



The Register of Copyrights of the United States of America

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The Honorable Patrick Leahy
Chair
Subcommittee on Intellectual Property
Committee on the Judiciary
United States Senate
437 Russell Senate Building
Washington, D.C. 20510

The Honorable Thom Tillis
Ranking Member
Subcommittee on Intellectual Property
Committee on the Judiciary
United States Senate
113 Dirksen Senate Office Building
Washington, D.C. 20510

December 20, 2022

Dear Senator Leahy and Senator Tillis:

I am writing to report the results of the Copyright Office’s study on standard technical measures (“STMs”) under section 512(i) of Title 17, in accordance with your request that we examine obstacles to their adoption and recommend changes to the statute that could facilitate voluntary cooperation among stakeholders.¹ The Copyright Office solicited public comments on the potential for existing technologies to serve as STMs, the proper interpretation of section 512(i), and possible changes to that section to encourage the adoption of STMs.² While the comments share some common themes, we found a lack of consensus on the value of STMs and deep disagreement about proposals for legislative or regulatory action.

¹ Letter from Sen. Patrick Leahy, Chair, and Sen. Thom Tillis, Ranking Member, Subcomm. on Intell. Prop. of the S. Comm. on the Judiciary, to Shira Perlmutter, Register of Copyrights, U.S. Copyright Office, at 2–3 (June 24, 2021) (“Request Letter”).

² Standard Technical Measures and Section 512, 87 Fed. Reg. 25049 (Apr. 27, 2022) (“STM Notice of Inquiry”).

Nevertheless, the Copyright Office has concluded that a few changes to section 512(i) could facilitate the adoption of STMs as Congress envisioned when it passed the Digital Millennium Copyright Act (“DMCA”) in 1998.³ Specifically, we recommend amending section 512(i) to

- 1) clarify that the terms “broad consensus” and “multi-industry” require substantial agreement but not unanimity, and only of those industries directly affected by an STM;
- 2) in section 512(i)(2)(A), replace the word “developed” with “designated,” in order to confirm that technical measures qualify as STMs if they are designated as such by a broad consensus of copyright owners and service providers, even if they were originally developed by a narrower subset of stakeholders or emerged from proprietary processes; and
- 3) set forth a list of factors for weighing whether a particular measure imposes substantial costs and burdens on service providers.

In recommending these changes, the Office has chosen not to include at this time either of two proposals for more sweeping reform: creating a government-administered designation process or repealing section 512(i) altogether. Given the ever-increasing diversity and complexity of the online environment and rapidly evolving technologies, it is not clear that a government-led process to designate STMs would be effective and avoid causing unintended problems. But we continue to believe that section 512(i)’s consensus-based framework, if improved as we suggest, could play a meaningful role in combating infringement.

The Copyright Office will monitor developments in this area and apprise Congress of any significant changes or additional occasions calling for action. We also remain committed to promoting progress on the voluntary use of technical measures for identifying or protecting copyrighted works online, the subject of a separate study that we conducted in parallel.⁴

I. Overview of Section 512(i)

Congress had “a dual purpose” when it enacted section 512 of Title 17 as part of the DMCA in 1998.⁵ On the one hand, it sought to help rightsholders combat online copyright infringement. To this end, it created “strong incentives for service providers and copyright owners to cooperate to detect and deal with copyright infringements that take place in the digital networked environment.”⁶ At the same time, online service providers (“OSPs”) faced uncertain

³ Digital Millennium Copyright Act, Pub. L. 105-304, 112 Stat. 2860 (1998).

⁴ Letter on Voluntary Technical Measures from Shira Perlmutter, Register of Copyrights, U.S. Copyright Office, to Sen. Patrick Leahy, Chair, and Sen. Thom Tillis, Ranking Member, Subcomm. on Intell. Prop. of the S. Comm. on the Judiciary (Dec. 20, 2022) (“Voluntary Technical Measures Letter”).

⁵ U.S. COPYRIGHT OFFICE, SECTION 512 OF TITLE 17, at 8 (2020) (“SECTION 512 REPORT”), <https://www.copyright.gov/policy/section512/section-512-full-report.pdf>.

⁶ H.R. REP. NO. 105-551, pt. 2, at 49 (1998).

liability and potentially crippling damages for copyright infringement committed by their users. Congress decided to clarify the scope of OSP liability and limit damages to ensure that online platforms could continue to grow and develop.⁷

To do so, Congress fashioned a series of “safe harbors” that protect OSPs from monetary liability for copyright infringement committed by their users. Section 512 sets out four separate safe harbors based on different activities undertaken by OSPs.⁸ An OSP covered by one or more of the applicable safe harbors cannot be held liable for monetary relief for those activities and is subject only to limited forms of potential injunctive relief.⁹

Section 512(i) imposes two threshold requirements for OSPs seeking to benefit from any of the four safe harbors. First, the OSP must adopt and reasonably implement a policy to terminate “repeat infringers.”¹⁰ Second, the OSP must “accommodate[] and . . . not interfere” with STMs.¹¹

Section 512(i)(2) defines STMs as measures “used by copyright owners to identify or protect copyrighted works” that “have been developed pursuant to a broad consensus of copyright owners and service providers in an open, fair, voluntary, multi-industry standards process.”¹² These measures must be “available to any person on reasonable and nondiscriminatory terms”¹³ and cannot “impose substantial costs on service providers or substantial burdens on their systems or networks.”¹⁴

The legislative history provides additional background on the balance Congress intended to strike when it enacted section 512(i). The committee reports “strongly urge[d] all of the affected parties expeditiously to commence voluntary, inter-industry discussions to agree upon and implement the best technological solutions available to achieve these goals.”¹⁵ The reports “anticipate[d] that [STMs] could be developed both in recognized open standards bodies or in ad

⁷ SECTION 512 REPORT at 13–21.

⁸ These activities are (a) serving as a conduit for the automatic online transmission of material as directed by third parties (“mere conduit”); (b) temporarily storing material that is being transmitted automatically over the internet from one third party to another (“caching”); (c) storing material at the direction of a user on a system or network (“hosting”); or (d) referring or linking users to online sites using information location tools, such as a search engine (“linking”). 17 U.S.C. §§ 512(a)–(d).

⁹ *Id.* §§ 512(a)–(d), (j), (k)(2).

¹⁰ *Id.* § 512(i)(1)(A).

¹¹ *Id.* § 512(i)(1)(B). In addition to these two requirements for all the safe harbors, OSPs seeking protection under the safe harbors in subsections 512(b), (c), or (d) must maintain a notice-and-takedown process under which they expeditiously remove or disable access to potentially infringing material upon receipt of proper notice. 17 U.S.C. §§ 512(b)(2)(E), (c)(1)(C), (d)(3).

¹² *Id.* § 512(i)(2)(A).

¹³ *Id.* § 512(i)(2)(B).

¹⁴ *Id.* § 512(i)(2)(C).

¹⁵ H.R. REP. NO. 105-551, pt. 2, at 61 (1998); S. REP. NO. 105-190, at 52 (1998).

hoc groups” and noted that “[a] number of recognized open standards bodies have substantial experience with Internet issues.”¹⁶ As an example, they pointed to the ad hoc process that resulted in copy protection technology for DVDs.¹⁷

II. Background

The online ecosystem has evolved considerably since Congress enacted the DMCA in 1998. In 2020, after five years of study, the Copyright Office issued a report, *Section 512 of Title 17* (“Section 512 Report”), which “concluded that Congress’s original intended balance has been tilted askew.”¹⁸ While the Office refrained from “recommending any wholesale changes to section 512,” we did suggest ways that Congress could “fine-tune section 512’s current operation in order to better balance the rights and responsibilities of OSPs and rightsholders in the creative industries.”¹⁹

With respect to section 512(i) and STMs specifically, the Report noted that “not a single technology has been designated a ‘standard technical measure’ under section 512(i).”²⁰ While emphasizing the infeasibility of one-size-fits-all solutions, the Office suggested that Congress and stakeholders could pursue legislative, regulatory, or practical steps to achieve Congress’s original aims.²¹

In particular, we observed that “Congress may want to amend [section 512(i)] to broaden the language so as to avoid any perceived requirement that measures must be achieved only by the consensus of every industry involved in the digital ecosystem.”²² The Report also raised the possibility that Congress could give the Copyright Office regulatory authority to oversee the development of STMs and stressed the importance of taking into account the needs of both large and small creators.²³ Finally, we promised to facilitate further discussion on the role of technical measures so that stakeholders could “leverage their diverse expertise in order to find and adapt solutions as technology and piracy evolve.”²⁴

After the Report’s release in 2020, you wrote to the Copyright Office requesting further information about ways in which the Office “can help stakeholders identify and adopt standard

¹⁶ H.R. REP. NO. 105-551, pt. 2, at 61–62 (1998); S. REP. NO. 105-190, at 52 (1998).

¹⁷ H.R. REP. NO. 105-551, pt. 2, at 62 (1998); S. REP. NO. 105-190, at 52 (1998).

¹⁸ SECTION 512 REPORT at 1.

¹⁹ *Id.* at 7.

²⁰ *Id.* at 67.

²¹ *Id.* at 177.

²² *Id.* at 179.

²³ *Id.*

²⁴ *Id.* at 179–80.

technical measures without congressional action.”²⁵ Building upon the recommendations of the Report, the Copyright Office hosted three virtual sessions covering respectively the legal foundation of STMs, current technologies and their potential for adoption as STMs, and means of identifying or developing STMs going forward.²⁶

In June 2021, you again wrote to the Copyright Office about the lack of STMs contemplated by the DMCA. You asked the Office to look into voluntary technical measures to identify and protect copyrighted works online generally, and to explore the identification and implementation of STMs under section 512(i).²⁷ To keep the discussions manageable and ensure that commenters focused on discrete questions, the Office separated the consultations on voluntary technical measures from this study on section 512(i).²⁸ On April 27, 2022, the Office published a Notice of Inquiry addressing STMs as defined in section 512(i).²⁹ In response, we received 57 comments from a variety of stakeholders, including OSPs, trade associations, professional organizations, copyright owners, internet users, technology companies, public advocacy groups and non-profits, and members of the public.³⁰

The Office’s examination of STMs has benefited from our complementary work on voluntary technical measures, and we have sought to incorporate insights gleaned from those consultations as we evaluated section 512(i). This letter summarizes our findings and recommendations regarding STMs.

III. Guiding Principles

As the Office observed in the Section 512 Report, one of the major challenges in a study involving section 512 is that “no potential solution(s) will please everybody.”³¹ The fact that “passions (as well as rhetoric) run high on all sides” complicates a “fair, neutral” review.³² For

²⁵ Letter from Sen. Thom Tillis & Sen. Patrick Leahy to Maria Strong, Acting Register of Copyrights, U.S. Copyright Office, at 10 (May 29, 2020), <https://copyright.gov/laws/hearings/response-to-may-29-2020-letter.pdf>.

²⁶ See U.S. Copyright Off., Standard Technical Measures: Legal Foundation (Sept. 22, 2020), <https://stream-media.loc.gov/copyright/STM-Legal-Foundation.mp4>; U.S. Copyright Off., Standard Technical Measures: Current Technologies and Their STM Potential (Sept. 23, 2020), <https://stream-media.loc.gov/copyright/STM-Current-Technologies-and-their-STM-Potential.mp4>; U.S. Copyright Off., Standard Technical Measures: Looking Forward (Sept. 29, 2020), <https://stream-media.loc.gov/copyright/STM-Looking-Forward.mp4>.

²⁷ Request Letter.

²⁸ On December 22, 2021, the Office published a notice of inquiry addressing the request concerning voluntary technical measures. This inquiry is the subject of a separate letter, which I have also sent today. See Voluntary Technical Measures Letter.

²⁹ STM Notice of Inquiry.

³⁰ Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry, <https://www.regulations.gov/docket/COLC-2022-0002/comments>.

³¹ SECTION 512 REPORT at 64.

³² *Id.*

this reason, the Section 512 Report set forth five guiding principles that served as guideposts for evaluating the extensive public record.³³ We have again relied on these principles here.

First, copyright protection online must be meaningful and effective. As we stated in the Section 512 Report, “[a] system that fails to provide adequate protection of creators’ rights in the online ecosystem . . . not only fails in upholding the congressional intent behind section 512, but also undermines the animating purpose behind the copyright laws.”³⁴ Because Congress sought in section 512(i) to create a role for consensus-based copyright protection measures, proposals for reform should bolster the potential of such measures or else show why they are no longer worth pursuing.

Second, OSPs operating in good faith must be afforded legal certainty as well as leeway to innovate. As we explained, this was the “other half of the bargain that Congress struck” when it passed the DMCA.³⁵ Proposals should not impose obligations on OSPs that lock in particular technologies, open their services to security and privacy flaws, or give other stakeholders a veto over the viability or business models of legitimate services.

Third, the Section 512 Report favored solutions that rely on a “broad-based, multi-stakeholder consensus” while also recognizing that “the perfect should not become the enemy of the good” when industry consensus is lacking.³⁶ Because section 512(i) is a provision expressly based on broad consensus, however, respecting Congress’s intent may require a different balance than would be appropriate for other subsections of 512 or for the section as a whole.

Fourth, to the extent possible, government decision-making should be based on evidence.³⁷ In this case, besides the comments submitted in response to our April 27, 2022 Notice of Inquiry, we have benefited from the extensive record and stakeholder consultations on voluntary technical measures, as well as our previous Report on section 512 as a whole.

Fifth, any solution here cannot be one-size-fits-all. Despite the deep disagreement among stakeholders reflected in the Section 512 Report, we found that “one point of agreement has become apparent: to be effective, any changes to the current system must take into account differences within and among stakeholder classes.”³⁸

IV. Overarching Issues

Public commenters on this study identified several overarching issues reflecting both the opportunities and the hazards of amending section 512(i).

³³ *Id.*

³⁴ *Id.* at 64–65.

³⁵ *Id.* at 65.

³⁶ *Id.* at 66–67.

³⁷ *Id.* at 68.

³⁸ *Id.* at 71.

A. Ambiguous Statutory Definition

Numerous commenters stated that the definition of STMs in section 512(i) is ambiguous on several levels and, as a practical matter, difficult to meet.³⁹ For example, it was not clear to some commenters whether STMs must be initially developed or merely designated according to a broad consensus; nor was it certain what level of consensus, crossing what number of industries or sub-industries, might qualify as “broad” as part of “an open, fair, voluntary, multi-industry standards process.”⁴⁰ Many commenters suggested that Congress should amend the definition to resolve these and other ambiguities.⁴¹ Others countered that changing the statutory definition is undesirable and would have unintended repercussions, especially for businesses that rely on stable expectations and certainty.⁴²

B. OSP Incentives

A second frequent claim is that section 512 discourages OSPs from cooperating with copyright owners to develop STMs. Because OSPs must accommodate and not interfere with STMs to be eligible for the safe harbors, the existence of any STMs could endanger their safe harbor protection. Some commenters therefore maintained that it is in OSPs’ interest to thwart the designation of STMs, which they can do by refusing to join the “broad consensus” required

³⁹ See The Authors Guild, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 2 (May 27, 2022) (“Authors Guild Comments”); Copyright Alliance, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 7, 8 (May 27, 2022) (“Copyright Alliance Comments”); Pex, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 1 (May 27, 2022) (“Pex Comments”); Recording Industry Association of America (“RIAA”) and National Music Publishers’ Association (“NMPA”), Joint Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 7 & n.26 (May 27, 2022) (“RIAA-NMPA Joint Comments”). *But see* Engine, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 2, 10 (May 27, 2022) (“Engine Comments”); USTelecom – The Broadband Association, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 1 (May 27, 2022) (“USTelecom Comments”).

⁴⁰ Association of American Publishers (“AAP”), Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 4, 6 (May 27, 2022) (“AAP Comments”); Authors Guild Comments at 5; BSA | The Software Alliance, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 2–3 (May 27, 2022) (“BSA Comments”); Copyright Alliance Comments at 4–5, 8–9; Digital Media Association (“DiMA”), Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 6 (May 27, 2022) (“DiMA Comments”); Music Artists Coalition (“MAC”), Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 3–4, 5–6, 7 (May 27, 2022) (“MAC Comments”); Pex Comments at 7, 15; PLUS Coalition, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 9 (May 27, 2022) (“PLUS Coalition Comments”); RIAA-NMPA Joint Comments at 6; Software and Information Industry Association (“SIIA”), Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 6 (May 26, 2022) (“SIIA Comments”).

⁴¹ In the Section 512 Report, the Copyright Office raised the possibility of tweaking the statutory definition of STMs: “If the language of section 512(i) has restricted or discouraged the use of STMs, then Congress may want to amend the provision to broaden the language so as to avoid any perceived requirement that measures must be achieved only by the consensus of every industry involved in the digital ecosystem.” SECTION 512 REPORT at 179.

⁴² DiMA Comments at 7; Re:Create, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 5 (May 27, 2022) (“Re:Create Comments”); SIIA Comments at 8; Wikimedia Foundation, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 12–13 (May 27, 2022) (“Wikimedia Foundation Comments”).

by the statute.⁴³ In addition, even where an OSP has developed a technical measure to identify or protect copyrighted works, they suggested that commercial incentives might lead it to prevent that measure's recognition as an STM. The OSP may prefer to keep its technology to itself or license it on restrictive terms rather than make it widely available on reasonable and nondiscriminatory terms.⁴⁴

C. The Internet's Growing Complexity

Some commenters responded that the failure to develop STMs was less a function of OSP (dis)incentives and more a reflection of the complicated nature of the online ecosystem as it has developed in the nearly twenty-five years since enactment of the DMCA, as well as the existence of more effective tools for copyright owners. These commenters asserted that the diversity and complexity of the online ecosystem and the success of voluntary technical measures have rendered STMs unnecessary or unworkable.⁴⁵

D. Access for Individual and Small Creators

Many commenters stated that reliance on proprietary technical measures allows OSPs to exclude individual and small creators and to negotiate deals with large rightsholders, including arrangements to share revenues in exchange for access to those technologies.⁴⁶ These commenters expressed hope that section 512(i) reform would force OSPs to share proprietary technical measures with everyone.⁴⁷ At the same time, some individual creators claimed that

⁴³ AAP Comments at 2, 5, 7; Authors Guild Comments at 2; Copyright Alliance Comments at 2, 4; Independent Film & Television Alliance ("IFTA"), Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 2–3 (May 27, 2022) ("IFTA Comments"); International Association of Scientific, Technical, and Medical Publishers, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 1 (May 25, 2022); MAC Comments at 3; Motion Picture Association, Inc. ("MPA"), Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry, at 4, 9 (May 27, 2022) ("MPA Comments"); Pex Comments at 1, 10–11, 12; PLUS Coalition Comments at 3, 10–11; RIAA-NMPA Joint Comments at 4–5.

⁴⁴ See, e.g., Authors Guild Comments at 3; MAC Comments at 2; Wikimedia Foundation Comments at 12.

⁴⁵ See, e.g., Amazon.com, Inc., Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 2–3 (May 27, 2022) ("Amazon Comments"); Computer & Communications Industry Association ("CCIA"), Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 3 (May 27, 2022) ("CCIA Comments"); DiMA Comments at 3–4; Electronic Frontier Foundation ("EFF"), Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 1–2 (May 27, 2022) ("EFF Comments"); Google, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 2 (May 27, 2022) ("Google Comments"); Library Copyright Alliance, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 1–2 (May 26, 2022) ("Library Copyright Alliance Comments"). While the committee reports point to DVD protection technology as a model for STMs, H.R. REP. NO. 105-551, pt. 2, at 62 (1998); S. REP. NO. 105-190, at 52 (1998), the example may instead help illustrate why STMs have failed to emerge as Congress expected. In the case of DVDs, the motion picture industry owned major patents for DVD players that forced other players to come to the table. Pamela Samuelson, *DRM {and, or, vs.} the Law*, 46 COMM'NS OF THE ACM 41, 43 (2003).

⁴⁶ See Authors Guild Comments at 3–4, 15–16; Copyright Alliance Comments at 3–4; EFF Comments at 2–3; IFTA Comments at 3; MAC Comments at 2–3; Pex Comments at 11–12.

⁴⁷ See Authors Guild Comments at 10; Copyright Alliance Comments at 3–4.

technical measures often misidentify their works as infringing and that they are particularly vulnerable because they lack resources to litigate claims and depend on third-party platforms like YouTube or Twitch for distribution. They worry that encouraging the development of STMs would result in more platforms deploying automated takedown tools, increasing the number of false positive takedown claims they face.⁴⁸

E. Mandates and Risks to Innovation

The Office received several comments warning that abandoning section 512(i)'s consensus-based definition for a process by which the government could require OSPs to implement particular technical measures to retain their safe harbors could limit innovation and lock in outdated technology. These commenters stated that both hardware and software are rapidly evolving, and that companies must continually innovate to stay ahead of threats such as piracy. Government-imposed requirements, they suggested, are likely to become obsolete quickly, and complying with them would divert companies from investing in voluntary measures that are likely to be more effective.⁴⁹

Moreover, some commenters argued that mandates to use particular types of technologies would favor large entities with deep pockets and sophisticated legal teams, and harm smaller entities with limited budgets or new entrants to the market who may lack the resources to accommodate or deploy new technologies, even if they are available on fair, reasonable, and nondiscriminatory terms.⁵⁰ Even some commenters who support amending section 512(i) to encourage or require the development and adoption of STMs acknowledged downsides to mandating particular technologies.⁵¹

F. Fair Use and Free Expression

A number of commenters also cautioned that the use of STMs could implicate a range of other values, especially free expression. They asserted that STMs must accommodate fair use if they are to give adequate protection to these values. Along these lines, many described technical measures that automatically take down or prevent the upload of purportedly infringing works as especially worrisome, as technology is not yet capable of accurately identifying fair use, public

⁴⁸ See, e.g., Niskanen Center, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 2–3 (May 27, 2022) ("Niskanen Center Comments"); Thomas Line, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry, at 1 (May 10, 2022); Peter Nelson, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 1 (May 11, 2022); Benjamin Wolf, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 11–14 (May 25, 2022) ("Benjamin Wolf Comments").

⁴⁹ Amazon Comments at 2–3; CCIA Comments at 1–2, 6–7; DiMA Comments at 8–9; Google Comments at 2–3; Reddit, Inc., Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 6 (May 27, 2022) ("Reddit Comments"); USTelecom Comments at 2; Wikimedia Foundation Comments at 12–14.

⁵⁰ Creative Commons, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 2–3 (May 27, 2022) ("Creative Commons Comments"); EFF Comments at 2–3.

⁵¹ See ACT | The App Association, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 3 (May 27, 2022) ("ACT | The App Association Comments"); Authors Guild Comments at 2–3, 5; Pex Comments at 7–8, 15–16.

domain status, or even licensed uses.⁵² Beyond free expression, commenters raised concerns that STMs, particularly those involving the use of automated mechanisms such as upload filters, could also implicate antitrust, cybersecurity, and privacy policies.⁵³

G. Identification or Protection

Finally, some commenters distinguished between technical measures designed to protect copyrighted works through access controls or automated filters, and those that primarily serve to identify copyrighted content.⁵⁴ Some technical measures, including fingerprinting and web crawling, can identify the presence of such content without necessarily blocking or removing it. With fingerprinting, rightsholders create a database of reference files with information about their works, and content that has been or is being uploaded can then be compared against that database. Web crawling involves automatically searching the internet to identify content identical to a reference file in the database.⁵⁵

The benefit of using such identification measures is that rightsholders learn where and how their works are being used. While such measures could be used in conjunction with access controls or automated takedown filters, they could also simply open the door to pursue other options such as manual takedowns, licensing agreements, monetization, or litigation.

Several commenters suggested that technologies used for fingerprinting and web crawling already qualify as STMs under the existing section 512(i).⁵⁶ This was a minority position, however; the majority view was that no technical measures currently qualify.

⁵² Amazon Comments at 3; CCIA Comments at 7; Copia Institute, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 4 (May 27, 2022) (“Copia Institute Comments”); Creative Commons Comments at 2; DiMA Comments at 9; EFF Comments at 1, 3; Engine Comments at 13–15; Internet Archive, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 2 (May 27, 2022) (“Internet Archive Comments”); Library Copyright Alliance Comments at 2; Niskanen Center Comments at 2–3, 9; Organization for Transformative Works (“OTW”), Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 6–7 (May 27, 2022) (“OTW Comments”); Reddit Comments at 4–5, 7; Wikimedia Foundation Comments at 8–10, 13–14, 15–16.

⁵³ BSA Comments at 3–4 (privacy and cybersecurity); CCIA Comments at 5–6 (antitrust); DiMA Comments at 8–9 (cybersecurity); Internet Infrastructure Coalition (“i2C”), Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 3 (May 27, 2022) (“i2C Comments”) (cybersecurity, user privacy, and network performance); Niskanen Center Comments at 9 (cybersecurity); Reddit Comments at 7 (competition).

⁵⁴ See Copia Institute Comments at 2–4; Benjamin Wolf Comments at 14–15; see also Pex Comments at 3, 9 (describing available identification technologies); PLUS Coalition Comments at 1–3 (same); RIAA-NMPA Joint Comments at 3–4 (same).

⁵⁵ See SECTION 512 REPORT at 177–78 (2020); see also Pex Comments at 2–3.

⁵⁶ See Pex Comments at 1 (citing web crawling and fingerprinting); PLUS Coalition Comments at 1–3 (citing its own services); RIAA-NMPA Joint Comments at 3–4 (providing several examples); see also DiMA Comments at 4–5 (citing DDEX as an example of a process used across the music industry but conceding it is “not a multi-industry process”).

V. Legislative or Regulatory Action

We received a number of proposals for legislative or regulatory action to remedy the lack of STMs as defined under section 512(i). These ranged from suggestions that Congress amend the statutory definition to more sweeping proposals to repeal the section entirely or create a new process for designating STMs. For the reasons that follow, we encourage Congress to consider modest amendments to the definition that would smooth the way for recognition of measures supported by a broad consensus of affected copyright owners and OSPs. In our view, this is a preferable approach to either repealing section 512(i) or replacing its consensus-driven process with a government-led designation mechanism.

A. Amending the Statutory Definition of STMs

Many commenters suggested that Congress should amend the statutory definition of STMs in section 512(i). Most of these suggestions sought to make it easier for copyright owners and OSPs to develop and adopt STMs. We believe that several of these proposals further Congress's intent in enacting section 512(i) and recommend that Congress consider implementing them. Others, however, seem likely to undermine the basic compromises underlying that subsection.

1. Section 512(i)(2)(A)

Section 512(i)(2)(A) requires STMs to “have been developed pursuant to a broad consensus of copyright owners and service providers in an open, fair, voluntary, multi-industry standards process.” Besides the lack of a clear process for identifying STMs, which we address below, the terms “broad consensus” and “multi-industry process” elicited the most responses. Commenters noted that “broad consensus” is not defined and that it is not clear what level of agreement—simple majority, super majority, unanimity – is required.⁵⁷ Those familiar with standards-setting processes pointed out that “broad consensus” in that context means “substantial agreement, generally more than a majority, but not necessarily unanimity.”⁵⁸

Similarly, commenters stated that is not clear whether “multi-industry” requires the representative involvement of all copyright industries or whether a smaller subset of industries directly affected by a particular measure is sufficient.⁵⁹ Many contended that the statute merely requires the participation of those industries involved with a particular type of content.⁶⁰ Some suggested that all that is necessary to qualify as multi-industry is one class of OSPs and a single

⁵⁷ AAP Comments at 4; BSA Comments at 2; Copyright Alliance Comments at 8; DiMA Comments at 6; MPA Comments at 8; Pex Comments at 7, 15; RIAA-NMPA Joint Comments at 6; SIIA Comments at 6; USTelecom Comments at 2.

⁵⁸ Consumer Technology Association, Comments Submitted in Response to U.S. Copyright Office's Apr. 27, 2022, Notice of Inquiry at 4 n.9 (May 27, 2022); *see also* RIAA-NMPA Joint Comments at 6.

⁵⁹ Authors Guild Comments at 5; Copyright Alliance Comments at 8–9; MAC Comments at 5; Pex Comments at 7, 15; PLUS Coalition Comments at 9.

⁶⁰ AAP Comments at 4; MPA Comments at 8–9; RIAA-NMPA Joint Comments at 6.

industry.⁶¹ But this view was not unanimous, and one commenter countered “that an STM ought to cut across all kinds of copyrighted works.”⁶² Another contended that “multi-industry” should acknowledge the sometimes distinct interests of online-only creators, like YouTube video essayists, who rely on the internet “as their primary means of distribution” and may be especially sensitive to the potential for automated tools to generate “false positive” notices of infringement.⁶³

We believe that it would be beneficial for Congress to add language to section 512(i)(2)(A) clarifying that the terms “broad consensus” and “multi-industry” require only substantial agreement rather than unanimity and only of the industries directly affected by an STM.⁶⁴ As stated in the Section 512 Report, “Congress may want to amend the provision to broaden the language so as to avoid any perceived requirement that measures must be achieved only by the consensus of every industry involved in the digital ecosystem.”⁶⁵ While technical measures that cut across several industries would need support from stakeholders in multiple industries, some measures affect only specific ones. A technical measure applicable only to sound recordings should not need the support of photographers.⁶⁶

In addition, some commenters were concerned about the use of the word “developed” in the requirement that STMs be “developed pursuant to” the required broad consensus. They worried that “developed” suggests that technical measures designed by a specific individual, company, or small group could never qualify as STMs, even if they later became standard across an industry. They proposed that Congress substitute another word such as “designated” or “identified.”⁶⁷

On the other side, some commenters urged against language allowing proprietary technologies developed for particular stakeholders or particular groups of stakeholders to become STMs. They argued that such technologies could reflect the unique technological architecture of their developers and impose unexpected costs on other users. Some favored technologies developed through open-source processes that allow a range of stakeholders to examine the development of the underlying source code.⁶⁸

⁶¹ See, e.g., RIAA-NMPA Joint Comments at 6.

⁶² SIIA Comments at 6.

⁶³ Niskanen Center Comments at 1–3, 6.

⁶⁴ By “directly affected,” we mean those classes of rightsholders or OSPs for which the technology would be applicable. For example, a technology for identifying photographs would directly affect owners of photographs and OSPs that host or distribute photographs. The effect of this clarification would be to slightly lower the threshold for consensus.

⁶⁵ SECTION 512 REPORT at 179.

⁶⁶ See, e.g., AAP Comments at 4; Copyright Alliance Comments at 4–5, 9, 12; Pex Comments at 19.

⁶⁷ AAP Comments at 6; Copyright Alliance Comments at 4–5, 12; MAC Comments at 3–4, 7.

⁶⁸ Wikimedia Foundation Comments at 6; Benjamin Keith, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 1–2 (May 7, 2022) (“Benjamin Keith Comments”).

The Office believes that the requirement of broad consensus provides some safeguard against these concerns. Technologies would be unlikely to achieve the necessary level of consensus unless they have sufficiently wide applicability. As a result, we agree that it would be advisable to amend section 512(i) so that technical measures would qualify as “standard technical measures” so long as they are *designated* as such by a broad consensus of copyright owners and service providers, even if they were originally developed by a subset of stakeholders or emerged from proprietary processes.⁶⁹ If technologies become widely available and otherwise meet the requirements of section 512(i), their origins should not preclude their acceptance as STMs.

We therefore recommend amending section 512(i)(2)(A) to replace the word “developed” with “designated,” so that technical measures qualify as STMs if they are designated as such by a broad consensus of copyright owners and service providers. Importantly, this does not mean that a particular proprietary technical measure could be designated as an STM against its owner’s will. The current statutory framework requires a consensus of both copyright owners and OSPs, which gives groups of stakeholders leverage to block the adoption of an STM. Moreover, as we discuss below, even if everyone but the owner of a particular technology wished to designate it as an STM, section 512(i) has other requirements that would allow the owner to prevent the designation.

2. Section 512(i)(2)(B)

Section 512(i)(2)(B) requires that STMs be “available to any person on reasonable and nondiscriminatory terms.” Because accommodating STMs is a condition of eligibility for section 512’s safe harbors, Congress sought to prevent STM owners from demanding unreasonable licensing fees or refusing to license to disfavored businesses. Commenters identified two potential sources of ambiguity in 512(i)(2)(B)’s requirement: (1) whether it is a precondition for identifying an STM or a requirement applied after an STM has been identified, and (2) what “reasonable and nondiscriminatory” entails.⁷⁰

On the first issue, several commenters were concerned that section 512(i)(2)(B) could be interpreted or amended to require that companies developing proprietary technical measures make them widely available against their will.⁷¹ But for others, the problem was precisely the ability of companies that had developed proprietary technical measures to keep them out of the hands of individuals or small businesses. These commenters suggested that the requirement that STMs be “available to any person on reasonable and nondiscriminatory terms” offered a means

⁶⁹ Such designation could be made by the open standards bodies or ad hoc groups that Congress originally expected would develop STMs. *See* H.R. REP. NO. 105-551, pt. 2, at 61–62 (1998); S. REP. NO. 105-190, at 52 (1998).

⁷⁰ DiMA Comments at 6; MPA Comments at 9–10; Pex Comments at 7.

⁷¹ Authors Guild Comments at 3. Indeed, the Organization for Transformative Works indicated that STMs must be available at no monetary cost. OTW Comments at 7.

for addressing the fact that some OSPs have made deals with large rightsholders that exclude small and independent creators.⁷²

By its plain language, this provision is a threshold requirement that must be met for a technology to qualify as an STM, rather than an obligation that kicks in once a technical measure otherwise qualifies. For this reason, the existing language accomplishes Congress’s goal of ensuring reasonable and non-discriminatory access to STMs without forcing owners to make proprietary technologies available.

On the second issue, while a few commenters suggested that STMs should be available at no cost,⁷³ others indicated that the fair, reasonable, and non-discriminatory (“FRAND”) terms used by standards-setting organizations for licensing standard-essential patents are the best model for interpreting this language.⁷⁴ We believe the FRAND approach provides a familiar standard to courts and is consistent with Congress’s intent with respect to STMs.⁷⁵ Absent evidence that parties or the courts are employing a different standard, we do not think Congress needs to amend section 512(i)(2)(B) to provide greater clarity at this time.

3. Section 512(i)(2)(C)

Many commenters identified ambiguity in section 512(i)(2)(C)’s requirement that STMs must not “impose substantial costs on service providers or substantial burdens on their systems or networks.” Some observed that such costs and burdens vary from case to case.⁷⁶ Several suggested that the costs and burdens should be assessed relative to the amount of infringement taking place on a particular platform.⁷⁷

These concerns, in turn, relate to the meaning of the language requiring that an OSP “accommodates and does not interfere with standard technical measures.” Some contended that “accommodates and does not interfere” creates an affirmative duty on OSPs to adopt and implement STMs.⁷⁸ Others saw simply a negative duty to refrain from actively hindering those

⁷² Copyright Alliance Comments at 10; MAC Comments at 6.

⁷³ OTW Comments at 7; Benjamin Keith Comments at 1.

⁷⁴ ACT | The App Association Comments at 4; American Bar Association Intellectual Property Association Section (“ABA IP”), Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 2–3 (May 26, 2022) (“ABA IP Comments”); Library Copyright Alliance Comments at 2; Re:Create Comments at 3–4.

⁷⁵ See Norman V. Siebrasse & Thomas F. Cotter, *The Value of the Standard*, 101 MINN. L. REV. 1159, 1160 (2017) (noting that “reasonable and nondiscriminatory” (RAND) and “fair, reasonable, and nondiscriminatory” (FRAND) are interchangeable).

⁷⁶ See MPA Comments at 10; OTW Comments at 5; Pex Comments at 7.

⁷⁷ See AAP Comments at 5; Copyright Alliance Comments at 11; MPA Comments at 10; MAC Comments at 7.

⁷⁸ See, e.g., AAP Comments at 6; Copyright Alliance Comments at 11, 13; MPA Comments at 11 Pex Comments at 4–5; RIAA-NMPA Joint Comments at 7.

used by copyright owners.⁷⁹ Several commenters suggested that the language warranted clarification.⁸⁰

The Copyright Office agrees that it would be advisable to amend section 512(i)(2)(C) to address concerns about the meaning of substantial costs and burdens. This could entail setting forth a list of factors for use in weighing whether a particular measure imposes substantial costs and burdens. Such factors could include the amount of infringement on the OSP's platform or service, which might reduce the pressure on those with low levels of infringement to accommodate unnecessary technical measures, while encouraging their use where it would be most beneficial.⁸¹

In our view, the language Congress used in section 512(i)(2)(C) imposes a duty on OSPs to make it possible for STMs to be used by copyright owners and to refrain from hindering them, rather than an obligation to adopt or implement them directly. We do not recommend amending the statute to impose an affirmative obligation on OSPs to deploy STMs as a condition of the safe harbor. This would risk giving third parties too much power over the structure and operations of the OSPs' systems.⁸²

In sum, it makes sense to amend section 512(i) to reduce the ambiguity of certain elements of the statutory definition. Doing so could both lower the hurdles for technical measures to be recognized as STMs and create a more predictable framework for affected parties.

B. Government-Administered Designation Process

Recognizing the challenge of aligning incentives among stakeholders,⁸³ a number of commenters advocated changing the STM development process from one based on stakeholder consensus to one based on government regulation.⁸⁴ They suggested that a government agency should identify and designate technical measures.⁸⁵ Proponents described several potential benefits of such a process: First, they assert that government can bring all necessary stakeholders to the table and overcome the lack of cooperation that has to date prevented the development of

⁷⁹ See, e.g., Authors Guild Comments at 4; Wikimedia Foundation Comments at 8–9, 12.

⁸⁰ See AAP Comments at 6, 7; Copyright Alliance Comments at 11–13; MPA Comments at 11; MAC Comments at 7–8; RIAA-NMPA Joint Comments at 7; SIIA Comments at 8.

⁸¹ See AAP Comments at 6; Copyright Alliance Comments at 11, 14; MAC Comments at 7; Pex Comments at 8, 16; SIIA Comments at 7.

⁸² Cf. Pex Comments at 4 (suggesting that OSPs cannot make changes in their services without first clearing such changes with STM providers).

⁸³ See AAP Comments at 1–2; MPA Comments at 5; Pex Comments at 7, 9.

⁸⁴ See, e.g., ABA IP Comments at 2; AAP Comments at 3, 7–8; ACT | The App Association Comments at 4; Authors Guild Comments at 4; IFTA Comments at 2; Copyright Alliance Comments at 6, 14; MPA Comments at 11; MAC Comments at 4, 8–9; Pex Comments at 9; PLUS Coalition Comments at 3–4, 9–10; RIAA-NMPA Joint Comments at 7–8.

⁸⁵ ABA IP Comments at 2; AAP Comments at 3, 7–8.

STMs.⁸⁶ In addition, a government-administered process removes ambiguity about whether a particular technical measure qualifies as standard under section 512(i). Instead of leaving that determination to a long and costly litigation process, participants would know up front what their obligations are.⁸⁷

On the other hand, many commenters strongly opposed any government-administered designation process.⁸⁸ They raised concerns about government mandates, and asserted that even a government-administered process would not eliminate litigation uncertainty and would struggle to keep up with the speed at which technology evolves.⁸⁹ Even supporters of such a process acknowledged that it could lead OSPs to divert resources from their own efforts to develop effective technical measures in favor of merely adopting a “lowest-common-denominator” prescribed by regulation.⁹⁰ Several commenters warned that startups and small OSPs would not be able to muster the time and resources to participate in an extensive and ongoing rulemaking process, which could distort the results in favor of better-resourced entities.⁹¹

The opposing commenters also argued that infringement is not a major issue for those OSPs that are able to rely on human review to deal with claims of infringement rather than technological systems. They questioned any process that would mandate that such OSPs accommodate technical measures that might serve little practical purpose on their platforms.⁹²

The internet’s growing diversity and complexity were also cited as a major obstacle to a government-administered process for designating STMs. Commenters on all sides of this issue agreed with the Section 512 Report’s conclusion that internet policy in the twenty-first century cannot be one-size-fits all. Recognizing these concerns, many supporters of a government-administered process envisioned a flexible standards process tailored to specific industries and discrete classes of technologies as an alternative to broad technical mandates. Rather than prescribing STMs to be used by all OSPs, the process would focus on specific types of OSPs or

⁸⁶ See AAP Comments at 7; Authors Guild Comments at 2, 4; Copyright Alliance Comments at 15; IFTA Comments at 2–3; MPA Comments at 5; MAC at 3–4; RIAA-NMPA Joint Comments at 8.

⁸⁷ Cf. Pex Comments at 12.

⁸⁸ See, e.g., CCIA Comments at 7; DiMA Comments at 5; i2C Comments at 3–4; Library Copyright Alliance Comments at 4 (arguing that standards-setting organizations should develop the STM before an agency with technical expertise conducts a rulemaking); USTelecom Comments at 2–3; Wikimedia Foundation Comments at 16.

⁸⁹ See, e.g., Engine Comments at 13; Reddit Comments at 5; SIIA Comments at 9.

⁹⁰ MPA Comments at 13 (“We are concerned that the blanket application of technological requirements can have the result of lowering rather than raising the bar for any OSPs that have voluntarily agreed to utilize more sophisticated measures. STMs should not be designated only to create a ‘lowest common denominator’ that stalls rather than fosters further innovation around copyright protection.”).

⁹¹ Engine Comments at 12–13; Library Copyright Alliance Comments at 3; Wikimedia Foundation Comments at 15–16. A company that did “miss the train” would not be able to weigh in until the next rulemaking, potentially threatening its existence in the meantime. See Library Copyright Alliance Comments at 3; Wikimedia Foundation Comments at 17.

⁹² Niskanen Center Comments at 7–8; Wikimedia Foundation Comments at 10, 13.

specific types of industries or works.⁹³ Requirements could be tailored on these bases—for example, small OSPs, such as a discussion platform for a local school, might not need to accommodate a technical measure that filters copyright works.⁹⁴

Other commenters countered that this more tailored approach would be unworkable. For example, while it is theoretically possible for a government agency to tailor specific technical measures for different industries (such as the music industry), that would create a range of new problems. OSPs within those industries are quite diverse, and there are not clear boundaries between industries.⁹⁵ As one commenter suggested, “it could quickly (and likely) create a lot of new questions, confusion, compliance difficulties, perhaps conflicting obligations, and more litigation.”⁹⁶ In sum, while the benefit of such a process is that it avoids sweeping mandates, in practice it could force decision makers to draw too many distinctions and end up being even less effective.

Congress could also authorize a more limited process to recognize or designate STMs related to technical measures like fingerprinting and web crawling that are used to *identify* copyrighted works online.⁹⁷ By confining the scope to identifying copyrighted works, it might be possible to avoid the more difficult questions about automated takedowns or upload filters involved in protecting copyrighted works. Moreover, some commenters noted that STMs could extend to classes of technology, like fingerprinting or web crawling, rather than particular instantiations of a technology developed by a particular company or group of companies.⁹⁸

But assuming it is possible to distinguish identification and protection in this manner, even a limited government-led process intended to recognize a class of STMs for identifying copyrighted works could cause difficulties. According to some commenters, the fact that an STM merely “identifies” copyrighted works does not mean it is easy for an OSP to accommodate it: For example, an OSP that changed its programming interface without first communicating with third-party “identification” STM providers to ensure compatibility might render the STM unusable on the platform and thereby open itself to liability for infringement.⁹⁹ Another commenter argued that technical measures related to fingerprinting can be “extraordinarily

⁹³ ACT | The App Association Comments at 3; Authors Guild Comments at 2–4; Copyright Alliance Comments at 5; MAC Comments at 2; Pex Comments at 16; RIAA-NMPA Joint Comments at 7.

⁹⁴ See Authors Guild Comments at 4–5; BSA Comments at 5; SIIA Comments at 7.

⁹⁵ Amazon Comments at 2, 4; DiMA Comments at 7; Engine Comments at 3–10; Re:Create Comments at 3; Synamedia Limited, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 2 (May 27, 2022).

⁹⁶ Engine Comments at 3.

⁹⁷ CCIA Comments at 9–10.

⁹⁸ Authors Guild Comments at 3 Pex Comments at 7–8, 15, 20.

⁹⁹ See Pex Comments at 4–5.

complicated,” and questioned whether any “government agency has the technical competence to evaluate whether a proposed STM would even be effective at identifying or protecting works.”¹⁰⁰

We have additional concerns about some commenters’ proposal that the Copyright Office specifically should be tasked to administer an STM designation process.¹⁰¹ Some of these commenters specifically cited the SMART Copyright Act, pending in both chambers of Congress, which envisions the Office conducting a triennial rulemaking process to designate STMs outside the section 512(i) framework.¹⁰² Others suggested the Office could play a more modest role, defining general standards or hosting a registry of STMs rather than designating particular technologies.¹⁰³

Commenters who believed that the Copyright Office should oversee the designation of STMs observed that it is the expert government agency on copyright issues. They pointed out that the Office already oversees the section 1201 triennial rulemaking process, which also involves difficult technical questions. And they suggested that staff and funding increases, as well as cooperation with other government entities like the National Institute of Standards and Technology (“NIST”) and the National Telecommunications and Information Administration (“NTIA”), would ensure that the Office had sufficient competence on technical issues outside its direct copyright expertise.¹⁰⁴

But these proposals also elicited considerable criticism. Many commenters (even those that supported a government designation process) warned that the Office lacks both the financial resources and the technical expertise needed to oversee a rulemaking related to STMs—in addition to familiarity with data privacy, coding, antitrust, and other relevant considerations.¹⁰⁵ They did not see the option of staff and funding increases as sufficient to cure these gaps.

In light of the comments on this study, our experience with the demands of the triennial section 1201 rulemaking, and further consideration of the issue since publication of the Section 512 Report,¹⁰⁶ we believe that assigning the Office rulemaking authority to designate STMs is

¹⁰⁰ Library Copyright Alliance Comments at 3.

¹⁰¹ AAP Comments at 3, 7–8; ACT | The App Association Comments at 4; Copyright Alliance Comments at 6, 14; MPA Comments at 11; MAC Comments at 8–9; Pex Comments at 9; RIAA-NMPA Joint Comments at 7–8.

¹⁰² S. 3880, 117th Cong. (2022); H.R. 9541, 117th Cong. (2022). For comments supporting the SMART Copyright Act, see AAP Comments at 8; MPA Comments at 11; Pex Comments at 15; RIAA-NMPA Joint Comments at 7–8.

¹⁰³ ABA IP Comments at 2–3; Authors Guild Comments at 3–4; PLUS Coalition Comments at 3–4, 9.

¹⁰⁴ AAP Comments at 3, 7–8; ACT | The App Association Comments at 4; Copyright Alliance Comments at 6, 14; IFTA Comments at 2; MPA Comments at 11; MAC Comments at 4, 8–9; Pex Comments at 1, 9; RIAA-NMPA Joint Comments at 7–8.

¹⁰⁵ CCIA Comments at 7; Engine Comments at 12–13; i2C Comments at 2–4; Library Copyright Alliance Comments at 3–4; Niskanen Center Comments at 4; Re:Create Comments at 4, 6; USTelecom Comments at 2–3; Wikimedia Foundation Comments at 15–16.

¹⁰⁶ In the Section 512 Report, we raised the possibility that Congress could give the Copyright Office “regulatory authority to oversee the development of STMs,” with the goal of supplying “flexibility to ensure that any consensus-

not viable in practice. Apart from the concerns described above about a government-led process generally, we agree that the Copyright Office lacks the resources to play this role. The level of any likely budget and staffing increases, such as the addition of a Chief Technology Advisor, would not suffice to bridge the gap between the Office’s resources and the workload involved as a practical matter, or provide the breadth of expertise needed to evaluate STMs across the wide variety of creative industries.

In sum, while some form of government involvement might prove more effective than the status quo, at this time we conclude that it is preferable to smooth the obstacles to private standards-setting initiatives rather than replace them with potentially problematic government-led rulemakings. Given the challenges that have been identified, other options should be explored before displacing Congress’s original emphasis on consensus.

C. Repealing Section 512(i)

For at least one commenter, the limitations discussed above are evidence that section 512(i) has outlived its usefulness and should be repealed altogether.¹⁰⁷ This commenter claims that STMs are unnecessary given voluntary solutions, and asserts that cybersecurity and privacy concerns mean that STMs could affirmatively cause harm.¹⁰⁸ Other commenters argued that section 512(i) is largely duplicative of sections 1201 and 1202, which do not require a cumbersome standards process.¹⁰⁹

The Office does not believe that repeal is warranted. Our complementary technical measures consultations show that this remains a fluid area and that companies have strong incentives to develop effective measures even without government mandates. Indeed, many proprietary measures “go beyond the floor mandated by section 512.”¹¹⁰ It is possible that some

building accounts for the needs of both large and small creators, who traditionally have not participated in the development of such measures.” SECTION 512 REPORT at 179.

¹⁰⁷ Re:Create Comments at 4, 6. Cf. Library Copyright Alliance Comments at 1 (arguing that section 512(i) is redundant in light of sections 1201–1202).

¹⁰⁸ Re:Create Comments at 4, 6.

¹⁰⁹ Amazon Comments at 4; Library Copyright Alliance Comments at 1 (claiming “the absence of STMs does not demonstrate a failure of section 512(i) but rather the wild success (from the perspective of rightsholders) of Chapter 12.”). Section 1201 concerns the circumvention of copyright protection systems, while section 1202 addresses the integrity of copyright management information. 17 U.S.C. §§ 1201–02.

¹¹⁰ Amazon Comments at 4; *see also* Authors Guild Comments at 6 (observing that “several voluntary agreements between OSPs and large rights holders regarding the use of technological measures already exist” but arguing that these measures “serve only a select well-resourced copyright owners at scale and leave out individual creators”); CCIA Comments 2–3 (suggesting that STMs “simply aren’t needed”); Copyright Alliance Comments at 5–6 (acknowledging that “informal processes may have benefits surrounding parties’ willingness to work towards solutions on their own terms and without government oversight or complete public transparency”); Google Comments at 1–3; Library Copyright Alliance Comments at 2; MPA Comments at 2 (“Indeed, many OSPs, particularly the larger ones operating in the United States, have adopted content protection measures that exceed what might be required through a mandated technology solution and we remain committed to encouraging those

voluntarily developed technical measures could meet the STM requirements, especially if Congress amends the statutory definition.¹¹¹ All in all, giving up on the potential benefits of section 512(i) seems premature: It was part of Congress’s originally intended bargain, it has not been shown to cause any harm, and an improved version could prove to be helpful in controlling online infringement.

As an alternative to repeal, a few commenters suggested that Congress could change the penalty for failure to accommodate STMs in order to restructure OSP incentives.¹¹² As described above, because accommodating STMs is a condition of eligibility for section 512’s safe harbors, and because the loss of the safe harbor exposes OSPs to potential liability, section 512(i) may inadvertently discourage OSPs from cooperating with copyright owners to develop STMs. Substituting a less drastic penalty—or even a carrot for a stick—could realign the parties’ incentives and make it more likely that OSPs and copyright owners will adopt STMs. We note, however, that no concrete proposals were put forward for such a substitution, and many commenters opposed modifying the language conditioning eligibility for the safe harbors on accommodating STMs.¹¹³ Accordingly, while alternative incentives may be worth exploring, we do not have a specific proposal at this time.

VI. Conclusion

Many stakeholders expressed frustration with the status quo surrounding online infringement generally and section 512(i) specifically. While the Office’s consultations on voluntary technical measures have illustrated the many ways in which technology is being used to address issues facing copyright owners and OSPs in the digital environment, it cannot be disputed that “Congress’ vision of broad, open, cross-industry standards-setting for the creation of standard technical measures has not come to pass.”¹¹⁴

For this reason, we recommend several amendments to the statutory definition of STMs to encourage such cooperation: Clarifying that the terms “broad consensus” and “multi-industry” entail only the substantial support of the stakeholders within particular affected industries; stating that STMs need only be “designated” through the required consensus, not necessarily “developed”; and providing a list of factors for assessing the substantiality of costs

efforts.”); Re:Create Comments at 6 (“Most major platforms have already instituted voluntary technical measures that go beyond the requirements of DMCA Section 512.”); SIIA Comments at 9.

¹¹¹ See Wikimedia Foundation Comments at 12; *see also* OTW Comments at 7 (“OTW believes that Congress’s original goals in enacting 512(i) are satisfied by 512(i) itself, and that, until technology advances to the stage where STMs are feasible, 512(i) will continue to serve its purpose by awaiting such technological development.”).

¹¹² See MPA Comments at 12; Seth D. Mills, Comments Submitted in Response to U.S. Copyright Office’s Apr. 27, 2022, Notice of Inquiry at 6 (May 27, 2022); Wikimedia Foundation Comments at 13; *see also* Re:Create Comments at 5; SIIA Comments at 8. *Cf.* AAP Comments at 7; Copyright Alliance Comments at 12; DiMA Comments at 7; IFTA Comments at 2–3. *But see, e.g.*, Engine Comments at 11.

¹¹³ AAP Comments at 7; Copyright Alliance Comments at 12; DiMA Comments at 7; Internet Archive Comments at 4; MAC Comments at 8; Pex Comments at 21; PLUS Coalition Comments at 9.

¹¹⁴ SECTION 512 REPORT at 66 n.352.

and burdens can improve section 512(i) while respecting the compromises embodied in the DMCA. We also remain open to the possibility of enhancing incentives to join in a standards-setting process.

Finally, we acknowledge that stakeholders raised strong arguments both for and against more sweeping changes, such as repeal of section 512(i) or the establishment of a government-administered process for designating STMs. But the diversity and complexity of the internet marketplace and evolving technologies, which have increased exponentially since the passage of the DMCA in 1998, counsel caution before repealing or entirely restructuring section 512(i).

Please do not hesitate to contact me should you require any further information.

Respectfully,

A handwritten signature in black ink that reads "Shira Perlmutter". The signature is written in a cursive, flowing style.

Shira Perlmutter
Register of Copyrights and Director
U.S. Copyright Office