

Copyright Reform Act

Prepared on behalf of



Providing an Incidental Copies Exemption for Service Providers and End-Users

March 31, 2011

by

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This Report is one of a series related to the Copyright Reform Act, a project created on behalf of Public Knowledge as a client of the Samuelson Law, Technology & Public Policy Clinic at U.C. Berkeley School of Law and the Stanford Cyberlaw Clinic.[†]

Public Knowledge is a Washington, D.C., based public interest organization that works to protect the rights of citizens and consumers to communicate and innovate in the digital age. Ensuring these rights requires a copyright law that does not unduly restrain everyday communications or new sources of creativity, and one that can account for current and future changes in technology.

[†] This Report was developed by Samuelson Law, Technology & Public Policy Clinic, including faculty Jennifer Lynch and Jennifer M. Urban and students Dena Chen, Musetta Durkee, and Jared Friend. The Copyright Reform Act is in large part due to the excellent work of Stanford Cyberlaw Clinic students Jake Freed, Charlin Lu, and Marc Williams. We wish to thank Jonathan Band, Bruce Joseph, Paul Levy, Fred von Lohmann, Aaron Perzanowski, Jason Schultz, and Tara Wheatland for their thoughtful feedback on the CRA and/or these Reports. The opinions herein should not be attributed to them; and mistakes, of course, remain our own.

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I. INTRODUCTION

This fifth installment of our Report series accompanying the Copyright Reform Act proposes a targeted and specific exemption from copyright infringement for incidental or transient copies¹ that are an integral and essential part of a technological process and that enable a lawful use of a copyright-protected work. Today, the ordinary use of everyday digital technologies generates myriad incidental copies of copyrighted works. Incidental copies are made every time a media file is played on a computer, every time software is launched, and every time a website is viewed on the Internet.²

These reproductions are made because they are essential to the basic functionality of numerous technological processes.³ However, despite their ubiquity and necessity, in some cases, courts have held such copies to be infringing reproductions under § 106 of the Copyright Act.⁴ Congress did attempt to stave off this problem by adding § 117 to the Copyright Act;⁵ unfortunately, § 117 is now both dated and insufficient, and is of little use in resolving the overall uncertainty surrounding incidental copies. For these reasons, transient and incidental copies exist in a gray area of legal uncertainty, despite their universality, their necessity to digital technologies, and their very limited independent commercial value.

Because of this lack of clarity in the law, both users and creators of digital technologies face fears of copyright liability. Given the pervasiveness of incidental copies, any potential for copyright liability can have a chilling effect on innovation. Everything from large-scale video- or audio-streaming services, to supplementary software and tools, to basic consumer goods like computers and media playback devices, operate based on incidental copying. Limiting legal uncertainty in such markets helps keep competition robust and innovation fertile. As such, making clear that incidental copies are non-infringing would provide needed certainty that the development and use of these technologies can advance unhindered.

Therefore, in order to remedy uncertainty, clarify the legal status of incidental copies, and reduce innovation-chilling liability concerns, this Report proposes a limited

¹ The term “copy” is used in this Report for lack of a better designation that accurately captures the wide variety of duplications necessary to digital technologies. However, as discussed in this Report, it is legally uncertain as to which, if any, of these copies qualify as “reproductions” for purposes of copyright infringement. For example, Aaron Perzanowski has referred to copies made in RAM as “instantiations” in an effort to clarify the inapplicability of copyright law to such copies. Aaron Perzanowski, *Fixing RAM Copies*, 104 NW. U. L. REV. 1067 (2010). As this Report contemplates various technologies and types of incidental and transient reproductions including, but not limited to, instantiations in RAM, we are using the term “copies” to avoid confusion, but are not suggesting that such copies are necessarily reproductions for purposes of copyright infringement.

² *Id.*

³ Jessica Litman, *Revising Copyright for the Information Age*, 75 OR. L. REV. 19, 37 (1996).

⁴ *See, e.g.*, *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993); *Stenograph L.L.C. v. Bossard Assocs., Inc.*, 144 F.3d 96, 101 (D.C. Cir. 1998); *Quantum Sys. Integrators, Inc. v. Sprint Nextel Corp.*, 338 F. App’x 329, 336–37 (4th Cir. 2009).

⁵ Robert A. Kreiss, *Section 117 of the Copyright Act*, 1991 B.Y.U. L. REV. 1497, 1499–1500 (1991).

exemption from copyright infringement for incidental copies. The proposal, attached as Appendix A, exempts from copyright infringement liability:

- *transient or incidental* reproductions of copies or phonorecords,
- that are made as an *integral and essential* part of a technological process,
- and the primary purpose of which is to *enable a lawful use*.

This Reform, although limited, would go far to relieve uncertainty in this area of copyright law, by providing a technology-neutral standard that clearly covers the broad range of incidental copies required by different technologies. At the same time, its limitations preserve fundamental protections for copyright holders by carefully limiting the exemption to only those copies that are integral and essential, and made in service of a lawful use. As such, the reform furthers copyright's goals to advance the development of knowledge and technology, while preserving incentives for creators of copyrighted works.

Additionally, updating copyright law with a clear exemption for incidental copies would usefully modernize and clarify existing statutory language and reconcile the inconsistent and sometimes ill-considered approaches taken by some courts. At present, neither the Copyright Act⁶ nor applicable case law⁷ clearly determine whether incidental copies are “fixed” and thus “reproductions” for purposes of copyright infringement. Further, because Congress did not anticipate the vast market for digital technologies that exists today, and instead drafted the exemption for computer program copies in § 117 of the Copyright Act⁸ narrowly, to protect only computer program code,⁹ current law provides little reassurance for innovators and consumers of newer technologies. By tying the question of copyright liability directly to the lawfulness or unlawfulness of the end use instead of tying it to a specific kind of technology, the proposed reform provides courts, copyright holders, innovators, and consumers alike with a much more clear, workable standard than exists today.

Part II of this paper provides a brief background on incidental copies and describes their centrality to a world of digital technologies. Part III describes the uncertainty created by the unclear state of current law. Part IV outlines the harmful effects of the present uncertainty, describes our proposed reform in more detail, and discusses how the proposed exemption remedies inconsistencies in the law and updates the practical approach already taken by Congress in drafting § 117.

⁶ Under § 106(1) of the Copyright Act, a copyright owner has the exclusive right to reproduce copies of a copyrighted work, where “copies” are defined as “material objects . . . in which a work is fixed.” See 17 U.S.C. § 101 (2006). A work is fixed when the “embodiment in a copy . . . is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.” *Id.*

⁷ Jonathan Band & Jeny Marcinko, *A New Perspective on Temporary Copies: The Fourth Circuit's Opinion in Costar v. Loopnet*, 2005 STAN. TECH. L. REV. P1, 3–5 (2005).

⁸ See 17 U.S.C. § 117.

⁹ See 17 U.S.C. § 101.

II. INCIDENTAL COPIES ARE BOTH UBIQUITOUS AND NECESSARY IN A WORLD OF DIGITAL TECHNOLOGIES.

Over the course of the last three decades, the rise of digital technology and digital-format media has dramatically changed the distribution and use of copyrighted works. Today, digital processes regularly create numerous copies of copyrighted works that are inherent to the processes' functionality. These copies are generated to provide efficient access to the data required for transmitting, playing, or otherwise utilizing digital copies of copyrighted works.¹⁰ Nearly all present-day digital technology operates via this ubiquitous copying—although these copies are transient, incidental to the end result, or both, they are integral to digital processes. Because of this, Internet browsers, consumer devices such as digital video recorders (“DVRs”) and portable MP3 players, and complex software products all create numerous copies of copyrighted works.

Because incidental copies are universal in today's digital landscape, a wide variety of economic players rely on them. Service providers must regularly generate copies of copyrighted works when delivering services to end users that rely on digital transmission, buffering, or temporary storage technologies.¹¹ For example, streaming video and audio technologies and file-storage lockers both require the creation of iterative buffer copies to transmit files from one computing device to another. Similarly, all software programs create incidental copies as a fundamental part of their RAM-based operations,¹² and make other kinds of temporary files to maximize program efficiency, preserve RAM memory, and the like.¹³ Further, incidental copies essential to a variety of technological processes, including digital transmission and playback,¹⁴ Internet

¹⁰ See Perzanowski, *supra* note 1.

¹¹ Service providers that transmit digital media must generate incidental copies of the transmitted content in order to relay the media from the service provider's servers to the computer of the end user requesting the content. See, e.g., *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544, 551 (4th Cir. 2004). These incidental copies might be single files that represent the content being requested, or many small buffer copies that, when combined, make up the content consumed by the end-user.

¹² Computers generate automatic, temporary copies of digital media into RAM in order to provide software with easy access to data that needs to be readily available for retrieval. These copies make up different kinds of copyrighted content, including code, music, video, images, and text. These copies can remain in RAM for substantial periods of time, but are generally very brief in nature. I. Trotter Hardy, *Computer RAM “Copies”: Hit Or Myth? Historical Perspectives on Caching as a Microcosm of Current Copyright Concerns*, 22 U. DAYTON L. REV. 423, 426–27 (1996).

¹³ Beyond RAM copies, some software programs generate temporary files on hard disk drives or other kinds of permanent memory to maximize the efficiency of particular uses of computer software. Other temporary files are generated to preserve RAM memory, as is the case with many kinds of large media files. As with RAM copies, the kinds of copyrighted content that are reproduced in temporary files vary. These copies are typically essential to create computer programs that function efficiently and maximize use of an end-user's computing resources. See, e.g., *Description of How Word Creates Temporary Files*, MICROSOFT SUPPORT (last updated May 13, 2010), <http://support.microsoft.com/kb/211632>.

¹⁴ Media playback devices such as Digital Video Recorders, Blu Ray Players, and DVD players use various kinds of buffering technologies to decode video and optimize playback. Another example exists in many portable CD players, which use temporary memory buffers in order to prevent “skipping” when the input from a CD is temporarily disrupted. *RadioShack Consumer Electronics Glossary*, RADIOSHACK, http://support.radioshack.com/support_tutorials/glossary/glossary-a.htm (last visited Mar. 28, 2011).

browsing,¹⁵ computing efficiency,¹⁶ and data loss prevention,¹⁷ are inevitably generated during the ordinary consumer use of a vast array of devices, from DVD and MP3 players to DVRs. Such incidental copies have become an inherent component of commonplace consumer technologies, allowing for features, such as skip-free CD playback and seamless Internet streaming of digital media, that consumers expect. Without incidental copying, these technologies, and the marketplace for software and digital media they support, simply would not exist.

Further, because these workhorse copies are incidental to the ultimate use being made of a copyrighted work, and are often temporally transient as well, they represent little value to copyright holders. Thus, as a policy matter, incidental copies should not create legal uncertainty for innovators of new digital technologies or their end users. Unfortunately, the current statutory scheme provides too little assurance that these and other forms of transient or incidental copying are free from infringement liability. Further, some existing case law, which is at times technology-specific and at times outdated, exacerbates concerns that liability could universally apply to incidental copies. If the present lack of clarity surrounding the lawfulness of incidental copies is not remedied, there is a risk that uses of current technologies will be interrupted, further innovation by developers or services providers of these technologies will stagnate, and consumer confidence in these technologies will falter.

III. COPYRIGHT LAW'S PRESENT TREATMENT OF INCIDENTAL COPIES CREATES UNCERTAINTY FOR INNOVATORS, CONSUMERS, AND COPYRIGHT HOLDERS.

Currently, the Copyright Act is inconclusive with regard to the legal status of incidental copies. Under § 106(1) of the Copyright Act, a copyright owner has the exclusive right to reproduce copies or phonorecords of a copyrighted work.¹⁸ However, neither the statutory language nor the subsequent case law have effectively resolved the question of whether transient or incidental copies incidental to a technological process

¹⁵ The use of temporary files has increased substantially with the widespread use of Internet browsers. While browsing a web page on the Internet with the use of a browser such as Internet Explorer or Firefox, the images, text, and code of websites are frequently “cached” by the browser for the web page to be available for immediate retrieval by the browser when a user revisits the same web page. These incidental copies are generated for variable lengths of time that are dictated either by the particular website code or by the browser using complex heuristics to determine efficient caching periods. Geoff Huston, *Web Caching*, CISCO SYSTEMS (Sept. 1999) http://www.cisco.com/web/about/ac123/ac147/ac174/ac199/about_cisco_ipj_archive_article09186a00800c8903.html.

¹⁶ Some temporary files are generated to preserve RAM or to otherwise increase efficiency. For example, video editing programs frequently create temporary files while rendering alterations to large video files that might otherwise consume too much RAM. See, e.g., *Final Cut Pro: The Importance of Scratch Disks*, STEVE'S DIGICAMS, <http://www.steves-digicams.com/knowledge-center/how-tos/photo-software/final-cut-pro-the-importance-of-scratch-disks.html> (last visited Mar. 28, 2011).

¹⁷ Many of these temporary files are generated to prevent data loss, as is the case with temporary documents generated by Microsoft Word when a user edits or creates a new document. *Description of How Word Creates Temporary Files*, MICROSOFT SUPPORT, *supra* note 13.

¹⁸ See 17 U.S.C. § 106.

qualify as “reproductions” for purposes of copyright infringement. While the House Report on the 1976 Copyright Act expresses doubt as to whether “purely evanescent or transient reproduction[s]” should implicate copyright infringement, inaction by Congress to specifically resolve this issue has led to uncertainty as to the current state of the law.¹⁹ Shortly after the enactment of the 1976 Copyright Act, the National Commission on New Technological Uses of Copyrighted Works (“CONTU”) addressed whether incidental copies were “fixed”—a key requirement for copyright protection. CONTU concluded that, in the case of RAM copies, because these copies could be “repeatedly reproduced,” they were “fixed” and therefore subject to infringement claims.^{20, 21} In response to this conclusion, and to avoid potentially chilling effects on software innovation and use, Congress created a limited exemption from infringement for RAM copies in software, codified at § 117 of the Copyright Act.²² However, Congress did not fully anticipate the rise of digital technologies, and crafted § 117 too narrowly. First, its protections are explicitly limited to copies of “computer programs,” leaving aside the many other types of non-software media that might be copied into RAM, such as images, video, audio, or text.²³ Second, § 117 protects only “owners” of a copy of computer software, a requirement that might, depending on judicial interpretation, render the exemption obsolete as many software distributors use license agreements to “license” software, rather than “sell” it. Without an effective exemption in place to protect the ordinary uses of computer software that generate temporary copies, users who are otherwise innocent could be liable for copyright infringement, a risk that simply does not exist in analog works.

Because § 117 has been superseded by the rapid innovation in digital and Internet technologies that has occurred since its inception, courts have been forced to confront the tension between the narrowness of the statutory exemption and the increasing pervasiveness of new and emerging technologies that utilize incidental or transient copies. While some courts have found RAM copies to be infringing, others have found particular uses of incidental copies to be non-infringing.²⁴ Unfortunately, courts’ methods in reviewing different technologies are divergent; further, existing cases do not necessarily extend to all forms of technology that use incidental copying. This inconsistency in the case law creates legal uncertainty that threatens to raise transaction

¹⁹ See H.R. REP. NO. 94-1476, at 53 (1976); Perzanowski, *supra* note 1.

²⁰ Band & Marcinko, *supra* note 7, at 6.

²¹ Some scholars have expressed doubt regarding CONTU’s findings. See, e.g., Pamela Samuelson, *CONTU Revisited: The Case Against Protection for Computer Programs in Machine-Readable Form*, 1984 DUKE L. J. 663, 665–66 (1984) (explaining differing views regarding the compatibility of CONTU’s proposed reforms with copyright tradition).

²² Kreiss, *supra* note 5, at 1505.

²³ 17 U.S.C. § 101 defines a computer program as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.” Further, a visual arts copyright is necessary to protect the visual output of a computer program. See, e.g., *Action Tapes, Inc. v. Mattson*, 462 F.3d 1010, 1013–14 (8th Cir. 2006).

²⁴ See, e.g., *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121, 127 (2d Cir. 2008); *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544, 551 (4th Cir. 2004).

costs and stifle innovation.²⁵ Congress should reconcile this case law and update § 117 to address contemporary technologies and new innovations.

A. IT IS UNCERTAIN WHETHER INCIDENTAL COPIES ARE “FIXED” FOR PURPOSES OF COPYRIGHT INFRINGEMENT.

As technologies that rely on incidental copying have evolved, several developments in the case law have left unclear whether the ephemeral copies generated in RAM should be considered “fixed,” and therefore reproductions cognizable under copyright law. In *MAI Systems Corp. v. Peak Computer, Inc.*, the Ninth Circuit held that reproducing code from MAI’s operating system for purposes of computer repair created fixed copies because the representations loaded in RAM were capable of being “perceived, reproduced, or otherwise communicated.”²⁶ However, in concluding that the RAM copies were “fixed”²⁷ for purposes of copyright infringement, the court failed to address whether the reproductions in question satisfied the standard laid out in § 101, which also requires fixation of “more than transitory duration.”²⁸

In contrast to *MAI*, other courts have found the use of incidental copies in digital technologies to be non-infringing. For example, in *CoStar Group, Inc. v. LoopNet, Inc.*, the Fourth Circuit found that RAM copies of photographs, made during LoopNet’s photograph screening process, were not fixed for purposes of copyright infringement.²⁹ The court determined that “while temporary copies may be made in this transmission process, they would appear not to be ‘fixed’ in the sense that they are ‘of more than transitory duration.’”³⁰ The court went on to say that any determination of transitory duration “is thus both a qualitative and quantitative characterization . . . quantitative insofar as it describes the period during which the function occurs, and it is qualitative in the sense that it describes the status of the transition.”³¹

In *Cartoon Network v. CSC Holdings*, the Second Circuit held that buffer copies made on Cablevision’s servers as part of the transmission process of a networked digital video recorder service were not “fixed” for purposes of copyright infringement.³² The court specifically confronted *MAI*’s failure to address the Copyright Act’s requirement

²⁵ Brief of Amici Curiae Center for Democracy & Technology et al. Urging Reversal, *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008) (No. 07–1480–cv).

²⁶ 991 F.2d 511, 519 (9th Cir. 1993).

²⁷ *Id.* at 518.

²⁸ *Cartoon Network LP, LLLP v. CSC Holdings, Inc.*, 536 F.3d 121, 127 (2d Cir. 2008)

²⁹ LoopNet was a service provider whose website allowed end-users to create real estate listings with attached photographs. CoStar claimed LoopNet engaged in direct infringement through their photographic review process when copies were made into RAM of the photographs when an employee viewed the photographs to determine if they complied with LoopNet’s Terms of Use. *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544, 546 (4th Cir. 2004).

³⁰ *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 505 (9th Cir. 1993).

³¹ *CoStar Grp.*, 373 F.3d at 551.

³² *Cartoon Network*, 536 F.3d at 127.

that the copy be fixed for a period “of more than transitory duration,”³³ and went on to determine that this requirement was not met by the 1.2 seconds that buffer copies were stored on Cablevision’s servers.³⁴ However, in evaluating the different types of copies at issue in the case, the court departed from the approach in *LoopNet* by applying a more quantitatively focused standard, considering the length of time, in seconds and fractions of seconds, that each type of copy persisted, and leaving the relevant test for fixation somewhat uncertain.³⁵

Moreover, despite these recent developments, *MAI* and its progeny retain some force, leaving the legal status of incidental or transient copies uncertain. Although the Ninth Circuit in *MAI* failed to address the “transitory duration” requirement when evaluating the nature of incidental copies as “fixed,” and although *MAI* is often criticized,³⁶ numerous courts have followed it when evaluating the fixation of incidental copies. As recently as 2009, the Fourth Circuit cited *MAI* as the “leading case” on RAM copies.³⁷ Further, the few cases that courts have distinguished from *MAI* vary in their approaches to evaluating whether incidental copies persist for more than “transitory duration.” There are even distinctions between similar approaches, such as the largely quantitative approach taken by the court in *Cartoon Network* and the mixed qualitative and quantitative approach taken by the court in *LoopNet*.

These differences in approach may appear inconsequential in light of the cases’ important recognition that incidental copies are not “fixed” for purposes of copyright infringement. Taken together, however, these differences limit the current case law’s usefulness in determining potential liability. When service providers and developers implement complex technological systems, they confront serious implications if the

³³ *Id.*

³⁴ *Id.* at 130.

³⁵ In *Cartoon Network*, numerous content owners sued Cablevision for declaratory and injunctive relief for copying infringement that would result from the copy and transmission of television content made in the service of a networked Digital Video Recorder (“nDVR”). Cablevision announced to its cable subscribers that it would provide a service that allowed them to use their remote to signal television shows that the subscriber wanted recorded onto Cablevision’s nDVR servers. The subscriber could then choose the recorded show for playback at a later date. Through the use of this technology, various short-term buffer copies and fully formed hard drive copies were made onto Cablevision’s servers. *Id.* at 125.

³⁶ Some critics focus on a lack of evidence in relevant legislative history that Congress intended RAM copies to be considered copies for purposes of infringement. See, e.g., CHRISTOPHER WOLF, *THE DIGITAL MILLENNIUM COPYRIGHT ACT: TEXT, HISTORY, AND CASELAW* 641 (Pike & Fisher 2003). Others are concerned, because of the ubiquitous presence of RAM copying, that absurd results might emerge if this precedent is carried to the logical extreme, such as nearly every launched program or viewed web page on a computer, projected images, or even a book held up to a mirror qualifying as copyright infringement. See, e.g., Pamela Samuelson, *Legally Speaking: The NII Intellectual Property Report*, COMMUNICATIONS OF THE ACM (1994), available at <http://www.virtualschool.edu/mon/ElectronicProperty/LehmanACMCritique.html>. Still other critics classify the decision in *MAI* as “overreaching” and suggest that, under a “more refined application of the law,” the ruling would have found that the copies of code for repair services were not “fixed” for purposes of copyright infringement. See David Nimmer, *Brains and Other Paraphernalia of the Digital Age*, 10 HARV. J.L. & TECH. 1, 42–45 (1996).

³⁷ *Quantum Sys. Integrators, Inc. v. Sprint Nextel Corp.*, 338 F. App’x 329, 336–37 (4th Cir. 2009).

incidental or transient copies created by their specific new technologies are judged to be infringing.³⁸ The possibility of high statutory damages³⁹ for the numerous incidental copies made during the operation of new technological processes—or even an injunction that pulls a new product from the market entirely⁴⁰—makes the uncertainty in the case law, and the fact-specific nature of those cases that find incidental copies non-infringing, a genuine risk to innovation. As such, a lack of certainty regarding potential liability for developing technologies that create incidental copies could chill innovators and their investors, depriving the market of valuable new technologies and services. The current uncertainty regarding the legal status of incidental copies is thus far from trivial, and the potential for harm is great. By contrast, a clear, statutory exemption would provide innovators and service providers with a pathway to lawful innovation, and would limit chilling effects.

B. SECTION 117 PROVIDES INSUFFICIENT PROTECTION TO INNOVATORS AND CONSUMERS.

Section 117 exempts “owners” of a copy of software from copyright liability for copies of computer programs that are generated as an “essential step in the utilization of the computer program.”⁴¹ As such, § 117 provides “owners” of a computer program with an exemption for some incidental copies—for example, RAM copies—made during the use of copyrighted software code. This approach is a practical one, in light of the need to provide users and developers of computer software with certainty regarding the copyright infringement implications of necessary technological processes. Unfortunately, § 117’s protections are severely limited by its limited application to “computer programs” and by narrow judicial interpretations regarding who qualifies as an “owner.” Because of these limitations, § 117 fails to alleviate uncertainty for many digital technologies and for many lawful uses, such as licensed uses and fair uses. These shortcomings demonstrate the necessity for a new, more expansive, exemption for incidental copies.

A critical limitation of § 117 is its narrow scope. Because of the state of technology at the time of its passage, § 117 addresses only concerns related to temporary copies of a “computer program” generated as an essential step in the utilization of that computer program.⁴² However, in the years since the passage of § 117, computer software and consumer electronics that generate incidental copies of other kinds of copyrighted materials in addition to computer programs have become pervasive. Section 117 likely does not exempt, for instance, copies of digital content external to the software code itself. For example, when a consumer uses a piece of software that plays DVDs on her individual computer, § 117 might exempt copies made into RAM of the copyrighted software code that comprises the DVD player, but would likely *not* exempt incidental

³⁸ *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544, 555 (4th Cir. 2004).

³⁹ A maximum of \$30,000 for nonwillful infringement and \$150,000 for willful infringement. 17 U.S.C. § 504.

⁴⁰ *See* 17 U.S.C. § 502.

⁴¹ *See* 17 U.S.C. § 117.

⁴² *See* 17 U.S.C. § 117(a).

copies of the DVD's video and audio content made into RAM as a necessary part of seamless playback. Because these and other forms of incidental copying are now necessary features of a wide range of digital technologies, § 117 has proven inadequate in fulfilling Congress's original intent to avoid chilling the innovation of new technologies.

Further, while CONTU suggested that an exemption for RAM copies should apply to "rightful possessors," § 117 exempts from liability only "owner[s]" of computer programs.⁴³ This limitation has led to unfortunate consequences in a world where most software, especially consumer software, is "licensed" rather than "sold."⁴⁴ For example, in *Vernor v. Autodesk*, the Ninth Circuit recently held that "significant use restrictions" in a software license attached to copies of software render the lawful purchaser of a copy of the software a mere licensee rather than an "owner."⁴⁵ Given that most software comes bundled with similar kinds of license agreements, if *Vernor* is applied broadly, § 117's protections will not apply to most consumers.⁴⁶ This might result in substantial liability for otherwise inconsequential uses of a computer program by ordinary possessors of legally purchased copies of software. As a consequence, copyright holders are able to limit the scope of the § 117 exemption by creating software licenses that give consumers only possession, and not "ownership," of the software.

Similarly, in *MDY Industries v. Blizzard Entertainment, Inc.*, copies of aspects of the computer game *World of Warcraft* made on consumer computers were potentially infringing because the court did not consider consumers to be "owners" of the software they had purchased.⁴⁷ Accordingly, the Ninth Circuit was forced to consider whether MDY was liable for contributory infringement for distributing aftermarket software designed to augment the experience of playing the licensed videogame, but that resulted in consumers violating the software's terms of use.⁴⁸ Without a license in place to authorize the creation of such copies, and because § 117 does not apply because users' are not "owners" for purposes of the exemption, RAM copies made as a result of the use of supplementary software may qualify as copyright infringement. If the court's reasoning in *MDY* is applied more broadly, many kinds of supplementary software developers, such as creators of web browser extensions and software plug-ins, could find themselves subject to secondary liability for otherwise trivial copies generated as a part of complex processes. Further, because most users of computer software under this rationale are not considered "owners," this limitation of § 117 effectively leaves users of computer software strictly subject to potentially unreasonable or impractical terms of use. This paradigm inevitably threatens users of computer software with copyright

⁴³ Kreiss, *supra* note 5, at 1508–09.

⁴⁴ Brian W. Carver, *Why License Agreements Do Not Control Copy Ownership: First Sales and Essential Copies*, BERKELEY TECH. L. J. (forthcoming).

⁴⁵ *Vernor v. Autodesk, Inc.*, 621 F.3d 1102, 1103–04 (9th Cir. 2010).

⁴⁶ Other courts have looked to the "economic realities" of the transaction or to the perpetual possession of a piece of software when determining whether or not a license controls a transaction, allowing for a factual investigation that extends beyond the "magic words" used in a license agreement. Carver, *supra* note 44.

⁴⁷ *MDY Indus., LLC v. Blizzard Entm't, Inc.*, 629 F.3d 928, 938 (9th Cir. 2010).

⁴⁸ The court ultimately decided MDY was not liable for contributory infringement because there was not a "nexus" between the violated condition of the terms of use and the exclusive rights of copyright. *Id.* at 941.

infringement for otherwise ordinary uses. As such, the limitations in § 117's protections, by leaving out duly licensed users to protect only "owners," undermine the role that it was intended to play in protecting legitimate users of lawfully acquired software.

In sum, there are two main areas of uncertainty in the current state of copyright law as it applies to incidental copies. First, there is uncertainty regarding when incidental copies are "fixed" for purposes of copyright infringement. Consequently, and as seen in *MAI*, it is unclear when users and developers of technologies that produce such incidental copies will be subject to claims of copyright infringement. Second, § 117's approach in protecting only "owners" of computer programs is too limited to explicitly encompass the varied and developing uses of incidental copies in new technologies. Such uncertainties, as discussed further in Part IV, result in harmful consequences for innovators, service providers, and consumers.

IV. CONGRESS SHOULD UPDATE PROTECTIONS FOR INNOVATORS AND CONSUMERS BY ADOPTING A CLEAR, PREDICTABLE, AND TECHNOLOGY-NEUTRAL EXEMPTION FOR INCIDENTAL COPIES.

Because of the uncertainty described above, innovators and consumers have little assurance that creating or using technologies enabled by incidental or transient copies will not result in injunctions or exorbitant statutory damages. Further, if the Ninth Circuit's approach in *MAI* remains or grows in force, its overbroad protection for incidental copies could lead to further chilling effects in both technological innovation⁴⁹ and consumer adoption⁵⁰ of new technologies, as well as inefficient and redundant licensing fees.⁵¹ Congress should therefore remedy § 117's limitations and alleviate the

⁴⁹ Like the circumstances described in *MDY*, innovators of supplementary software face potential secondary liability for incidental copies created by software developed to interact with other copyrighted works. Under the current state of the law, these innovators may feel compelled to consider each and every copy made by the supplementary software in order to evaluate potential copyright infringement, rather than considering only whether the use of the software in general is lawful. This compounded uncertainty, in light of the result in *MDY*, could lead to significant chilling effects for innovators who design software meant to supplement copyrighted software. Innovation in supplementary software is valuable because it can typically expand or shed light on otherwise undeveloped uses of popular software—these chilling effects thus might deter valuable technological developments.

⁵⁰ According to some of the case law applying § 117, as well as interpretations in the DMCA Section 104 Report, few users of computer software actually qualify for the exemption provided by § 117. In addition, because of the complex role that incidental copies play in these various technologies, consumers typically have little awareness of the incidental copies generated by the products they are using. While fair use or implied licenses may protect many of the everyday uses of these kinds of technologies, uncertainty as to the particular applications of these standards could deter consumption of emerging technologies, thus slowing the adoption rates of valuable technological developments. Further negative developments in case law could lead to a state of technological innovation that places reliance on inefficient or even stripped-down technological features distributed to consumers in order to avoid potential chilling effects in the adoption rates of new technologies.

⁵¹ Digital transmissions services provide an instructive example of the direct monetary effects of liability. Without protection, service providers licensed to distribute digital copies of copyrighted works may face additional licensing fees for buffer copies necessary to digital transmission. Because digital distribution implicates not only the distribution right of the copyright owner but also the reproduction right, typical blanket licenses may require supplementary coverage for the uncertainty surrounding potentially implicated

uncertainty in the case law by creating a robust, yet limited exemption for incidental copies.

Our proposed targeted statutory reform, set out in Appendix A, would remedy these problems, promote innovation and the consumer adoption of new technologies, and protect the rights of copyright holders. This reform provides an exemption for the kinds of necessary copies, such as buffer copies and RAM copies, that enable the use of commonplace digital technologies like computer software, media playback devices, and digital transmission services. The reform redirects judicial evaluation of incidental or transient copies to the role they play in the technological process—whether they are truly incidental, and whether they are necessary to the process in question—and to the question of whether the end use they enable is lawful. By focusing on these questions, the reform is technology-neutral in its approach—an important change that will allow the law to evolve alongside innovations in technology. With the proposed reform in place, users will be free to use technologies that generate incidental copies and innovators will be able to maintain and develop new technologies, free from fear of copyright liability.

Specifically, the proposed reform provides an exemption to the exclusive right of reproduction provided to copyright owners under § 106 of the Copyright Act for some incidental copies. Not all intermediate copies are covered by the reform; there are three targeted limitations that ensure that the reform effectively protects the interests of copyright owners. First, the exemption is limited to *incidental* or *transient* copies. This restriction prevents potential infringers from creating copies, such as permanent or secondary duplications, that possess substantial value outside of their necessity to a particular end use. Second, these copies must be an integral and essential part of a technological process. This condition prevents copyists from circumventing copyright protection by secondarily attaching incidental or transient copies to some technological process. Finally, the primary purpose of the copy must be to enable a lawful use. This restriction forces evaluation of the end use that the copy facilitates, requiring that the end use be evaluated in light of the property rights of copyright owners. By limiting the exemption in this fashion, Congress can protect the interests of both copyright holders and consumers.

The proposed reform’s technology-neutral approach addresses both the ill-considered approach in some case law and § 117’s inadequacies by exempting a clear, predictable set of reproductions. For example, in *Cartoon Network*, liability for infringement rested upon a separate evaluation of the fixation of every transient copy generated through the use of networked DVRs; temporary files and buffer copies were considered separately by the court. Under the proposed exemption, this consideration would focus on the technological implementation of the particular incidental copies and the purpose of the copy’s end use: whether it is lawful for a television show to be time shifted for personal use.

reproduction rights. Further, because incidental copies are transient copies made solely to facilitate a digital performance that has already been licensed, this kind of double dipping harms both the service providers that pay for the extraneous licensing fees and the consumers who inevitably absorb these redundant costs. See Park et al., *Streamlining Music Licensing to Facilitate Digital Delivery*, PUBLIC KNOWLEDGE (Mar. 31, 2011), <http://www.publicknowledge.org/cra/>.

A. THE PROPOSED EXEMPTION ALLEVIATES UNCERTAINTY BY RECONCILING INCONSISTENCIES IN THE CASE LAW.

As we described above, the case law surrounding incidental copies is inconsistent in approach and has developed in a manner destructive to the balances that copyright law seeks to preserve.⁵² Congress should reconcile the varied approaches to fixation taken by the courts and rectify the uncertainty created by inconsistent case law by adopting a more clear and predictable standard for evaluating incidental copies. The proposed exemption, by shifting the focus away from fixation and toward the role that incidental copies play in a technological process, emphasizes an explicit standard and overturns the problematic reasoning introduced by *MAI*. It also, by emphasizing the lawfulness of the purpose of the underlying use of the copy rather than the lawfulness of each individual copy, alleviates the burden on courts in considering a particular technology that generates numerous incidental copies. At the same time, by restricting the exemption to those incidental copies that enable a lawful use, the proposed exemption leaves in place liability for copies made to enable illegal uses, thereby protecting copyright holders.

As such, the proposed reform provides a clear standard that minimizes the burden on courts administering the standard, protects the interests of copyright holders, and limits the uncertainty faced by innovators and consumers.

B. THE PROPOSED EXEMPTION LIMITS RELIANCE ON THE FAIR USE DOCTRINE, PROVIDING NECESSARY CERTAINTY FOR CONSUMERS, DEVELOPERS, AND SERVICE PROVIDERS.

Fair use is an important doctrine that is critical to protecting the interests of consumers and innovators. However, while fair use offers some protection for incidental copying, the additional certainty provided by the proposed exemption is essential to continued innovation. Fair use is, by design, a malleable and sometimes unpredictable set of guiding principles that allows for substantial judicial discretion when evaluating copyright infringement.⁵³ Relying entirely on fair use would require an innovator or consumer to carefully evaluate every copy made in support of a technological process when considering potentially costly liability. While specific applications of fair use to incidental copies might permit such copying, it is uncertain how courts would rule on the fair use of many new and emerging uses. By contrast, the proposed exemption removes this burden while still allowing fair use to serve its important function when evaluating the lawfulness of the end use.

⁵² Pamela Samuelson & Members of the CPP, *The Copyright Principles Project: Directions for Reform*, 25 BERKELEY TECH. L.J. 27 (2010), available at http://www.law.berkeley.edu/files/bclt_CPP.pdf

⁵³ *Id.*

C. THE PROPOSED EXEMPTION IS CONSISTENT WITH § 117, BUT UPDATES ITS PROTECTIONS TO ACCOUNT FOR NEW TECHNOLOGIES AND BUSINESS MODELS.

The limited exemption provided by § 117 reflects a serious attempt to achieve balance between the advancement of technology and the economic interests of copyright owners.⁵⁴ CONTU determined that, without an exemption for incidental copies of computer programs, users of computer software would inevitably be frustrated by uncertainty regarding whether their use constituted copyright infringement.⁵⁵ Unfortunately, as described above, § 117 is too limited to capture recent technological developments and the business model change from “selling” to “licensing” software and digital goods. The proposed reform thus follows the practical approach taken by Congress in adopting § 117, but expands it to reflect the emergence of new forms of digital technology and ameliorate the unintended consequences of its shortcomings.

When § 117 was enacted, it was difficult to predict the degree to which incidental copying of protected digital media would extend beyond software. As other kinds of incidental copying beyond copies of computer programs have become ubiquitous, § 117 has proven too narrow to cover a wide variety of transient or incidental copies.⁵⁶ Similarly, it was difficult for Congress to predict how consumers and innovators seeking to achieve interoperability⁵⁷ or develop new features for existing software would need to adapt existing digital media using incidental copies.⁵⁸ The existing state of the law fails to reflect these widespread changes in approach to software development.

Similarly, by leaving aside § 117’s problematic limitation to “owners,” to focus on whether the end use is lawful, the proposed exemption would assist in clarifying the rights of purchasers of digital content. For example, many legitimate purchasers of computer software—as “licensees” rather than “owners”—are not covered by § 117’s explicit right to make archival copies. Further, innovations in digital technologies have enabled the widespread consumption of digital versions of copyrighted works, such as music, books, and movies. However, the legality of digital resale and lending practices is uncertain, even though such rights are taken for granted for their analog counterparts.⁵⁹ For example, the reproduction right is necessarily implicated⁶⁰ when a library lends out an e-book or a consumer sells a digital music file to a friend. The proposed exemption

⁵⁴ See Kreiss, *supra* note 5, at 1501–02.

⁵⁵ *Id.* at 1505.

⁵⁶ Many of these types of copies have received protection from other areas of the law, such as fair use, and doctrines covering implied licenses, but the uncertainty and potentially expensive litigation associated with these defenses makes them less effective solutions than a clear statutory exemption.

⁵⁷ *Id.*

⁵⁸ The use of some kinds of supplementary software generates incidental or transient copies of existing copyrighted software to enable new features or other benefits to consumers. These innovations often provide an impetus for the development of similar features in the original software, as well as technological advances in general.

⁵⁹ Aaron Perzanowski & Jason Schultz, *Digital Exhaustion*, 58 UCLA L. REV. (forthcoming 2011).

⁶⁰ *Id.*

for incidental copies could be triggered by lawful uses under the first sale doctrine⁶¹ or common law principles of copyright exhaustion.⁶² Because the intermediary copies made when transferring or transmitting such a file are transient or incidental, because they are tied specifically to a technological process, and because the end use is lawful under either of these standards, the copies generated as a result of the resale or lending would be exempt from copyright infringement. This would provide legal purchasers of digital content with more concrete standards for lending and resale. Without an explicit exemption that supports continued innovation in new technologies, digital services and technologies face potential stagnation. Therefore, the proposed exemption, supported by the “lawful use” requirement, is necessary to enable parallel advances in law and technology.

D. THE PROPOSED EXEMPTION REFLECTS FUNDAMENTAL GUIDING COPYRIGHT PRINCIPLES.

More generally, the proposed exemption furthers copyright law’s intended balance between the interests of copyright owners, innovators, and consumers. The exemption limits the reproduction right only for incidental or transient copies that have little or no economic impact on the interests of copyright owners. Further, it reinforces the rights of copyright owners by emphasizing the lawfulness of the end use, thus preventing exploitation by infringers who would mask unlawful copying within complex technological processes. Further, there is typically little to no economic value assigned to these incidental copies in transactions between copyright owners and consumers. For example, when a consumer purchases an iTunes MP3 and loads it onto her iPod, the value of the transaction lies in the entire copy of the MP3 purchased by the consumer, not the small buffer copies made into RAM in order to transfer the copy onto her iPod.⁶³ More importantly, because of the pervasive nature of incidental copies, the suggestion that it is necessary to license every single incidental copy is both inefficient and impractical for distributors and consumers alike.⁶⁴

⁶¹ The first sale doctrine provides owners of a particular copy or phonorecord the right to sell or otherwise dispose of the copy. *See* 17 U.S.C. § 109.

⁶² First sale is only one manifestation of copyright exhaustion. Early cases in copyright law demonstrate a much broader exhaustion principle, which has the potential to revitalize the rights of consumers in the face of digital distribution. Perzanowski & Schultz, *supra* note 59.

⁶³ Arguments that there is inherent economic value to incidental copies that possess the entire value of the transaction in a temporary copy, such as software as a service, do not apply to the limited exemption, tied to lawful uses, proposed here. U.S. COPYRIGHT OFFICE, DMCA SECTION 104 REPORT, at 53 (Aug. 2001), *available at* <http://www.copyright.gov/reports/studies/dmca/sec-104-report-vol-1.pdf>. In such cases, particularly when users pay for a subscription to access an application that exists in the “cloud” over the Internet, there is ample opportunity, because of the control a developer has over its own services, to implement security precautions that prevent abuse by consumers.

⁶⁴ A similar argument in opposition to an exemption for incidental copies is that it might create situations that enable users to run software licensed only for individual use on a network. However, this concern can be nullified in a variety of ways: by the use of commonly used digital rights management solutions, by including restrictions in license agreements, or via sophisticated cloud-computing distribution models. In practice, developments in distribution paradigms and distribution models have effectively rendered these concerns moot.

In practice, the narrowness of the proposed exemption protects against inefficient licensing regimes without damaging the financial interests of copyright owners. As such, this exemption encourages innovation while still protecting the benefits provided to copyright owners by copyright law.

V. CONCLUSION

The substantial uncertainty created by both long-standing issues and recent developments in the case law concerning incidental and transient copies indicates a need for legislative reform. Following the rationale for § 117, Congress should enact an exemption that covers incidental and transient copies that are an integral and essential part of a technological process and that enable a lawful use. This targeted reform would correct and clarify the existing case law, create a clear standard to guide both copyright holders and consumers, and restore the balance between copyright holders and consumers that copyright law is intended to protect.

Appendix A

A BILL

To restore the balance to Copyright Law and to promote creativity and innovation.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. ESSENTIAL TRANSIENT COPIES NOT INFRINGEMENTS.—Section 112 of title 17, United States Code, is amended by adding after subsection (i) the following:

(j) Notwithstanding the provisions of section 106, it shall not be an infringement of copyright to create transient or incidental reproductions of copies or phonorecords that are an integral and essential part of a technological process and the primary purpose of which is to enable a lawful use.