement they would enable. High-volume infringement is relatively easy to detect and combat when the content in question is fixed on the servers of easily identifiable intermediaries with duly designated DMCA agents;<sup>39</sup> it becomes much harder to detect and combat when that content is in transit across a distributed network whose membership is anonymous and dynamic.

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owners to monitor the YouTube site on a daily or hourly basis to detect infringing videos and send notices to YouTube demanding that it 'take down' the infringing works." Complaint for Declaratory and Injunctive Relief and Damages at ¶ 6, *Viacom*, 718 F. Supp. 2d 514 (No. 1:07CV02103). In reality, the law puts that burden squarely on rights owners like Viacom; the DMCA expressly does not condition eligibility for safe harbor on a service provider's monitoring its service for infringing content. See 17 U.S.C. § 512(m) (2006) ("Nothing in this section shall be construed to condition the applicability of subsections (a) through (d) on a service provider monitoring its service or affirmatively seeking facts indicating infringing activity . . .").

<sup>36</sup> *Viacom*, 718 F. Supp. 2d at 524.

<sup>37</sup> *Id.*

<sup>38</sup> See Niva Elkin-Koren, *Making Technology Visible: Liability of Internet Service Providers for Peer-to-Peer Traffic*, 9 N.Y.U. J. LEGIS. & PUB. POL'Y 15, 41 (2006) ("[The DMCA] was designed to address a mainly centralized architecture . . . . Peer-to-peer architecture, by contrast, is decentralized and allows users to search for files stored in the libraries of other users.").

<sup>39</sup> See 17 U.S.C. § 512(c)(2) (requiring designation of an agent to receive notifications of claimed infringement).

The safe harbor provisions of § 512 cover four types of service provider functions: transitory digital network communications (i.e., routing and transmission), system caching, storage on behalf of users, and information location.<sup>40</sup> Service providers performing each of these functions, with the significant exception of routing and transmission, are required to comply with the notice-and-takedown framework in § 512(c).<sup>41</sup> The DMCA’s primary focus on user-uploaded material residing on the systems of OSPs reflects the then-current state of the art in network architecture.<sup>42</sup> Before P2P file-sharing applications came onto the scene, the most copyright-relevant function an online service provider performed was storage on behalf of users—the function covered by the safe harbor in § 512(c).<sup>43</sup> In P2P networks, however, files are not uploaded to a provider’s server; they remain instead on the users’ own systems, from which other users directly retrieve them.<sup>44</sup> In this architecture, the most copyright-relevant functions a service provider performs are routing and transmission—the functions covered by the safe harbor in § 512(a).<sup>45</sup> Because the DMCA was designed to deal with providers serving a centralized file-storage function, it has proven a poor fit in cases involving P2P, where the service provider functions only as a pass-through or conduit for the transfer of infringing material.<sup>46</sup>

The DMCA’s exemption of providers of routing and transmission services (a.k.a. “mere conduits”) from the notice-and-takedown requirements in § 512(c) is entirely consistent with the fact that such providers do not store or control user content.<sup>47</sup> Nevertheless, the exemption has operated in the context of P2P file-sharing to negate the scalable enforcement mechanism that notice and takedown provides. Inasmuch as P2P file-sharing shifts the locus of infringing activity from the storage function to the transmission function, it places such activity beyond the knowledge and control of the OSP and thus beyond the reach of the enforcement scheme created by § 512(c).<sup>48</sup>

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<sup>40</sup> See *id.* § 512(a)–(d).

<sup>41</sup> For providers of system caching, the requirement is found at § 512(b)(2)(E). For providers of storage on behalf of users, the requirement is found at § 512(c)(1)(C). For providers of information location tools, the requirement is found at § 512(d)(3). There is no corresponding requirement for providers of routing and transmission services.

<sup>42</sup> See Elkin-Koren, *supra* note 38, at 41.

<sup>43</sup> See Annemarie Bridy, *Graduated Response and the Turn to Private Ordering in Online Copyright Enforcement*, 89 OR. L. REV. 81, 97 (2010).

<sup>44</sup> *Id.* (citing *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1011 (9th Cir. 2001) (explaining how a P2P system works)).

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> See *Recording Indus. Assoc. of Am. v. Charter Commc’ns, Inc.*, 393 F.3d 771, 776 (8th Cir. 2005) (explaining that the absence of the notification and remove-or-disable-access provisions from § 512(a) “makes sense where an ISP merely acts as a conduit for infringing material . . . because the ISP has no ability to remove the infringing material from its system or disable access to the infringing material”).

<sup>48</sup> Although in-network filtering and blocking technologies have greatly evolved since the passage of the DMCA, and broadband providers actively manage network traffic in ways that were not then possible, the statute presupposes a passive transit model; § 512(a) requires that material be transmitted through the qualifying provider’s system “through an automatic technical process and without selection of the material by the service provider.” 17 U.S.C. § 512(a)(2).

As a consequence of the exemption of conduit providers from the notice and takedown requirements of § 512(c), the expedited subpoena provision in the DMCA—§ 512(h)—has also been held inapplicable to these providers.<sup>49</sup> This is because the application for a subpoena under § 512(h) must include a copy of the notice described in § 512(c)(3)(A).<sup>50</sup> The notice described in § 512(c)(3)(A) must identify, among other things, “the material that is claimed to be infringing . . . and that is to be removed or access to which is to be disabled” by the service provider.<sup>51</sup> In reaching the conclusion that the subpoena power in § 512(h) cannot be held to extend to providers covered by § 512(a), the Courts of Appeals for the D.C. and Eighth Circuits found it dispositive that § 512(c)’s notice-and-takedown requirements do not apply on the face of the statute to providers that act simply as conduits for information.<sup>52</sup> After all, how can § 512(h), which expressly requires an applicant to submit a copy of a notice compliant with § 512(c), apply to providers that are not subject to § 512(c) in the first place?<sup>53</sup> It makes more sense to conclude, as these Circuits did, that the references to § 512(c) in § 512(h) restrict the applicability of § 512(h) to providers that are able to remove or disable access to specific material.<sup>54</sup> In short, courts have held, there is an assumption underlying § 512(h) that a subpoena recipient will actually be in a position to take down material identified as infringing.

It is possible, perhaps even probable, that § 512(h) would have been drafted differently if P2P technology had existed at the time.<sup>55</sup> In light of that possibility, rights owners have persuaded some judges that the subpoena provision should be held to apply to service providers covered by § 512(a), despite the assumption underlying § 512(h) that subpoena recipients can remove or disable access to specific material.<sup>56</sup> In the face of unanticipated technological developments, these judges look past the letter of the DMCA to make it scale for P2P file-sharing. Such recuperative acts are plainly beyond the judiciary’s competence, however, as the D.C. Circuit said in *Recording Industry Association of America, Inc. v. Verizon Internet Services*:

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<sup>49</sup> See *Charter Commc’ns, Inc.*, 393 F.3d at 777; *Recording Indus. Ass’n of Am., Inc. v. Verizon Internet Servs.*, 351 F.3d 1229, 1238 (D.C. Cir. 2003).

<sup>50</sup> See 17 U.S.C. § 512(h)(2)(A).

<sup>51</sup> 17 U.S.C. § 512(c)(3)(A).

<sup>52</sup> See *Charter Commc’ns, Inc.*, 393 F.3d at 776 (explaining that each safe harbor that covers a function allowing the ISP to remove or disable access to infringing material (i.e., storage, system caching, or linking) contains a remove-or-disable access provision); *Verizon Internet Servs., Inc.*, 351 F.3d at 1236–37 (“We agree that the presence in § 512(h) of three separate references to § 512(c) and the absence of any reference to § 512(a) suggests the subpoena power of § 512(h) applies only to ISPs engaged in storing copyrighted material and not to those engaged solely in transmitting it on behalf of others.”).

<sup>53</sup> *Verizon Internet Servs., Inc.*, 351 F.3d at 1236–37. I have argued elsewhere that judicial interpretations of § 512(i)—the DMCA’s repeat infringer provision, which applies to all types of providers seeking safe harbor under § 512—have potentially created a “back door” requirement for conduit providers to have in place a system for receiving and responding to notices of infringement sent by rights owners. See Bridy, *supra* note 43, at 98.

<sup>54</sup> See *Charter Commc’ns, Inc.*, 393 F.3d 771; *Verizon Internet Servs.*, 351 F.3d 1229. But see Lateef Mtima, *Whom the Gods Would Destroy: Why Congress Prioritized Copyright Protection Over Internet Privacy in Passing the Digital Millennium Copyright Act*, 61 RUTGERS L. REV. 627, 673 (2009).

<sup>55</sup> See *Verizon Internet Servs.*, 351 F.3d at 1238 (“Had the Congress been aware of P2P technology, or anticipated its development, § 512(h) might have been drafted more generally.”).

<sup>56</sup> See *Charter Commc’ns, Inc.*, 393 F.3d at 778 (Murphy, J., dissenting) (asserting that § 512(h) should apply to conduit providers); *Recording Indus. Ass’n of Am. v. Verizon Internet Servs.*, 240 F. Supp. 2d 24, 30 (D.D.C. 2003) (holding that § 512(h) applies to conduit providers seeking safe harbor under § 512(a)), *rev’d*, 351 F.3d 1229.

It is not the province of the courts . . . to rewrite the DMCA in order to make it fit a new and unfor[e]seen [I]nternet architecture, no matter how damaging that development has been to the music industry or threatens being to the motion picture and software industries. The plight of copyright holders must be addressed in the first instance by the Congress . . . .<sup>57</sup>

In the absence of Congressional action to bring P2P file-sharing and the providers whose networks are used for it within the scope of §§ 512(c) and (h) of the DMCA, rights owners have been unable to avail themselves of the statute's mechanisms for making online copyright enforcement scalable by allowing it to operate outside of litigation.<sup>58</sup>

Fortunately, however, effective non-statutory mechanisms have been created to fill the vacuum in the P2P context. Conduit OSPs – § 512(a) providers of broadband Internet access – have cooperated with copyright owners outside the express framework of § 512. One solution they have jointly embraced is the Copyright Alert System (CAS).<sup>59</sup> In CAS, monitoring agents working for copyright owners identify and report in bulk to broadband providers the Internet Protocol addresses of alleged P2P file-sharers. The broadband providers then match the flagged addresses to customer accounts and send notices (“copyright alerts”) to the account owners. If repeated notices prompt no change in behavior, the broadband provider eventually imposes a sanction. On many college and university campus networks, a similar, scalable solution has been implemented; information technology personnel have adopted the Automated Content Notification System (ACNS), which was developed by NBC Universal and Universal Music Group to facilitate and expedite the handling of P2P copyright infringement notices.<sup>60</sup> CAS and ACNS represent non-statutory solutions to the problem of infringement over P2P networks. Although Congress in § 512(h) did not anticipate (and, indeed, could not have anticipated) P2P technology, copyright owners and OSPs have collaborated in the broader spirit of § 512 to work around the limitation. Moreover, as usage of P2P networks for illegal file-sharing recedes in favor of legal download and streaming services, the file-sharing problem is also receding.

It is virtually impossible for any law, no matter how well crafted, to keep pace with rapid changes in computer and telecommunications technology. The growth of the Internet has disrupted the copyright system in ways that are still being revealed. Time has shown, however, that the equitable balancing of interests established in § 512 remains viable. Copyright owners,

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<sup>57</sup> *Verizon Internet Servs.*, 351 F.3d at 1238; see also *Recording Indus. Ass’n of Am. v. Univ. of N.C. at Chapel Hill*, 367 F. Supp. 2d 945, 953 (M.D.N.C. 2005) (“While the RIAA’s argument at first blush is tempting, the Court rejects it because it would necessarily amount to the rewriting of the statute.”).

<sup>58</sup> See Annemarie Bridy, *Is Online Copyright Enforcement Scalable*, 13 VAND. J. ENT. & TECH. L. 695, 719-25 (2011) (explaining that some copyright owners fell back on mass John Doe litigation to try to identify and seek settlements from alleged P2P infringers).

<sup>59</sup> See Annemarie Bridy, *Graduated Response American Style: “Six Strikes” Measured Against Five Norms*, 23 FORDHAM INTELL. PROP., MEDIA & ENT. L.J. 1 (2012).

<sup>60</sup> See ACNS, ACNS Specifications, <http://www.acns.net/spec.html> (stating that “ACNS can be used to deliver notices for various environments, including P2P, cyberlockers, UGC sites, link sites, Usenet, and other environments”).

OSPs, and users continue to evolve in their attitudes and practices with respect to online copyrighted content. Online piracy is waning with the expansion of innovative service offerings from copyright owners, who have come to embrace online distribution as a revenue opportunity instead of fearing it as an existential threat. Section 512 has provided a crucial foundation for the growth of the Internet and the development of innovative services for Internet users. It has allowed Web 2.0 startups to flourish, and it has spurred incumbent corporate copyright owners to imagine new ways of reaching audiences that are willing to pay in ever-increasing numbers for lawful, professionally developed content.