

PEER-TO-PEER NETWORKS, TECHNOLOGICAL EVOLUTION, AND INTELLECTUAL PROPERTY REVERSE PRIVATE ATTORNEY GENERAL LITIGATION

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I. INTRODUCTION

No black flags with skull and crossbones, no cutlasses, cannons, or daggers identify today's pirates. You can't see them coming; there's no warning shot across your bow. Yet rest assured the pirates are out there because today there is plenty of gold (and platinum and diamonds) to be had. *Today's pirates operate not on the high seas but on the Internet, in illegal CD factories, distribution centers, and on the street.*

—Recording Industry Association of America¹

What's happening with global, peer-to-peer networking is not altogether different from what happened when the American colonists realized they were poorly served by the British Crown: The colonists were obliged to cast off that power and develop an economy better suited to their new environment. . . . No law can be successfully imposed on a huge population that does not morally support it and possesses easy means for its invisible evasion.

—John Perry Barlow²

Is the Recording Industry Association of America (RIAA) akin to a law-abiding merchant vessel overrun by pirates, or is it more like a frigate of the East India Tea Company anchored in Boston Harbor, unloading its monopoly wares on over-taxed colonists yearning for freedom? If you are a music industry executive, a rock star, a college student, or perhaps a copyright law professor, you may have a strong opinion about this question. Otherwise, you probably feel ambivalent about it.

The RIAA is now engaged in a titanic struggle to change public ambivalence concerning peer-to-peer (P2P) music file swapping. Although the RIAA shut down early P2P services such as Napster using conventional legal theories of contributory copyright infringement, it initially had no such success against less centralized networks, including the Grokster network. Faced with exponential growth in P2P file sharing—or piracy, depending on your perspective—the RIAA began suing individual end users of P2P networks.

Recently the United States Supreme Court cleared the way for continued litigation against Grokster under an intent-based standard that may

1. Recording Industry Association of America, Anti-Piracy, <http://www.riaa.com/issues/piracy/default.asp> (last visited May 12, 2005) (emphasis in original).

2. John Perry Barlow, *The Next Economy of Ideas*, WIRED, Oct. 2000, at 240.

well result in liability to *Grokster*.³ The *Grokster* opinion, however, likely is merely a momentary shift in the momentum of the P2P fight. P2P technology will continue to flourish, in ever-more ubiquitous and decentralized varieties, and content providers such as the RIAA will need to keep fighting for the hearts and minds of the public.

As Justice Breyer noted in his concurrence in *Grokster*, absent a further erosion of Supreme Court precedent or legislative action, direct end-user infringement litigation will remain a key “teaching tool” for intellectual property enforcement.⁴ Indeed, the RIAA acknowledged this fact the day after the *Grokster* decision, when it filed a new round of individual cases against over seven hundred “John Does,” unidentified users it believes are sharing copyrighted content on P2P networks.⁵ Announcing the new individual suits, RIAA Chairman and CEO Mitch Bainwol stated that “the Supreme Court provided a real shot in the arm to legitimate online music services and unanimously injected moral clarity into this debate Our efforts to defend the rights of record labels, musicians, songwriters and others in the music community from theft will certainly continue and likely be strengthened in the weeks and months ahead.”⁶ Likewise, RIAA President Carey Sherman stated that the RIAA’s litigation and public relations efforts were proceeding against “a clear backdrop of what is right and what is wrong—what is legal and what is illegal. . . .”⁷

But is end-user litigation an appropriate “teaching tool” with respect to intellectual property norms? When we refer to large-scale litigation as a “teaching tool,” we typically are referencing the “private attorney general” action. Using procedures such as permissive joinder, multidistrict litigation, and class actions, individual “private attorneys general” who have been harmed by toxic substances, subjected to consumer fraud, damaged by inadequate securities disclosures, or deprived of their civil rights can pool their resources to obtain some measure of relief and, perhaps most importantly, to effect change where legislative action seems unlikely due to regulatory capture.

The RIAA individual end-user lawsuits bear many of the hallmarks of “private attorney general” litigation. They are brought by private plaintiffs

3. *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764 (2005).

4. *Id.* at 2794 (Breyer, J., concurring).

5. See Press Release, RIAA, RIAA Continues Enforcement of Rights With New Lawsuits Against 784 Illegal File Sharers (June 29, 2005), available at <http://www.riaa.com/news/newsletter/062905.asp>.

6. *Id.*

7. *Id.*

to enforce laws that would go unenforced if left to government action. They are intended in large part to change future conduct and modify public perception and norms, rather than merely obtain remedies for past conduct. Like many traditional private attorney general actions, the RIAA end-user lawsuits also involve large numbers of claims that are aggregated into single cases managed by one judge and typically are resolved through formulaic settlements that provide nominal relief to the named parties.

However, the RIAA cases differ from prototypical private attorney general litigation in important ways. Most significantly, the classic private attorney general litigation model pits individual litigants with few resources against large, wealthy corporate defendants. In contrast, in the RIAA litigation, large, wealthy corporate entities are aggregating claims against individuals who can ill-afford the costs of litigation. I call this a “reverse private attorney general” action.

Intellectual property is the toxic tort of the coming decades.⁸ The reverse private attorney general action is likely to gain increasing prominence in the intellectual property arena. All content industries are concerned about what they consider digital piracy over P2P and other online networks. The content industries gained a powerful weapon against such “piracy” with the Digital Millennium Copyright Act, which supplements the already formidable Copyright Act with broad subpoena powers and prohibitions on circumvention of encryption measures and trafficking in circumvention technology. Indeed, in addition to the music industry, the film and satellite television industries are already engaged in reverse private attorney general litigation.

Each of the current intellectual property reverse private attorney general cases is fascinating in itself, but together they raise important broad policy questions about the status of intellectual property rights, the nature of intellectual property norms, and the creation of intellectual property law in our culture. As an empirical matter, is intellectual property reverse private attorney general litigation an efficient means of changing social norms? As a normative matter, should intellectual property reverse private attorney general litigation be encouraged?

The empirical data concerning the RIAA litigation suggest that the RIAA end-user cases have failed to change the norms of P2P file sharing. Instead, the data suggest rapid technological evolution. As the RIAA’s tac-

8. For a general discussion of toxic tort and other aggregate litigation, see Howard M. Erichson, *A Typology of Aggregate Settlements*, 80 NOTRE DAME L. REV. 1769 (2005).

tics have changed, P2P technology has kept pace, making it ever more difficult to identify and bring suit against individual file-sharers. This technological adaptation reflects the synergy between P2P end users (file sharers) and P2P application coders. It is a textbook example, to use Lawrence Lessig's phrase, of "West Coast Code" trumping "East Coast Code."⁹ Because the "West Coast Code" of P2P applications continues to adapt to the RIAA's norm-changing efforts, the RIAA end-user litigation is both ineffective and grossly inefficient.¹⁰

The RIAA litigation also raises serious normative concerns. Most individual defendants named in aggregated actions will choose to accept form settlements rather than to incur litigation expenses, even if they possess potentially meritorious defenses. This results in injustice to the individual litigants, and defeats the important boundary-mapping function of intellectual property litigation.¹¹ Moreover, the aggregation of individual end-user suits removes some key policy issues, including questions about fair use and the proper valuation of music copyrights, from the legislative forum, where they might receive a more thorough public hearing.

In this Article, I use the RIAA litigation as a vehicle to explore the procedural and substantive concerns raised by intellectual property reverse private attorney general litigation. Part II of this Article reviews private attorney general theory and explores the traditional efficiency justifications for private attorney general actions. Part III describes the rise of the RIAA litigation, and explains why the RIAA litigation can be classified as reverse private attorney general litigation. Part IV discusses the norms of P2P file sharing and application coding, presents empirical data, including a regression analysis of file sharing connectivity data, indicating how the RIAA litigation has affected (or not affected) P2P activity, and explores the normative concerns arising out of the RIAA litigation and the use of intellectual property private attorney general litigation in general. Part V explains why private attorney general litigation will become more significant to intellectual property enforcement absent changes in the procedural and substantive law. Part VI discusses some changes in the law that might stem the tide of such litigation, and suggests that a regulatory model of copyright, along with other changes such as a right of digital first sale,

9. LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 53 (1999).

10. For a discussion of efficiency arguments relating to the RIAA litigation, see *infra* Part IV.

11. For a discussion of the boundary mapping function of intellectual property litigation, see *infra* Section V.C.3.

would provide adequate remuneration to copyright holders while limiting reverse private attorney general litigation.

II. THE PRIVATE ATTORNEY GENERAL

A. Private Attorney General History

The phrase “private attorney general” was coined by Judge Jerome Frank in *Associated Industries v. Ickes*, a 1943 Second Circuit case.¹² The issue in that case was whether Associated Industries, an association of coal consuming firms, had standing to challenge a coal price increase approved by the National Coal Commission. The Bituminous Coal Consumers’ Counsel, an official body with statutory authority to challenge decisions of the Commission, had not challenged the price increase.¹³ Judge Frank reasoned that, if Congress could authorize the Attorney General to represent the public, it also could authorize “any non-official person, or . . . designated group of non-official persons . . . to bring a suit . . . even if the sole purpose is to vindicate the public interest. Such persons, so authorized, are, so to speak, private Attorney Generals.”¹⁴

The private attorney general concept became prominent in early civil rights and environmental law.¹⁵ Most environmental law statutes passed since the 1970s include “citizen suit” provisions.¹⁶ Courts have recognized implied rights of action by individual citizens to enforce federal civil rights statutes.¹⁷

The concept expanded with the growth of mass tort and consumer class action litigation since the 1980s. Both the class action mechanism under Federal Rule of Civil Procedure 23¹⁸ and the rules governing federal

12. 134 F.2d 694, 699 (2d Cir. 1943), *vacated as moot*, 320 U.S. 707 (1943).

13. *Id.*

14. *Id.* at 704.

15. See Jeremy A. Rabkin, *The Secret Life of the Private Attorney General*, 61 LAW & CONTEMP. PROBS. 179, 187-94 (1988) (describing the development of the private attorney general concept in civil rights and environmental litigation).

16. See Matthew C. Stephenson, *Public Regulation of Private Enforcement: The Case for Expanding the Role of Administrative Agencies*, 91 VA. L. REV. 93, 93-102 (2005) (discussing the constitutionality of environmental “citizen suit” provisions).

17. See *id.* at 103-06 (discussing case law concerning private rights of action in civil rights cases).

18. Federal Rule of Civil Procedure 23(a) provides that:

One or more members of a class may sue or be sued as representative parties on behalf of all only if (1) the class is so numerous that joinder of all members is impracticable, (2) there are questions of law or fact

multidistrict litigation¹⁹ have enhanced the reach of individual lawsuits.²⁰ Class action and multidistrict litigation has significantly impacted the sale and marketing of products including asbestos, tobacco, life insurance, prescription drugs, and breast implants.²¹ Most recently, the private attorney general concept has gained importance under the federal securities laws and false claims statutes.²²

B. Private Attorney General Theory

Private attorney general theory initially focused on questions of influence and access. As the Supreme Court stated in a 1963 civil rights case, *NAACP v. Button*, private attorney general litigation facilitated “the distinctive contribution of a minority group to the ideas and beliefs of our

common to the class, (3) the claims or defenses of the representative parties are typical of the claims or defenses of the class, and (4) the representative parties will fairly and adequately protect the interests of the class.

19. The federal multidistrict litigation rules are found at 28 U.S.C. § 1407 (2001). They provide that “when civil actions involving one or more common questions of fact are pending in different districts, such actions may be transferred to any district for coordinated or consolidated pretrial proceedings.” *Id.* § 1407(a). Transfer may be effected by initiation of the Judicial Panel on Multidistrict Litigation or upon motion by a party. *Id.* § 1407(c).

20. Class actions and multidistrict litigation are not precisely in the same category as traditional private attorney general actions, in which a statute authorizes an individual to sue to redress a public harm. However, “class actions are closely identified with the role of the private attorney general, especially when the emphasis is on financial feasibility and financial incentives.” Bryant Garth et al., *The Institution of the Private Attorney General: Perspectives from an Empirical Study of Class Action Litigation*, 61 S. CAL. L. REV. 353, 368 (1988). The same is true of multidistrict litigation, in which the plaintiff’s coordinating counsel typically stand to gain the most from a global settlement.

21. See, e.g., Dominica C. Anderson & Kathryn L. Martin, *The Asbestos Litigation System in the San Francisco Bay Area: A Paradigm of the National Asbestos Litigation Crisis*, 45 SANTA CLARA L. REV. 1 (2004) (describing current issues in asbestos litigation); Richard O. Faulk, *Dispelling the Myths of Asbestos Litigation: Solutions for Common Law Courts*, 44 S. TEX. L. REV. 945 (2003) (describing asbestos litigation “crisis”); Andrei Sirabionian, Comment, *Why Tobacco Litigation Has Not Been Successful in the United Kingdom: A Comparative Analysis of Tobacco Litigation in the United States and the United Kingdom*, 25 N.W. J. INT’L. L. BUS. 485 (2005) (describing history of tobacco litigation); James M. Wood, *The Judicial Coordination of Drug and Device Litigation: A Review and Critique*, 54 FOOD & DRUG L.J. 325 (1999) (describing and critiquing use of mass tort management rules in pharmaceutical drug and device litigation).

22. See Pamela H. Bucy, *Private Justice*, 76 S. CAL. L. REV. 1, 23-32, 43-54 (2002) (discussing “hybrid” private actions under federal securities laws and qui tam actions under the False Claims Act).

society” and served as “a form of political expression.”²³ This “social advocacy” justification for private attorney general litigation gradually migrated towards a more neutral “balance” justification.²⁴ The “balance” justification emphasized the role private attorneys general, particularly those benefiting from government or private foundation funding, play in leveling the playing field on behalf of underrepresented groups.²⁵

More recently, law and economics scholarship has focused on the need for private attorney general litigation where the costs of individual litigation and direct governmental regulation are prohibitive in relation to the expected benefits.²⁶ The economic effect of private attorney general litigation is an important issue because of the externalities associated with a decision to litigate. In the United States, a litigant typically bears her own direct costs of litigation, and her decision whether to litigate accounts for those costs. However, the litigation decision also entails negative externalities in the form of costs incurred by involuntary litigants (such as the defendant) and costs to the public of operating the court system.²⁷ The litigation decision may likewise entail positive externalities in the form of deterrence of harmful conduct by others who do not wish to be sued.²⁸ One measure of the efficiency of a legal system is the combination of a private litigant’s need for redress and the positive externalities of the litigation balanced against the negative externalities of the action.²⁹

With respect to private attorney general litigation in particular, the question is whether the prospect of attorneys fees—awarded either by statute or as part of a class action or multidistrict litigation settlement—provides an appropriate incentive to bring meritorious cases that might otherwise never be filed or whether it instead creates a perverse incentive to file non-meritorious cases.³⁰ Presumably the potential positive external-

23. 371 U.S. 415, 431 (1963).

24. Garth et al., *supra* note 20, at 359-60.

25. *Id.*

26. *Id.* at 360-61.

27. See Steven Shavell, *The Fundamental Difference Between the Private and the Social Motive to Use the Legal System*, 26 J. LEGAL STUD. 575 (1997).

28. *Id.*

29. *Id.*

30. See Garth et al., *supra* note 20, at 368 (“[C]lass actions are closely identified with the role of the private attorney general, especially when the emphasis is on financial feasibility and financial incentives.”); *Id.* at 396 (“The current image of the private attorney general promotes fee shifting as a private market model for encouraging certain types of meritorious litigation. The main concerns in the debate appear to be whether attorneys get too much or too little in profit incentives.”).

ities of litigation are more significant in private attorney general litigation, which by definition has some nexus with the public interest beyond the individual litigants' claims. However, some scholars, such as Steven Shavell, question whether this rationale ever applies to private litigation, since "private parties are primarily concerned with their selfish benefits from litigation" and will sell the public interest short to obtain a favorable judgment or settlement.³¹

Other criticisms of the private attorney general concept focus on whether it provides incentives to find and stop otherwise undeterred wrongdoing or whether it instead incentivizes wasteful duplication of existing law enforcement efforts. As Professor John Coffee has noted, private attorney general claims are supposed to "generate deterrence, principally by multiplying the total resources committed to the detection and prosecution of the prohibited behavior."³² However, the risks of private attorney general litigation cause many lawyers who handle such cases to "piggyback" on cases in which public agencies, such as the Securities and Exchange Commission or Federal Trade Commission, have already invested resources in uncovering the wrongdoing.³³

Nevertheless, Professor Coffee suggests that private enforcement can sometimes play "an important failsafe function."³⁴ Absent private enforcement, powerful wrongdoers might capture the regulatory process and impede enforcement.³⁵ Private enforcement both reflects and institutionalizes social norms about appropriate behavior that should not be entirely subject to the political and budgetary uncertainties of government enforcement agencies.³⁶ Coffee suggests that the perverse incentives fostered by the current method of handling large private attorney general cases could be mitigated by creating a property right in the underlying action

31. Shavell, *supra* note 27, at 578-79.

32. John C. Coffee, Jr., *Rescuing the Private Attorney General: Why the Model of the Lawyer as Bounty Hunter is Not Working*, 42 MD. L. REV. 215, 218 (1983).

33. *Id.* at 221-22. Coffee suggests that risk aversion, the prospect of collusive settlements, and search costs are the principal reasons why private attorneys general typically do not engage in much truly original litigation but instead tend to piggyback on existing government actions. *Id.* at 234.

34. *Id.* at 227; see also John C. Coffee, Jr., *Understanding the Plaintiff's Attorney: The Implications of Economic Theory for Private Enforcement of Law Through Class and Derivative Actions*, 86 COLUM. L. REV. 669 (1986).

35. Coffee, *supra* note 32, at 227.

36. *Id.*

and having the court select qualified lead counsel to manage the property right through Coasian bargaining.³⁷

Empirical analysis seems to support the view that private attorney general litigation is economically efficient only in limited types of cases. For example, a study of class actions filed in the Federal District Court for the Northern District of California examined how the incentives provided by the class action mechanism related to the ideals of the private attorney general concept. As to the “creativity” of the legal claims, the study showed that litigation initiated by private attorneys who rely on fee awards to stay in business tended to piggyback onto existing government investigations, whereas litigation initiated by publicly funded legal services offices typically would not have been brought otherwise.³⁸ The study also suggested that private attorneys were more likely than public legal aid attorneys to trade systemic injunctive relief for a monetary award that would result in larger fees.³⁹ The authors of the study identify this as a contrast between “mercenary” and “social advocate” models of the private attorney general.⁴⁰ They suggest that the “social advocate” model has a place because it complements existing governmental regulatory activity, but that the “mercenary” model is more difficult to justify.⁴¹

Other commentators have noted that lawyers who handle private attorney general actions often have mixed motives.⁴² Although plaintiff’s attorneys in such cases certainly seek large fee awards, they often also are motivated by concerns of fairness and social justice.⁴³ In particular, they often view themselves as moral crusaders on behalf of common people against greedy, faceless corporations.⁴⁴ Moreover, regardless of an individual attorney’s motives, private attorney general actions often constitute part of a broader effort towards social change. In addition to the economic efficiency of private attorney general litigation, then, it is useful to determine whether private attorneys general play an important public law function.

37. *Id.* at 274-84.

38. Garth et al., *supra* note 20, at 375-78.

39. *Id.* at 381-82.

40. *Id.* at 377.

41. *Id.* at 387-88.

42. Howard M. Erichson, *Doing Good, Doing Well*, 57 VAND. L. REV. 2087 (2004).

43. *Id.* at 2089-91.

44. *Id.*

III. REVERSE PRIVATE ATTORNEY GENERAL LITIGATION AND THE RIAA END-USER CASES

In contrast to traditional forms of private attorney general litigation, recently larger corporate entities have used mass litigation tools in efforts to effect social change. In some ways, this is similar to the use of class action devices by plaintiffs who seek certification of a class of defendants—the “reverse class action.”⁴⁵ Thus, I call these cases “reverse private attorney general” actions. But while most reverse class actions represent claims by individuals against similarly situated corporate defendants—for example, in product liability cases, claims against all the distributors of a defective product—reverse private attorney general actions entail claims against large numbers of individuals. In this Part, I describe the RIAA litigation, which is the paradigmatic example of reverse private attorney general litigation in the intellectual property context.

A. Technological Background

1. *The Early Internet*

In order to understand the RIAA litigation and its relationship to file sharing norms, it is important to obtain a picture of how P2P technology has evolved. P2P networking traces its roots back into the soil of ancient internet history. The original ARPANET consisted of direct connections between a small number of hosts without a client/server architecture.⁴⁶ As the internet began to grow, most files were transferred directly between computers using FTP and Telnet, both P2P applications.⁴⁷ The Usenet system initially grew out of a Unix file sharing protocol.⁴⁸ As traffic increased, it became more difficult to locate the IP addresses of host computers with which a user desired a connection. The Domain Name System

45. For a description of “reverse” or defendant class actions, see Robert R. Simpson & Craig Lyle Perra, *Defendant Class Actions*, 32 CONN. L. REV. 1319 (2000); Note, *Defendant Class Actions*, 91 HARV. L. REV. 630 (1978); 2 NEWBERG ON CLASS ACTIONS § 4:65 (4th ed. 2002).

46. Nelson Minar & Marc Hedlund, *Peer-to-Peer Models Through the History of the Internet*, in PEER-TO-PEER: HARNESSING THE POWER OF DISRUPTIVE TECHNOLOGIES (Andy Oram ed., 2001), available at <http://www.oreilly.com/catalog/peertopeer/chapter/ch01.html>.

47. *Id.*

48. *Id.* Usenet is an online discussion system involving posts and threaded replies. Usenet, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/Usenet> (last visited Oct. 19, 2005).

(DNS) was developed to solve this problem.⁴⁹ Thus, many of the key features of today's internet—the ability to locate other sites at which files and information can be exchanged—grew from a P2P environment.

The increasing commercialization of the internet in the 1990s changed the network's architecture.⁵⁰ The current client/server model arose to satisfy the needs of the many individual users who flocked to the Net starting in 1994.⁵¹ Most individual users wanted to obtain information from the internet, but were not interested in publishing information. In addition, many commercial users began employing firewalls and dynamic IP addresses to avoid the threat of incoming internet traffic. In this context, a client/server model was better suited to manage bandwidth and handle user needs.⁵²

2. *Centralized P2P Applications—Napster*

The advent of personal broadband internet access through DSL and cable modems made the P2P model viable for individual users. Individuals with DSL or cable connections possessed the bandwidth needed to transfer files rapidly to other users. This trend was dramatically accelerated by the Napster application. Napster allowed users to publish information about files they had available for others to use and to find information about files available from others.⁵³

The original Napster application accomplished this through a semi-centralized architecture. Napster maintained servers which held a list of files located on individual host computers. Users connected to the Napster server and gained access to this list. Upon selecting a file from the list, the user was connected directly to the host computer containing that file. The Napster server did not contain copies of the user files. This generation of

49. *Id.* The Domain Name System stores internet addresses in a distributed database which provides an IP address for each hostname. DNS, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/Dns> (last visited Oct. 19, 2005).

50. *Id.*

51. *Id.*

52. *Id.*

53. For a discussion of the original Napster architecture, see *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896, 905-08 (N.D. Cal. 2000), *aff'd*, *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004 (2001); Timothy James Ryan, Note, *Infringement.com: RIAA v. Napster and the War Against Online Music*, 44 ARIZ. L. REV. 495, 500-01 (2002).

P2P applications, then, served as sort of a broker between host computers.⁵⁴

3. *Hybrid Architecture: Supernodes (Grokster) and BitTorrent*

After Napster shut down, P2P networks with a less centralized architecture became popular. These networks, which included Grokster, use no central server. Instead, high-bandwidth computers connected to the network become “supernodes” where information about other hosts and the files these hosts have available can be accessed by individual peer computers.⁵⁵ There is no single locus of information on this sort of network. Rather, there are numerous focal points, which constantly shift as supernodes come online or go offline.⁵⁶

The BitTorrent protocol can represent another hybrid form of network. BitTorrent is an open source file sharing protocol that is particularly efficient for large files, such as digital movies and music.⁵⁷ For large files, such as digital movies, the file is broken into smaller packets, which may be distributed to different peers.⁵⁸ The BitTorrent protocol creates a “torrent” file, which contains data about the underlying file, and a “tracker” that specifies the location of related torrent files. Tracker files are located on tracker servers, which coordinate the downloading of BitTorrent files. When the file is downloaded, the torrent file is updated to indicate that the file is now available on another computer. The BitTorrent protocol, however, does not facilitate easy searching for available files; a prospective user must know the location of a torrent file or find a file through a web-search.⁵⁹

54. For a representative illustration of this architecture, see CacheLogic, Understanding Peer-to-Peer: Caching in Detail, <http://www.cachelogic.com/p2p/p2punderstanding.php#> (“Centralised Networks” tab) (last visited Oct. 30, 2005).

55. For a discussion of the Grokster architecture, see *Grokster*, 125 S. Ct. at 2771-75; Andrew J. Lee, Note, *MGM Studios, Inc. v. Grokster, Ltd. & In re Aimster Litigation: A Study of Secondary Copyright Liability in the Peer-to-Peer Context*, 20 BERKELEY TECH. L.J. 485, 490-92 (2005).

56. For a representative illustration of this architecture, see CacheLogic, Understanding Peer-to-Peer: Caching in Detail, <http://www.cachelogic.com/p2p/p2punderstanding.php#> (“Hybrid Networks” tab) (last visited Oct. 30, 2005).

57. See BitTorrent, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/Bittorrent> (last visited Oct. 19, 2005).

58. *Id.*

59. *Id.*

4. *Distributed Server Architecture: eDonkey*

The third generation P2P client is fully distributed.⁶⁰ The eDonkey client, for example, utilizes neither a single central server nor supernodes.⁶¹ The eDonkey server software was released into the P2P community, so that users throughout the network could choose to become servers.⁶² Any computer on the network can act as an indexing server.⁶³

This type of architecture is self-healing (an attack on a portion of the network will not disable other portions) and presents no meaningful targets for contributory infringement or direct infringement claims by copyright owners. Although it might be possible to sue the proprietors of web portals that promote networks like eDonkey, it is practically impossible to litigate against server nodes themselves, as every of the millions of nodes on the network is a server. And, although it might be possible to attack providers of client software, the open source nature of such software, and its potential use for legitimate applications, likely will render any such attacks ineffective.⁶⁴

B. The Failures and Successes of P2P Gatekeeper Litigation

As Tim Wu has observed, copyright enforcement traditionally has relied to a significant extent on regulating “gatekeepers” rather than individual end users.⁶⁵ A gatekeeper is an entity or technology that controls access to a copyrighted work. The copyright gatekeeper strategy is efficient because copyright aversion strategies depend on ready access to aversion technology. If aversion technology is too costly, the costs of aversion will

60. See Lee, *supra* note 55, at 490-92.

61. See Brian Loban, *Between Rhizomes and Trees: P2P Information Systems*, 9 FIRST MONDAY, Oct. 2004, http://www.firstmonday.org/issues/issue9_10/loban.

62. Slyck.com, *Slyck's Guide to eDonkey 2000*, <http://www.slyck.com/edonkey2k.php> (last visited Nov. 1, 2005).

63. Loban, *supra* note 61, stated that on the eDonkey network:

In effect, individual ‘servants’ have to connect to a few main active servers but the networks are decentralised, in the sense that there are many more independent servers (spread throughout the world) via which the peers search and retrieve. The independent servers, which make up the respective networks are, nevertheless, linked to each other (inter-server communication). Anyone with sufficient processing power can run an OpenNap or eDonkey server (*i.e.*, independent server communities clustered together create sub-networks within their respective networks).

64. For a discussion of how open source norms affect the dynamics of P2P application development, see *infra* Section III.F.

65. Tim Wu, *When Code Isn't Law*, 89 VA. L. REV. 679, 711-12 (2003).

exceed the costs of compliance. Most would-be infringers will then choose to comply. On the other side of the coin, the costs of enforcement against a handful of gatekeepers are significantly lower than enforcement efforts against large numbers of end users.⁶⁶ This is exactly the strategy the RIAA initially pursued with the *Napster* and *Grokster* cases.

The RIAA's first gatekeeper case, against the centralized Napster network, was successful.⁶⁷ This victory, however, was soon eclipsed by protracted litigation over second generation P2P architecture. By 2002, many file sharers had begun using the second generation of P2P architecture employed by networks such as Grokster.⁶⁸ Once again, the RIAA sought to cut off the threat at its head, using theories of vicarious and contributory copyright infringement to turn off the Grokster network servers. This time, however, the RIAA's attempts to shut down offending P2P networks faltered before finding recent success in the Supreme Court.⁶⁹

The RIAA's effort to shut down Grokster and other FastTrack clients demonstrates to some extent an understanding of end-user file sharing behavior. File sharers were not simply enamored of the Napster application;

66. See generally Joni Lupovitz, *Beyond Betamax and Broadcast: Home Recording From Pay Television and the Fair Use Doctrine*, 2 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 69 (1992) (discussing copyright gatekeeper litigation involving home videotaping and the Betamax); see also Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600 (1982).

67. See *A&M Records, Inc. v. Napster, Inc.*, 114 F. Supp. 2d 896 (2000), *aff'd*, 239 F.3d 1004 (2001) (granting preliminary injunction to prevent continued use of the Napster network for infringement).

68. See *infra* Part IV (reporting connectivity data); cf. Brendan Koerner, *Why is Napster Shut Down but Grokster Still Running*, SLATE, Mar. 8, 2002, <http://slate.msn.com/id/2062959> (noting difficulty of successfully litigating against Grokster and KaZaA and the networks' popularity); Greg Lefevre & Casey Wian, *Napster Shutdown Seen as Potential Boon to Competitors*, CNN.COM, July 27, 2000, <http://archives.cnn.com/2000/LAW/07/27/napster.backlash> (reporting on potential for P2P network growth in aftermath of *Napster* decision).

69. In 2003, a California district court denied the RIAA's claim for preliminary injunctive relief against the proprietors of the Grokster software. Partly because the Grokster software utilized distributed supernodes, and there was no central server housing a list of files, the court found that Grokster did not effectively control end-user activity and was not liable for user infringement. *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Inc.*, 259 F. Supp. 2d 1029, 1041-43 (2003), *aff'd*, 380 F.3d 1154 (9th Cir. 2004), *rev'd*, 125 S. Ct. 2764 (2005). This decision was affirmed by the Ninth Circuit on August 19, 2004. *MGM Studios*, 380 F.3d at 1160. On June 27, 2005, the United States Supreme Court reversed the Ninth Circuit and remanded the *Grokster* case for trial on the issue of defendants' liability for intentionally inducing infringement. 125 S. Ct. at 2782-83.

instead, they had internalized sharing norms that transcended any particular application or network. As a result, after Napster shut down, end users migrated to other networks. The same appears to be true with respect to the FastTrack network and its clients, including Grokster, as the empirical data in Section III.D below illustrates. Moreover, although the Supreme Court's *Grokster* opinion represents ground gained by the RIAA against file sharing software developers, it by no means ends the war. Indeed, outlines of potential future litigation tactics have been drawn in the concurring opinions by Justice Breyer and Justice Ginsberg.⁷⁰ Thus, even with the perhaps ephemeral *Grokster* Supreme Court victory, the RIAA has continued, and must continue, to focus on end-user litigation designed to change file sharing norms.

C. The End-User Lawsuits

The district court and Ninth Circuit *Grokster* decisions momentarily crippled the RIAA's efforts to control P2P file sharing. Because the RIAA was unable to control the technology, it instead focused on influencing

70. Writing for the Court, Justice Souter sidestepped arguments raised by the parties and amici about the nature and extent of noninfringing uses that would avoid an imputation of bad intent under *Sony*. *Grokster*, 125 S. Ct. at 2778-79 ("It is enough to note that the Ninth Circuit's judgment rested on an erroneous understanding of *Sony* and to leave further consideration of the *Sony* rule for a day when that may be required."). However, Justice Ginsburg, in a concurring opinion joined by Justice Kennedy, suggested that the plaintiffs should prevail even under the *Sony* standard of imputed liability. *See id.* at 2783 (Ginsburg, J., concurring). In Justice Ginsburg's view, since P2P software is "overwhelmingly used to infringe" and there is no "reasonable prospect that substantial or commercially significant noninfringing uses [are] likely to develop over time," the intent to induce infringement can be imputed through distribution of P2P software itself. *Id.* at 2786. Justice Breyer, in a concurrence joined by Justices Stevens and O'Connor, disagreed with Justice Ginsburg's analysis of *Sony*. *Id.* at 2787 (Breyer, J., concurring). Justice Breyer concluded that the *Sony* test for imputed intent is simply whether the technology at issue "is capable of substantial or commercially significant noninfringing uses," and that *Grokster* passes that test. *Id.* at 2788. Justice Breyer noted that the relative quantity of lawful and unlawful file sharing activity over the *Grokster* network is equivalent to the quantity of lawful and unlawful uses of home video recording technology reflected in the *Sony* record. *Id.* Justice Breyer further noted that lawful uses of P2P technology, including uses that are as yet unforeseen, likely will increase significantly as public domain information becomes more widely available in digital form. *Id.* at 2789-90 ("As more and more uncopyrighted information is stored in swappable form, it seems a likely inference that lawful peer-to-peer sharing will become increasingly prevalent"). On November 7, 2005, the RIAA plaintiffs announced a settlement with *Grokster* under which the existing *Grokster* service shut down. *See* Press Release, RIAA, Music Industry Announces *Grokster* Settlement (Nov. 7, 2005), available at http://www.riaa.com/news/newsletter/110705_2.asp.

end-user behavior. To this end, in September 2003 the RIAA began suing individual end users of P2P software in conjunction with a massive public relations campaign aimed at ending music sharing.⁷¹

1. *The DMCA and John Doe Actions*

The RIAA filed the first round of such suits against individuals identified by their internet service providers pursuant to subpoenas issued under the Digital Millennium Copyright Act (DMCA).⁷² The relevant provisions of the DMCA authorize a copyright owner to serve a subpoena on an internet service provider (ISP) requiring the provider to identify an alleged infringer.⁷³ However, in *RIAA v. Verizon Internet Services, Inc.*, the D.C. Circuit held that, in the context of the DMCA's safe harbors for online service providers, the DMCA subpoena provisions were intended to require service providers to disclose subscriber information only when the subscriber allegedly is storing infringing materials on the provider's servers, not when the service provider merely acts as a conduit for P2P file sharing.⁷⁴ Thus, the *Verizon* court's holding curtailed the RIAA's strategy of using the DMCA to identify litigants.⁷⁵

The current individual user suits are instead filed as "John Doe" actions in districts in which servers controlled by the users' ISPs are located. As of May 2005, sixteen such actions have been filed—essentially one new action each month since the *Verizon* decision—against over 9,500 "John Doe" defendants in federal district courts throughout the country.⁷⁶

2. *How the End-User Litigation is Like Mass Tort Litigation*

At first glance, the RIAA end-user litigation appears to be nearly the opposite of mass tort litigation. Not only does it involve intellectual property rather than torts, but the structure of the litigation is inverted. Mass torts typically involve numerous consumers suing big business, whereas the RIAA litigation involves big business suing numerous consumers. But

71. See Press Release, RIAA, Recording Industry Begins Suing File Sharers Who Illegally Offer Copyrighted Music Online (Sept. 8, 2003), available at <http://www.riaa.com/news/newsletter/090803.asp>.

72. See *RIAA v. Verizon Internet Servs., Inc.*, 351 F.3d 1229 (D.C. Cir. 2003).

73. 17 U.S.C. § 512(h)(1) (2000).

74. *Verizon*, 351 F.3d at 1236-37.

75. For other cases applying the *Verizon* court's reasoning to deny enforcement of DMCA subpoenas issued in P2P cases, see *In re Charter Commc'ns, Inc. Subpoena Enforcement Matter*, 393 F.3d 771 (8th Cir. 2005), and *In re Subpoena to Univ. of N. Carolina at Chapel Hill*, 367 F. Supp. 2d 945 (M.D.N.C. 2005).

76. See Appendix for a table listing all the actions reported by the RIAA.

on closer examination, the RIAA cases resemble mass tort litigation in several respects. Groups of ostensibly related cases are centralized in one court; the suits are not filed as discrete actions relating to each set of transactions; and discovery is managed, at least initially, on a collective basis.

The grouping of ostensibly related cases is a key component of case management in mass tort and other large-scale private attorney general litigation. The *Manual for Complex Litigation*, for example, advises judges to consolidate related cases before a single judge and to coordinate discovery proceedings in consolidated cases.⁷⁷ The federal rules concerning multidistrict litigation permit the transfer of related actions to a single district by the judicial panel on multidistrict litigation, either on the panel's own initiative or at the request of a party.⁷⁸ Such "MDL" proceedings are a staple of mass tort, consumer fraud, and securities litigation.⁷⁹ In some respects, MDL proceedings and other types of aggregate litigation serve as surrogates for class actions where class certification may not be available.⁸⁰ Often, aggregate litigation proceedings envelop one or more putative class actions as well as related individual actions. Such aggregate litigation has become a significant part of the big litigation game.⁸¹ High profile plaintiffs' counsel jockey for key management positions over the litigation in the same way they seek appointment as class counsel in a

77. MANUAL FOR COMPLEX LITIGATION (FOURTH) § 10.123 (2004).

78. 28 U.S.C. §§ 1407(a)-(c) (2000).

79. See Erichson, *supra* note 8, at 1774. Erichson notes:

To justify the investment required to litigate mass torts and other complex litigation effectively, plaintiffs' lawyers seek to represent large numbers of clients to reduce the per-plaintiff cost of litigating and to maximize returns on sunk costs. By taking advantage of economies of scale, mass litigators can pursue claims on behalf of large numbers of plaintiffs, some of whose claims otherwise would have negative value. The amplified stakes of collective representation permit plaintiffs' lawyers to invest in the litigation at a much higher level than individual representation would justify. Thus, non-class mass litigation often resembles class actions in the sense that numerous plaintiffs depend on counsel with whom they have no meaningful individual relationship and whose loyalty is directed primarily to collective interests.

Id.

80. Federal Rule of Civil Procedure 23 requires a showing of numerosity, commonality, and typicality. See FED. R. CIV. P. 23(a). There are no such stringent requirements for transfer to an MDL court. Rather, the standard for transfer is simply that the related actions "involve[] one or more common questions of fact" and that transfer "will be for the convenience of parties and witnesses and will promote the just and efficient conduct of such actions." 28 U.S.C. § 1407(a) (2000).

81. See Erichson, *supra* note 8, at 1774.

class action.⁸² The aggregate litigation is managed in a coordinated fashion towards a global settlement that largely extinguishes the defendant's liability and provides a substantial fee to plaintiffs' counsel.⁸³ This occurs regularly in high-stakes private attorney general litigation, in which the prospect of some sort of fee shifting across a large number of aggregated claims is the principal reason counsel bring cases.⁸⁴

Similarly, the RIAA usually files 200 or more individual cases in a single aggregated action against end users,⁸⁵ selecting venue based on the physical location of the servers controlled by the defendants' ISPs.⁸⁶ The defendants initially are listed as "John Does," and the allegations in the complaint are based on IP addresses traced to the local ISP's servers.⁸⁷

After filing the "John Doe" complaint, the RIAA member plaintiff files a motion for leave to take immediate discovery, including the issuance of subpoenas under Federal Rule of Civil Procedure 45 for service on the ISP compelling disclosure of the identities and activity logs of the persons associated with the IP addresses.⁸⁸ Although court approval is not typically required for the issuance of third party discovery subpoenas in federal cases, the federal trial courts in most districts do not permit any discovery to occur prior to a preliminary scheduling conference with the Magistrate or District Judge pursuant to Rule 16(b).⁸⁹ An order for expedited discovery allows the RIAA plaintiff to serve subpoenas requiring the disclosure of file sharer identities before the court has established any formal discovery plan. In some instances, courts have approved a form of

82. See, e.g., Mark P. Robinson, Jr., *MDL, Class Actions, and Competing Interests of State Litigation*, Winter 2001, ATLA-CLE, at 357 (2001) (describing strategic issues facing counsel in pharmaceutical products litigation with respect to MDL proceedings).

83. *Id.*

84. See *supra* Section II.B; see also John C. Coffee, Jr., *Understanding the Plaintiff's Attorney: The Implications of Economic Theory for Private Enforcement of Law Through Class and Derivative Actions*, 86 COLUM. L. REV. 669 (1986).

85. See Appendix for a listing of RIAA "John Doe" cases.

86. See, e.g., *Sony Music Entm't, Inc. v. Does 1-40*, 326 F. Supp. 2d 556, 557-59 (S.D.N.Y. 2004) (describing John Doe complaint).

87. See *id.*

88. See *id.* Federal Rule of Civil Procedure 45(a)(1)(C) authorizes the issuance of subpoenas requiring a non-party "to attend and give testimony or to produce and permit inspection and copying of designated books, documents or tangible things in the possession, custody or control of that person, or to permit inspection of premises, at a time and place therein specified."

89. Federal Rule of Civil Procedure 45(a)(3) allows an attorney to issue a subpoena without prior court approval. Rule 16(b) requires the court to hold a scheduling conference after the parties have completed their required initial disclosures under Rule 26.

discovery order permitting expedited service of discovery subpoenas on ISPs in any “current and future” cases “related to” the initial complaint.⁹⁰

Some courts also have issued discovery orders that include a customized “Notice Regarding Issuance of Subpoena,” which the ISP is required to distribute to any individuals identified under the subpoena. This “Notice” states that it is “intended to inform you of some of your rights and options,” advises the individual that he or she may file a motion to quash the subpoena, and notes that “[t]he record companies are willing to discuss the possible settlement of their claims against you. . . . Defendants who seek to settle at the beginning of a case may be offered more favorable terms by the record companies.”⁹¹

Once individual defendants are identified, the complaint is amended to name them personally.⁹² Many defendants so identified are not residents of the forum state.⁹³ However, by subscribing to an ISP with servers in the forum state and downloading files through those servers, personal jurisdiction in the forum state arguably exists. Even if a motion to dismiss for lack of personal jurisdiction or based on *forum non conveniens* might be possible, many, if not most defendants settle rather than incur significant litigation costs.⁹⁴

The settlements reached with individual defendants have averaged approximately \$3,000.⁹⁵ Settling defendants must accept a standard, non-

90. *See, e.g.*, *Elektra Entm’t Group, Inc. v. Does 1-6*, No. 04-1241, 2004 U.S. Dist. LEXIS 22673 (E.D. Pa. Oct. 12, 2004) (authorizing expedited service of subpoenas for disclosure of file sharer identities on University of Pennsylvania and stating that “[t]his ruling applies to all current and future cases filed in the Eastern District of Pennsylvania that are related to the above-captioned case”).

91. *Id.*

92. *See, e.g.*, Plaintiff’s Memorandum of Law in Support of Ex Parte Relief Permitting Plaintiff to Conduct Limited Expedited Discovery Upon RCN Corp., *Elektra Entm’t Group v. Does 1-7*, No. 04-607 (GEB) (D.N.J. Feb. 17, 2004), available at http://www.eff.org/IP/P2P/RIAA_v_ThePeople/JohnDoe/20040217_NJ_Memo_Supp.pdf (describing “John Doe” procedure to be used in an RIAA case).

93. *See, e.g.*, *Sony*, 326 F. Supp. 2d at 567 (reciting evidence that many “Doe” defendants likely were not residents of the forum state, but holding that arguments concerning personal jurisdiction were premature).

94. For a discussion of the settlement dynamics in RIAA end-user cases, see Assaf Hamdani & Alan Clement, *The Class Defense*, 93 CALIF. L. REV. (forthcoming 2005) (manuscript at 17-19), available at http://www.law.harvard.edu/programs/olin_center/corporate_governance/papers/Hamdani_et%20al_3.pdf.

95. *See Transcript of Q&A With RIAA President Cary Sherman*, DAILY TEXAN, Mar. 25, 2004, available at <http://www.dailytexanonline.com/media/paper410/news/2004/03/25/Focus/Transcript.Of.Qa.With.Riaa.President.Cary.Sherman-641217.shtml>.

negotiable settlement agreement and release. The form settlement agreement requires the defendant to acknowledge that he or she distributed and/or reproduced copyrighted works owned or controlled by the plaintiffs, and “[w]ithout admitting or denying liability,” to “acknowledge that such conduct is wrongful.”⁹⁶ The defendant must also agree “not to infringe . . . any other sound recording protected under federal or state law, whether now in existence or later created, that is owned or controlled by any of the Record Companies.”⁹⁷

By filing large groups of bundled claims under the “John Doe” procedure, obtaining information subpoenas in the central forum for essentially all the discovery relevant to each defendant’s file trading activity, and then settling individual claims on standardized terms, the RIAA litigation bears all the hallmarks of an aggregate or mass tort proceeding, and particularly of large-scale private attorney general actions. Moreover, the standard form notices provided to individually identified defendants—in some cases, remarkably, by the ISPs that were required to disclose their identities—resemble the notices individual class members receive in class action litigation. Defendants are advised that they may either seek a settlement or effectively “opt out” of the settlement process by moving to quash the subpoena or otherwise defend the claim.

The form settlements depart in some ways, however, from typical class action and aggregate private attorney general settlements, particularly in that they are far less friendly to the defendants. A defendant in a mass tort or consumer fraud case typically provides some nominal relief to individual class members, pays the plaintiffs’ attorneys’ fees, and perhaps changes some of its business practices.⁹⁸ Often, the settlement milieu in-

Mr. Sherman acknowledged in the interview that “[t]his is not a revenue-generating exercise. [We’re trying to] send a message that the activity is illegal and can have consequences.” *Id.*

96. Form Settlement Agreement, prepared by Mitchell Silberberg & Knupp LLP, available at http://www.eff.org/IP/P2P/RIAA_v_ThePeople/JohnDoe/Form_of_Doe_Settlement_Agreement.pdf (last visited Nov. 2, 2005).

97. *Id.* ¶ 3.

98. See, e.g., Erichson, *supra* note 8; Steven B. Hantler & Robert E. Norton, *Coupon Settlements: The Emperor’s Clothes of Class Actions*, 18 GEO. J. LEGAL ETHICS 1343 (2005) (providing empirical analysis of settlements by Fortune 500 companies from 1988 to 1998); Thomas M. Hefferon & Douglas A. Thompson, *Class Action Update: The Increasing Scrutiny of Class Settlements and Other Developments*, 60 BUS. LAW. 797 (2005) (discussing settlement methods in class actions); Christopher R. Leslie, *A Market-Based Approach to Coupon Settlements in Antitrust and Consumer Class Action Litigation*, 49 UCLA L. REV. 991 (2002).

cludes settlements with state and federal regulators over similar conduct.⁹⁹ The relief provided to any individual class member usually is relatively small. As discussed in Part II above, the social value of such settlements, to the extent there is any, primarily resides in the defendant's changed conduct and the deterrence of other similar conduct. In exchange, the defendant usually obtains a far-ranging release of past and future claims that have been, or could have been, asserted by present and absent class members.¹⁰⁰ In many instances, the broad releases obtained by defendants in aggregate litigation settlements allow them to avert bankruptcy or regulatory shut-down.¹⁰¹

In contrast, nearly the entire focus of the RIAA form settlements is on the defendant's conduct. The individual defendant obtains only a narrow promise—not even termed a “release”—against further lawsuits from downloading or uploading activity occurring before the settlement date. The individual defendant, in return, promises never to infringe again. And, perhaps more significantly, the individual defendant acknowledges his or her conduct was “wrongful,” regardless of his or her actual liability. The defendant wears the scarlet “I” of the infringer for life, and the broader community is duly warned about the evils of infringement.¹⁰²

Although many trial courts endorse the RIAA litigation strategy by issuing broad discovery orders and approving form settlements, not all trial courts have been so sanguine about the RIAA's tactics. Some courts have severed individual cases under the rules of permissive joinder.¹⁰³ Those

99. See Seth M. Wood, Note, *The Master Settlement Agreement As Class Action: An Evaluative Framework for Settlements of Publicly Initiated Litigation*, 89 VA. L. REV. 597 (2003).

100. See Erichson, *supra* note 8, at 1784-95 (describing various common types of settlements in aggregated actions); Tobias Barrington Wolff, *Preclusion in Class Action Litigation*, 105 COLUM. L. REV. 717, 766-67 (2005) (discussing releases in class settlements compared to doctrines of claim and issue preclusion).

101. See Erichson, *supra* note 8, at 1778 (noting that bankruptcy is one major alternative to a global settlement of aggregated mass claims).

102. There is no doubt that the end-user litigation is intended primarily to send a message rather than to obtain remedies. As recently characterized in a RIAA press release, “We will continue to send a strong message to the users of these illicit networks that their actions are illegal, they can be identified and the consequences are real.” Press Release, RIAA, Music Industry Targets 765 Internet Thieves in New Round of Lawsuits (July 28, 2005), available at <http://www.riaa.com/news/newsletter/072805.asp>. In addition, as discussed in Part VI below, the “scarlet I” may result in the defendant being ostracized from the “legitimate” online community under the DMCA's safe harbor provisions.

103. See, e.g., Order, *Interscope Records v. Does 1-25*, No. 6:04-cv-197-Orl-22DAB (M.D. Fla. Apr. 27, 2004) (adopting Magistrate's severance recommendation); see also

courts that have questioned joinder in the RIAA cases have noted that the RIAA complaints purport to aggregate the claims concerning the alleged infringement of thousands of disparate works, the copyrights to which are held variously by numerous different plaintiffs, by hundreds of individual defendants acting independently.¹⁰⁴ Additionally, some courts have raised administrative concerns, including that the RIAA plaintiffs can avoid paying individual filing fees by aggregating claims against Doe defendants, and that aggregating large numbers of Doe claims upsets a local district's ability to manage its docket to ensure speedy resolution of civil disputes for all litigants.¹⁰⁵

Order, *BMG Music v. Does 1-203*, No. 04-650 (E.D. Pa. Mar. 5, 2004) (requiring severance); Report to and Request of the Assignment Committee at 1, *Priority Records LLC v. Does 1-8*, No. C 04-1136 WDB (N.D. Cal. Apr. 8, 2004) (noting "significant concerns regarding improper joinder of plaintiffs and defendants, as well as the Court's jurisdiction over DOE defendants"); Order at 3, *Motown Record Co., L.P. v. Does 1-252*, No. 1:04-CV-439-WBH (N.D. Ga. Aug. 16, 2004) ("Defendants . . . argue that they have been mis-joined, and the Court is inclined to agree," but deferring decision until individual defendants present joinder argument). All of these documents are available on the Electronic Frontier Foundation Website, <http://www.eff.org/IP/P2P/riaa-v-thepeople.php> (last visited Nov. 2, 2005). For a discussion of the rules of permissive joinder, see for example, *United Mine Workers v. Gibbs*, 383 U.S. 715, 724 (1966); *Alexander v. Fulton County*, 207 F.3d 1303, 1323 (11th Cir. 2000); *Mosley v. Gen. Motors Corp.*, 497 F.2d 1330, 1333 (8th Cir. 1974).

104. See, e.g., Order at 8-9, *Arista v. Does 1-100*, No. 1:04-CV-2495-BBM (N.D. Ga. Feb. 1, 2005) ("Although there is some overlap between the songs at issue, even the majority of those appear to vary from Defendant to Defendant. It appears as a consequence that separate trials, witnesses, and evidence will be necessary for each Defendant's case, and it further appears that there are no common questions of fact between the Defendants."); see also Order at 2, *BMG v. Does 1-203*, No. 04-650 (E.D. Pa. Mar. 5, 2004) ("The claims against the different Defendants will require separate trials as they may involve separate witnesses, different evidence, and different legal theories and defenses, which could lead to confusion of the jury"), *motion for reh'g denied in part*, Order at 2, *BMG Music v. Does*, No. 04-650 (E.D. Pa. Apr. 2, 2004) ("Each claim involves different property, facts, and defenses"); Report and Recommendation at 7, *Interscope Records v. Does 1-25*, No. 6:04-cv-197-Orl-22DAB (M.D. Fla. Apr. 1, 2004) ("Due to the lack of an[y] uniformity between the Defendants, and the absence of any evidence attesting to joint action other than Defendants' use of 'Fast Track,' and the lack of any connective nexus among the Defendants, Plaintiffs have not satisfied the preconditions for permissive joinder . . .").

105. See, e.g., Order at 10-13, *Arista v. Does 1-100*, No. 1:04-CV-2495-BBM (N.D. Ga. Feb. 1, 2005) (allowing joinder despite concerns that "[p]laintiffs' joinder of the Doe Defendants may be an attempt to improperly avoid full payment of the per-case filing fee" and that "[t]he consolidation of 100 individual cases into one case, even for a short period of time, raises some concern" regarding the "just, speedy and inexpensive resolution of civil disputes" on the court's docket).

IV. THE RIAA LITIGATION, THE EMPIRICAL DATA, AND INTELLECTUAL PROPERTY NORMS

If individual P2P litigation is a teaching tool primarily intended to change social norms about file sharing, then it is important to identify precisely what norms are at play. A careful study of the file sharing community reveals that file sharing norms are only one part of the picture. The norms of P2P application coding are a significant additional component in the file sharing community's choice of strategies in response to the RIAA lawsuits. This Part discusses the norms at play in the P2P litigation and presents empirical data concerning the litigation's effect on file sharing norms.

A. Copyright Compliance and the Norms of File Sharing and P2P Software Coding

The P2P wars are a paradigmatic example of how social norms interact with regulatory compliance. A simple model of regulatory compliance suggests that individuals comply with the law when the expected costs of punishment exceed the expected benefits of the illegal conduct.¹⁰⁶ This basic calculus, however, is inadequate for several reasons. Law and norms scholars have suggested it overlooks the impact of social norms on compliance,¹⁰⁷ as social norms may compel compliance even where the prospect of punishment is remote. A typical explanation for why most American citizens pay their full share (or nearly their full share) of personal income taxes, even though the probability of prosecution for improper deductions is low, is a social norm against "cheating" on income taxes.¹⁰⁸ Social norms may also reduce the likelihood of compliance. In many parts of the United States, for example, highway speed limits are routinely ignored, in part because many people do not believe speeding is a serious moral or legal issue.

Others have observed that investments in efforts to escape punishment will greatly affect compliance.¹⁰⁹ Such efforts may include evasion—"an investment in decreasing the odds of being punished for violating a

106. Wu, *supra* note 65, at 689.

107. *Id.*; see also Eric A. Posner, *Law and Social Norms: The Case of Tax Compliance*, 86 VA. L. REV. 1781 (2000); Tom R. Tyler, *Why People Obey the Law*, 50 CAMBRIDGE L.J. 174 (1990).

108. Tyler, *supra* note 107, at 22.

109. Wu, *supra* note 65, at 690; see also Gary S. Becker & George J. Stigler, *Law Enforcement, Malfeasance and Compensation of Enforcers*, 3 J. LEGAL STUD. 1 (1974).

law”¹¹⁰—and “avoision”—“efforts to exploit the differences between a law’s goals and its self defined limits.”¹¹¹ Bank robbers (at least smart ones) wear masks and use getaway cars to evade arrest.¹¹² Sometimes social norms and evasion strategies reinforce each other, as in the case of radar detectors that enable speeders to evade police radar traps.¹¹³ Avoision strategies tend to be more sophisticated, such as the overly aggressive use of an estate planning “loophole” to hide an otherwise taxable transfer of money.¹¹⁴

In addition, those subject to regulation may employ change strategies as an alternative or adjunct to evasion and avoision.¹¹⁵ A change strategy is an effort to change the law, through legislation, litigation, or both.¹¹⁶ Change strategies present several related problems for those who disagree with a law. First, public choice theory suggests that legislative change strategies will only succeed if they are pursued by a sufficiently powerful interest group.¹¹⁷ Moreover, because change strategies are costly, the choice of a change strategy creates a collective action problem; many who would benefit from the change will choose to free-ride on the efforts of those who seek to effect it.¹¹⁸ Finally, change strategies give rise to rent-seeking competition, in which different interest groups struggle to gain influence, often resulting in a sub-optimal level of regulation and generating significant waste.¹¹⁹

End users of copyrighted materials, at least in contexts such as popular music and films, lack the resources and bargaining position to pursue avoision or change-based aversion strategies. Aversion strategies that focus on doctrinal change are difficult because copyright regulation is subject to a high degree of regulatory capture by the content industries.¹²⁰

110. Wu, *supra* note 65, at 692.

111. *Id.*

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.* at 694-95.

116. *Id.* at 693-95.

117. *Id.*

118. *Id.* at 697.

119. *Id.* at 705-06

120. See, e.g., Jessica Litman, *Copyright, Compromise, and Legislative History*, 72 CORNELL L. REV. 857 (1987) (noting that the 1976 Copyright Act “evolved through a process of negotiation among authors, publishers, and other parties with economic interests in the property rights the statute defines”); Deborah Tussey, *UCITA, Copyright, and Capture*, 21 CARDOZO ARTS & ENT. L.J. 319 (2003).

Avoision strategies also are difficult for the individual consumer in the copyright context. A commercial licensee of copyrighted products—for example, a company that licenses business software—might be able to engage in avoision strategies such as aggressive license interpretation or tough negotiating practices to avoid the full implications of an unfavorable license.¹²¹ In contrast, individuals who want to listen to music, watch movies, or read books have no commercial leverage with which to negotiate. Thus, individuals who wish to avoid copyright compliance must rely on aversion strategies.

The RIAA end-user litigation can be viewed as an effort to increase the costs of aversion. It may be, in fact, that this strategy has succeeded in diverting some casual music consumers to pay-per-download services such as iTunes.¹²² For such consumers, the \$1 per song cost of an iTunes download may be lower than the costs associated with the risk of an RIAA end-user lawsuit, as well as the relative inconvenience, learning curve, and spyware and virus threats inherent in P2P music networks.¹²³ Millions of file sharers, however, continue to pursue aversion strategies.¹²⁴ In response, the RIAA is attempting to increase the costs of aversion further by suing individual file sharers. However, it is technologically and practically infeasible to sue every individual for every violation.¹²⁵ Instead, the RIAA must focus primarily on changing the norms of file sharing. But what are the relevant norms?

As Tim Wu has noted, P2P networks reflect the norm that home-based, noncommercial copying is acceptable.¹²⁶ This norm alone, however, is not enough to support P2P file sharing on the scale at which it now occurs. P2P networks should entail significant collective action problems. It is not necessary to make files available for uploading in order to

121. Even then, the availability of avoision strategies depends heavily on the relative positions of the parties. A large pharmaceutical company might avoid certain license restrictions imposed by a small vendor of specialized software if the vendor relies on the company for a significant portion of its revenues. A small company, in contrast, likely will have no leverage against a large software proprietor such as Microsoft.

122. For a discussion of iTunes, see *infra* Section V.C.3.

123. See Robert Lipschutz & John Clyman, *P2P Programs: Popular and Perilous*, PC PITSTOP, <http://www.pcpitstop.com/spycheck/p2p.asp> (last visited Nov. 2, 2005); see also MICROSOFT.COM, *The Benefits and Risks of Peer-to-Peer File Sharing*, June 7, 2005, http://www.microsoft.com/athome/security/online/p2p_file_sharing.msp.

124. See *infra* Section IV.B for empirical data concerning file sharing activity.

125. See *infra* Section IV.B discussing that there are over four million file sharers typically connected to P2P networks at any given time.

126. Wu, *supra* note 65, at 722-23.

download files from others. We might expect most users to free ride on the small number of users who upload, with the result that the network would not sustain itself on a large scale over time. Although studies suggest that most users do, in fact, free ride on the uploading efforts of others, a significant number also upload, and the practice of file sharing is thriving.¹²⁷ Why would a rational, self-interested user undertake the trouble, expense, and possible legal risk inherent in uploading?

Lior Strahilevitz has explained uploading as its own norm rooted in “charismatic code.”¹²⁸ P2P applications are coded such that they make it appear as though most users are sharing files for upload.¹²⁹ For example, most applications keep running tallies of the number of files available for sharing and provide discussion boards that create a sense of community among those using the network.¹³⁰ These practices reinforce the norm of reciprocity that often arises in loosely-knit groups.¹³¹

If the norm of charismatic code were the only social convention in play, the RIAA end-user litigation might have met with greater success. The apparently rapid decline in connections to the FastTrack network following the initial end-user lawsuits could have resulted in a cascade effect, in which users abandoned file sharing as they observed less sharing by others. There was, however, another set of norms in play: that of the P2P application coders.¹³²

P2P applications are created from a curious mix of motives. Daniel Gervais has observed that P2P technology has evolved because the existence of a market, fueled by a social norm in favor of copying, motivates technologists to create the technology that will facilitate such copying.¹³³ However, the lure of profits is only one possible motivation for coding a file sharing application. Another, perhaps more significant, motivation is the open source culture out of which much of the innovation in P2P soft-

127. *Id.*

128. Lior Jacob Strahilevitz, *Charismatic Code, Social Norms, and the Emergence of Cooperation on File-Swapping Networks*, 89 VA. L. REV. 505, 510 (2003).

129. *Id.* at 550-51.

130. *Id.* at 552-54.

131. *Id.* at 558-73. The norm of reciprocity may reflect “guilt alleviation”—the alleviation of unresolved indebtedness after having received a gift from someone by reciprocating with a similar gift. *Id.* at 562-67. In addition, the feedback effects of multiple users reciprocating with each other across a network may intensify the reciprocity norm in some online communities. *Id.* at 567-71.

132. See Wu, *supra* note 65, at 747-51.

133. Daniel J. Gervais, *The Price of Social Norms: Towards a Liability Regime for File-Sharing*, 12 J. INTELLECTUAL PROP. L. 39, 51-52 (2004).

ware is arising.¹³⁴ Like the file sharing community, the open source coding community thrives on a sort of charismatic code. Among the key components of any open source community is the presence of psycho-social rewards for sharing code.¹³⁵ Such rewards usually are mediated by a quasi-mythic figure—often the founder of a given open source project—who has implicit authority to “bless” good contributions and define the canon of the project.¹³⁶ Moreover, these rewards typically are rooted in a “hacker” culture that values elegant problem solving and a “gift” culture that values the diffusion of such solutions.¹³⁷ This “hacker” culture is heir to an anti-institutional tradition born on the primeval internet in the late 1960s and early 1970s,¹³⁸ and its “gift” culture reflects the same type of “reciprocity” norm inherent in file sharing communities.

In the case of P2P applications, the psycho-social rewards and cultural milieu of open source coding are further reinforced by an enthusiastic and equally anti-institutional user community. A successful P2P project allows tens of millions of users to subvert what is perceived as an unjust institution—the content industry’s control over distribution of creative works—as it demonstrates the coders’ acumen. This is open source catnip.

The norms of file sharing, then, are only part of the picture. The full view incorporates the unique symbiosis of file sharing and open source coding norms. It is a “perfect storm” of norms. It is unlikely that any feasible end-user litigation strategy RIAA could pursue in the face of this storm would succeed in changing these norms. Indeed, the empirical data presented in the next sub-section demonstrate that RIAA’s existing strategy has miserably failed.

134. Popular P2P clients such as Bittorrent, as well as a number of clients that connect to the rapidly growing eDonkey network (which also includes a plug-in for Bittorrent), are open source projects. See Bittorrent, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/Bittorrent> (last visited Nov. 2, 2005); see also entry for eDonkey Network, WIKIPEDIA: THE FREE ENCYCLOPEDIA, http://en.wikipedia.org/wiki/EDonkey_Network (last visited Nov. 2, 2005). For other examples of the open source culture’s interface to P2P technology, see Shareaza, <http://shareaza.sourceforge.net> (last visited Nov. 3, 2005) (“Shareaza has been released under an open source license. That means people like you can help make Shareaza into the ultimate peer-to-peer client.”).

135. See Yochai Benkler, *Coase’s Penguin, or, Linux and the Nature of the Firm*, 112 YALE L.J. 369, 423-44 (2002); David W. Opperbeck, *The Penguin’s Genome, or Coase and Open Source Biotechnology*, 18 HARV. J.L. & TECH. 167 (2004).

136. Opperbeck, *supra* note 135, at 192-95.

137. *Id.*

138. *Id.* at 192.

B. Empirical Data

1. Attitudinal Surveys

Early attitudinal studies confirm the intuition that many people do not have ethical qualms about sharing copyrighted music. For example, a July 2003 Pew Internet and American Life survey found that 21% of the internet population (26 million people) shared files over P2P networks and that two-thirds of file sharers were unconcerned about copyright laws.¹³⁹

After the first wave of individual P2P lawsuits, these numbers changed. A January 2004 Pew Internet and American Life Survey indicated that music file downloads decreased to 14% of internet users (18 million people), and that usage of popular P2P networks had declined significantly.¹⁴⁰

Based on the Pew surveys, it seemed that the RIAA strategy was working. At least one other survey, however, suggested otherwise. A January 2004 NPD Group research study showed a 14% *increase* in households and individual consumers engaging in P2P music downloading in November 2003 compared with September 2003.¹⁴¹ It is possible that the different results of the NPD study are attributable to methodology: while the Pew studies were telephone surveys of adult computer users, the NPD study's sample universe included teenagers thirteen years of age and older, and the NPD survey methodology involved continuous real-time monitoring of 40,000 personal computers as well as a mailed survey.¹⁴² The Pew surveys may also have suffered from response bias—respondents who continued to use P2P networks may have been less willing to admit P2P network use over the telephone after the RIAA litigation started. The

139. Mary Madden & Amanda Lenhart, Pew Internet Project Data Memo: Music Downloading, File-sharing and Copyright (July 2003), *available at* http://www.pewinternet.org/pdfs/PIP_Copyright_Memo.pdf. This was a telephone survey with a sample of 2,515 adults, conducted March 12-19 and April 29-May 20, 2003. *Id.* at 1.

140. Lee Rainie & Mary Madden, Pew Internet Project and comScore Mediametrix Data Memo: The State of Music Downloading and File-Sharing Online (Apr. 2004), *available at* http://www.pewinternet.org/pdfs/PIP_Filesharing_April_04.pdf. This was a telephone survey of 1,358 internet users conducted Feb. 3-Mar. 1, 2004 and compared data from a Nov. 18-Dec. 14, 2003 survey. *Id.* at 1. The 2004 survey showed declining usage of the following P2P networks: Kazaa (15% decline), WinMX (25% decline), Bearshare (9% decline), and Grokster (59% decline). *Id.*

141. Press Release, NPD Group, The NPD Group Notes Recent Increase in Peer-To-Peer Digital Music File Sharing (Jan. 16, 2004), *available at* http://www.npd.com/press/releases/press_040116.htm.

142. *Id.*

Pew surveys also may have suffered from age bias, as the most active music file sharers typically are teenagers and young adults.

More recent surveys suggest that attitudes about file sharing are difficult to change. A survey of college students released by the Business Software Alliance in June 2005, indicates that P2P use has dropped 23% since 2003, and that 70% of students who are aware of industry enforcement efforts are less likely to engage in file sharing because of fear that they might get caught.¹⁴³ However, only 32% of students believe it is always improper to swap or download copyrighted materials on P2P networks, while 22% believe swapping or downloading is acceptable for “low value” items, 19% believe it is always acceptable, and 27% are undecided.¹⁴⁴ And, seven out of ten students surveyed reported downloading copyrighted music without paying for it.¹⁴⁵ Another recent attitudinal survey revealed that 67% of undergraduate college students are “in favor” of music and movie file sharing or find it “acceptable.”¹⁴⁶

2. *Connectivity Data*

Attitudinal surveys and monitored samples can be illuminating, but even the most well-designed surveys and monitoring programs, which represent extrapolations from a small sample of the relevant population, can suffer from biases in methodology and data collection. Fortunately, with P2P networks, we are able to monitor usage patterns of nearly the *entire* population. This is because most P2P networks report aggregate connectivity data. A review of such connectivity data indicates that total P2P network usage has increased significantly, and that the RIAA litigation has

143. MICHAEL GROSS, BUSINESS SOFTWARE ALLIANCE, HIGHER EDUCATION AND UNLICENSED SOFTWARE EXPERIENCE—STUDENT AND ACADEMICS SURVEY 2 (2005) [hereinafter GROSS, STUDENT AND ACADEMICS SURVEY], available at <http://www.definetheline.com/resources/BSA-Ipsos-Education-Survey-June2005.pdf>. The survey was conducted for BSA by Ipsos, a public relations and public policy research firm and was based on internet-based online interviews with over 1,000 college students and telephone interviews with 200 college faculty and administrators. See Press Release, Business Software Alliance, Nationwide Survey Shows Most College Students Believe It's Okay to Download Digital Copyrighted Files at School, in Workplace (June 29, 2005), available at <http://www.definetheline.com/press03.html>.

144. GROSS, STUDENT AND ACADEMICS SURVEY, *supra* note 143, at 23.

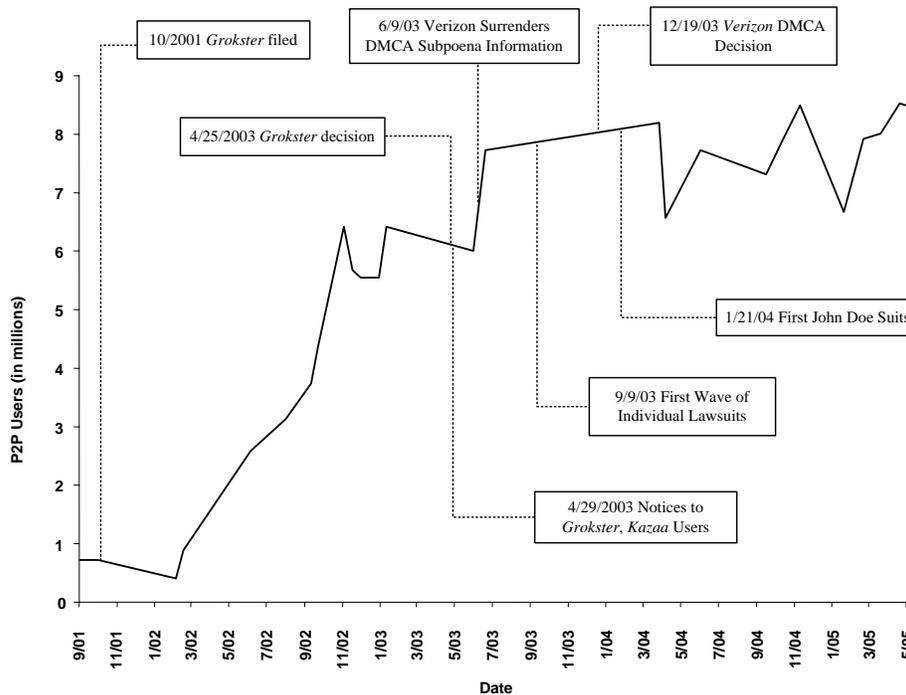
145. *Id.* at 30.

146. Steve Steklow, *Repro Man*, WALL ST. J., Oct. 15, 2005, at A1 (mentioning the Student Monitor “computing and the Internet” study).

simply fueled a technological arms race which reflects the synergy between the P2P file sharing and application coding communities.¹⁴⁷

147. I collected the data reflected in this Section from Slyck.com, a site that presents regular statistical updates of activity on various P2P networks. All the data collected are available on my website at <http://www.davidopderbeck.com/techdarwinism.php> (last visited Dec. 20, 2005). According to Slyck.com, "We gather the statistics from the network clients, and verify them through a third party. For example, for FastTrack we use KCeasy to verify the statistics displayed by Kazaa Media Desktop." Thomas Mennecke, *Interest in File Sharing at All-Time High*, SLYCK.COM, Apr. 27, 2005, <http://www.slyck.com/news.php?story=763>. In addition to the data I compiled, the proprietors of Slyck.com have prepared their own analysis of their historical statistics, which is consistent with mine. See *id.* As Slyck.com notes, "Although the RIAA (Recording Industry Association of America) and MPAA have sued well over 10,000 individuals, it appears this novelty has worn off as the P2P population has almost doubled since January 2003." *Id.* Another recent study of P2P activity, which monitored internet traffic in real time to identify P2P protocols, also suggested that overall P2P activity is steadily increasing. Thomas Karagiannis et al., *Is P2P Dying or Just Hiding* (Nov. 2004) (prepared for IEEE Globecom 2004—Global Internet and Next Generation Networks), available at <http://www.caida.org/outreach/papers/2004/p2p-dying/p2p-dying.pdf> ("We find that, if measured accurately, P2P traffic has never declined; indeed we have never seen the proportion of p2p [sic] traffic decrease over time (any change is an increase) in any of our data sources."). Some commentators have questioned whether connectivity data is a useful measure of the RIAA litigation's impact. Justin Hughes, for example, notes that connectivity data does not distinguish between U.S. and foreign users—indeed, he states, "Using statistics that include non-U.S. downloads to discuss whether the lawsuits in the U.S. are working is disingenuous, silly or disturbingly Americentric—implicitly thinking everyone on the planet sees our TV news and fears being hauled into our courts (perhaps the Canadians do)." Justin Hughes, *On the Logic of Suing One's Customers and the Dilemma of Infringement-Based Business Models*, 22 CARDOZO ARTS & ENT. L.J. 725, 732 (2005). A 2004 OECD study, however, showed that more than half of P2P users originated from the United States, with most of the remainder coming from Europe. OECD INFORMATION TECHNOLOGY OUTLOOK 2004, PEER TO PEER NETWORKS IN OECD COUNTRIES, available at <http://www.oecd.org/dataoecd/55/57/32927686.pdf>. The music industry has aggressively pursued and publicized end-user litigation in Europe as well as in the United States. See, e.g., Press Release, RIAA, Comments of Carey Sherman, President Recording Industry Association of America (RIAA), on Legal Actions Brought by IFPI in Europe (Oct. 7, 2004), available at <http://www.riaa.com/news/newsletter/100704.asp>. The recording industry claims that its end-user litigation in Europe has reduced the number of music files shared in Germany by 35%. See Press Release, IFPI, Music File-sharers Face Biggest Round of Legal Actions Yet; Many are Already Counting the Cost (Apr. 12, 2005), available at <http://www.ifpi.org/site-content/press/20050412.html> (IFPI is an international counterpart to the RIAA). Thus, the critique about U.S. versus non-U.S. connectivity data is misplaced. Connectivity data also has been criticized because it does not account for "spoof" files placed on P2P networks by RIAA. See Hughes, *supra*, at 733-34. A recent study of P2P spoofing, however, demonstrates that nearly all spoof files can be traced to a handful of peers—less than 200 peers in total. Akshay Patil, *Identifying Spoof Files and Limiting their Impact in the FastTrack Network* (Dec. 2003) (un-

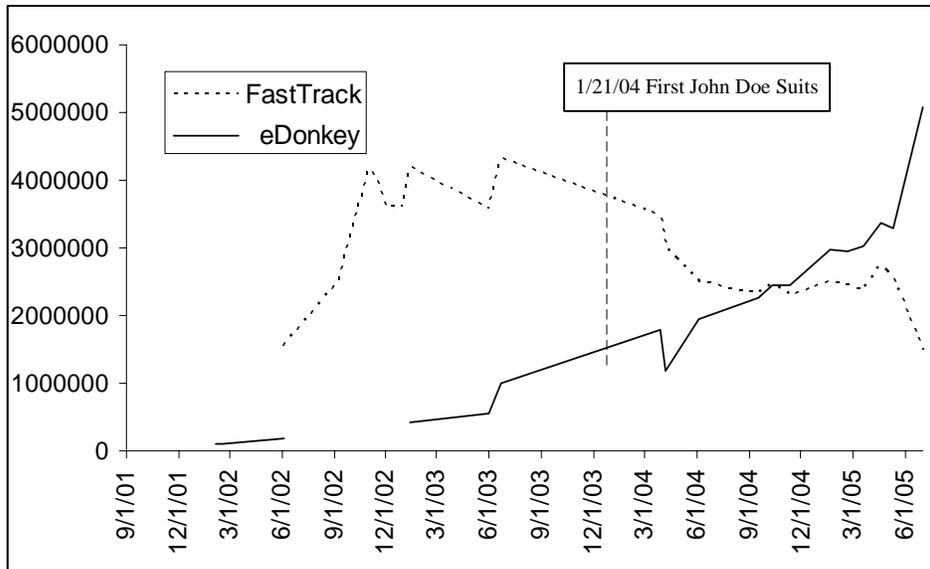
It is interesting first to compare total P2P network usage with the RIAA litigation timeline:



It seems clear from this data that the RIAA end-user litigation had an initial impact on file sharing activity, but that overall activity, while volatile, has returned to pre-litigation levels despite RIAA's sustained litigation campaign.

The picture becomes even more interesting when breaking out different types of P2P technology. For example, if we compare connections to the FastTrack network, which is a second-generation supernode network over which applications like Grokster are deployed, to a third-generation network such as e-Donkey, the pattern is striking:

published manuscript), available at <http://web.mit.edu/patil/Public/805project>. Thus, file spoofing has an imperceptible impact on the overall connectivity data.

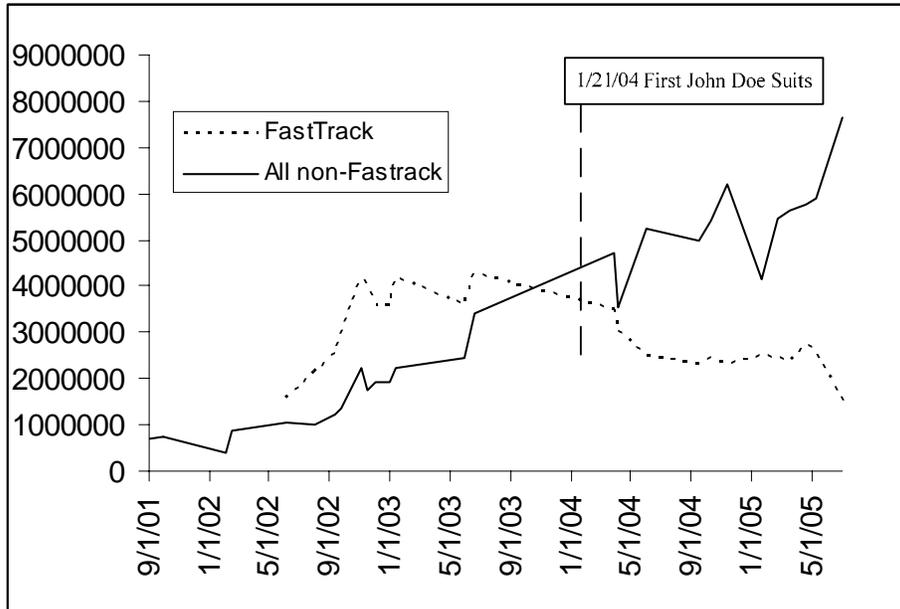


This suggests the second-generation P2P technologies were already declining when the Doe suits were filed and that the suits seem to have prompted a sudden steep decline in connections to those networks. At the same time, connections to the eDonkey network steadily increased, with a dip immediately after the Doe suits were filed, followed by significant increases immediately following the Supreme Court's *Grokster* decision.¹⁴⁸

148. The spike in eDonkey connectivity immediately following the Supreme Court's *Grokster* decision seems to have passed. In October 2005, for example, Slyck.com was reporting eDonkey connectivity at 2.7 million users (data on file with author). This may represent a return to equilibrium levels of connectivity after the spike resulting from publicity after the *Grokster* decision. Alternatively, or in addition, it may reflect the recent announcement by the proprietors of the eDonkey software client that they are moving toward a "closed" P2P network in response to RIAA cease-and-desist letters. See Elle Cayabyab, *Fallout from Grokster Case Closes Down eDonkey*, ARSTECHNICA.COM, Sept. 30, 2005, <http://arstechnica.com/news.ars/post/20050930-5372.html>. If the latter scenario is true, this represents one way in which RIAA's gatekeeper strategy is succeeding, at least until the open source eMule client, which runs over the eDonkey network, becomes more popular or a commercial eDonkey service is created with an overseas base. Perhaps even more curious, following the widely publicized settlement of the *Grokster* case, total P2P connectivity has continued to rise, and total connections to the Fastrack and eDonkey networks have equalized. See Slyck.com, P2P Connectivity Data, Nov. 21, 2005 (on file with the author). Moreover, the story is further complicated when considering separate data concerning BitTorrent connectivity. As of October 2005, a BitTorrent site that uses a spidering technique to track torrent files and peers listed over two million BitTorrent peers. See Supernova.org, <http://www.supernova.org> (last visited Nov. 21, 2005) (Nov.

A regression analysis of this data reveals a significant correlation between the rise in connectivity to the eDonkey network and the decrease in connectivity to FastTrack.¹⁴⁹ The regression analysis of the data showed an R^2 value of 0.76, which suggests a strong correlation, and a p-value of less than .0001. This analysis suggests the correlation is statistically significant.¹⁵⁰ Thus, it seems that a substantial component of the growth in the e-Donkey network could result from FastTrack defections.

If we include Gnutella¹⁵¹ and other non-FastTrack networks along with eDonkey in the analysis, the results are equally interesting:



Statistical analysis of these data raises a number of intriguing questions. A

21, 2005 peer data on file with author). If this data is accurate, it may be that some users are migrating to BitTorrent clients until the post-*Grokster* situation stabilizes, representing yet another stage in the technological evolution of P2P networks.

149. I conducted a regression analysis using the Analyze-it software plug-in for Microsoft Excel. Regression analysis is used to determine the percentage of variation in one data set that is explained by the variability of another data set. See DAVID M. LEVINE ET AL., *STATISTICS FOR MANAGERS USING MICROSOFT EXCEL* 523-26 (4th ed. 2005). Data points prior to August 2002 were excluded because certain data prior to that date was unavailable. The data are available on my website, <http://www.davidopderbeck.com/technologicaldarwinism.php> (last visited Dec. 20, 2005).

150. The data are available on my website, <http://www.davidopderbeck.com/technologicaldarwinism.php> (last visited Dec. 20, 2005).

151. Gnutella is another decentralized P2P network. See Gnutella, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/Gnutella> (last visited Oct. 14, 2005).

regression analysis suggests a statistically significant, but relatively weak, correlation with R^2 value of 0.42.¹⁵² The increase in connectivity to non-FastTrack networks, then, may partly result from defections from FastTrack clients. It also appears, however, that the non-FastTrack networks as a whole are attracting new users.

A final observation about the connectivity data is that the Supreme Court's *Grokster* decision did not initially result in any decrease in total connections. In fact, there is a significant spike in connectivity as of July 2005, followed by a leveling off and then a steady climb over the 10,000,000 connection mark. All of these observations taken together suggest that the RIAA's litigation strategies are failing to change the hearts and minds of the public and that P2P networks continue to attract new users despite the ongoing RIAA litigation—indeed, that the end-user litigation may be shifting public sympathy *towards* file sharing norms.¹⁵³

These data are particularly interesting compared to ordinary patterns of technological evolution. Economists and finance scholars have developed various models of technological innovation. The Bass Diffusion Model, pioneered in the 1960s by Frank Bass, predicts that a technology will be adopted according to an "S"-shaped curve, with growth spurred by factors such as publicity, marketing, and word-of-mouth.¹⁵⁴ Management Professors Philip Anderson and Michael Tushman describe technological innovation as a process of "punctuated equilibrium"—periods of flat growth are punctuated by periods of sharply increasing growth, producing the characteristic "S" curve.¹⁵⁵

152. For a description of regression analysis generally, see LEVINE, *supra* note 149. I conducted the regression analysis using the Analyze-it software plug-in for Microsoft Excel. Data points prior to August 2002 were excluded because certain data prior to that date was unavailable. The regression yielded an R^2 value of 0.42 with a p-value of .0006. The data are available on my website, http://www.davidopderbeck.com/technological_darwinism.php (last visited Dec. 20, 2005).

153. The spike also could represent an increase in activity in anticipation of losing access to the P2P services after the *Grokster* ruling. One P2P advocate attributes the spike to the "great media attention and relatively favorable outcome for P2P in the Supreme Court [in *Grokster*]." Thomas Mennecke, *P2P Population Grows as Summertime Heats Up*, SLYCK.COM, July 10, 2005, <http://www.slyck.com/news.php?story=854>. The growth in activity belies the usual pattern of P2P usage, which typically sees a drop during the summer months. *Id.*

154. See Jeffrey Morrison, *New Product Forecasting*, VISIONS MAG., Apr. 2000, <http://www.pdma.org/visions/apr00/forecasting.html>.

155. See Philip Anderson & Michael Tushman, *Technological Discontinuities and Organizational Environments*, 31 ADMIN. SCI. 439 (1986); Philip Anderson & Michael

More recently, Clayton M. Christensen has argued that “disruptive” technologies or innovations drive technological development.¹⁵⁶ A disruptive technology is one that is radically different than existing technology and fits a market segment not served by the existing technology.¹⁵⁷ The new technology is not always superior to the existing technology using standard measures of performance, but nevertheless displaces the existing technology because it fits a new or emerging market segment.¹⁵⁸

As P2P technology matures, its growth curve may well map onto the Bass Diffusion Model. The RIAA litigation may constitute an external factor driving public awareness of the technology. In this sense, RIAA’s litigation and public relations strategy may be self-defeating.

Even more intriguing is the relationship between the RIAA litigation and the disruptive technology model. P2P technology itself may be a type of disruptive technology, although it would be difficult, given P2P’s roots in the early internet, to distinguish “old” networking technology from P2P.¹⁵⁹ Within what we now consider P2P technology, the disruptive technology model also is difficult to apply. The newer generation of distributed networks resemble a disruptive technology in they are not significantly more stable, scalable, or accessible than the Napster technology, but have been adopted because they fill a market niche.¹⁶⁰

The niche the new P2P technologies fill, however, is not that of a new or emerging market seeking a radically different technology, but that of a market left devoid of one version of an existing technology because of a court injunction, and threatened by continued litigation against end users. The more distributed nature of second and third-generation P2P networks makes them less susceptible to direct assaults in the form of contributory or vicarious copyright liability and makes it more difficult to trace large-scale end users. Perhaps this suggests an ancillary model to Christensen’s

Tushman, *Technological Discontinuities and Dominant Designs: A Cyclical Model of Technological Change*, 35 ADMIN. SCI. 604 (1990).

156. See generally CLAYTON M. CHRISTENSEN, *THE INNOVATOR’S DILEMMA WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* (1997).

157. See generally *id.*

158. *Id.* A paradigmatic example of a disruptive technology is the smaller-size computer disk drive. Smaller disk drives were slower and had less storage capacity than existing larger drives, but fit the then-niche market segment of drives for desktop computers. *Id.*

159. See *supra* Part III for a description of the growth of P2P technology.

160. For a discussion of P2P as a disruptive technology, see RAMESH SUBRAMANIAM & BRIAN D. GOODMAN, *PEER-TO-PEER COMPUTING: THE EVOLUTION OF A DISRUPTIVE TECHNOLOGY* (2005).

disruptive technologies: a model of technology evolving resistance to intellectual property litigation.

V. THE RISE AND LEGITIMACY OF REVERSE PRIVATE ATTORNEY GENERAL INTELLECTUAL PROPERTY LITIGATION

RIAA and its members, of course, have the right to sue file sharers for copyright infringement. A copyright infringement claim by the owner of a musical work against a person who uploads or downloads a digital copy of the work without authorization unquestionably satisfies any good faith pleading requirements and likely will succeed on the merits if litigated to a conclusion.¹⁶¹ We might be tempted to accept the RIAA lawsuits as legally justified even if distasteful.

From a broader policy perspective, however, we might question whether the RIAA's reverse private attorney general approach is an efficient use of resources, and whether it serves the interests of justice. This is particularly so if, as the data presented in the previous Section indicate, the litigation is failing to change the relevant norms and is instead fueling a technological arms race. Furthermore, broad examination of the justification of RIAA cases becomes increasingly important as reverse private attorney general action gains prevalence as a method of intellectual property enforcement as a whole.

This Section provides some examples of other reverse private attorney general actions in the intellectual property context, which demonstrate that the RIAA cases do not stand alone as examples of content providers enforcing rights in mass claims against consumers. It then highlights the technological, cultural, and legal factors that will accelerate the trend toward mass intellectual property end-user litigation, absent changes in procedural and substantive law. Following that discussion is an analysis of the RIAA litigation, and reverse private attorney general intellectual property litigation generally, under the traditional justifications for private attorney general actions.

161. Federal Rule of Civil Procedure 11 requires that any claim be warranted under the existing law or under a reasonable argument for the extension of existing law. Even if a given file sharing defendant could assert potentially meritorious affirmative defenses, as discussed in Part V below, there is little doubt that an RIAA member's file-sharing claim against an individual who engaged in file sharing with respect to a work owned by that member would satisfy Rule 11.

A. Intellectual Property Reverse Private Attorney General Litigation Involving Technologies Other Than P2P

The RIAA litigation is not the only example of intellectual property reverse private attorney general litigation. A brief survey of cases concerning music sampling¹⁶² and satellite television programming¹⁶³ demonstrates a broader trend toward the use of reverse private attorney general litigation to change sharing norms.

1. Music Sampling

Sampling, a musical technique prevalent in rap, R&B, and dance music, grew out of the way DJ's blend songs together manually using vinyl records and turntables.¹⁶⁴ With advances in recording technology, it became possible to construct entire rhythm sections from pre-existing records.¹⁶⁵ As digital technology became a staple of recording studios, and home "project studios" housed on personal computers began to fit within the budgets of average music enthusiasts, sampling became an even more engrained practice.¹⁶⁶ In an effort to curtail sampling, the recording industry filed an aggregated copyright action against numerous defendants.¹⁶⁷ In music sampling cases, the sharing norm is rather pronounced, but the defendants are not ordinary consumers. Rather, the defendants are music producers, musicians, and others involved in the process of creating mu-

162. See, e.g., *Bridgeport Music, Inc. v. 11C Music*, 202 F.R.D. 229 (M.D. Tenn. 2001) (severing claims against 770 publishing companies, entertainment companies, and other defendants that allegedly copied excerpts from copyrighted musical compositions without authorization).

163. See, e.g., *Tele-Media Co. of W. Conn. v. Antidormi*, 179 F.R.D. 75 (D. Conn. 1998) (severing claims against 104 defendants alleged to have intercepted cable television signals without authorization).

164. For a discussion of sampling, see Robert Szymanski, *Audio Pastiche: Digital Sampling, Intermediate Copying, Fair Use*, 3 UCLA ENT. L. REV. 271 (1996); *Bridgeport Music v. Dimension Films*, 410 F.3d 792, 798-99 (6th Cir. 2005); David S. Blessing, Note, *Who Speaks Latin Anymore?: Translating De Minimus Use for Application to Music Copyright Infringement and Sampling*, 45 WM. & MARY L. REV. 2399, 2403-05 (2004).

165. See *id.*

166. *Id.*; see also Maureen Downy, *Beat by Beat: The Distinctive Spectrums of Loop-based Production*, MIX MAGAZINE, Nov. 1, 2001, <http://industryclick.com/magazine/article.asp?magazineid=141&releaseid=9555&magazinearticleid=132786&SiteID=15> (discussing music production using looped samples).

167. See *Bridgeport Music*, 202 F.R.D. at 229

sic, who incorporate portions of pre-existing works into new compositions.¹⁶⁸

Perhaps because of the different norms and economic incentives at play, the music sampling problem seems to be resolving itself through an ad-hoc process of license negotiation. Generally, artists are responsible for clearing rights to any samples they use.¹⁶⁹ The copyright holder in the sampled work is paid through a single flat fee or a royalty based on units sold.¹⁷⁰ In addition, a strong boutique industry has arisen to meet the demand for royalty-free samples. For about \$50 per gigabyte, it is now possible for a musician to purchase extensive libraries of drum beats, instrumental lines, background rhythms, and sound effects to meet virtually any imaginable music production need.¹⁷¹ In sampling cases, then, the market seems to be providing a workable solution before litigation becomes excessively burdensome.¹⁷²

2. *The DirecTV Litigation*

In contrast to sampling cases, the problem of unauthorized access to satellite television signals remains intractable. DirecTV, a supplier of digital satellite television services, has for several years been engaged in reverse private attorney general litigation involving use or trafficking in technology that can unscramble DirecTV's satellite signals.¹⁷³ The

168. *Id.*

169. *Id.*

170. *Id.* at 293-94.

171. See, for example, the sample libraries available at the following online retailers: Audiomidi.com, <http://www.audiomidi.com/master.cfm?CID=342> (last visited Oct. 15, 2005); Smartloops.com, <http://www.smartloops.com> (last visited Oct. 15, 2005); Sony's Acidplanet.com, <http://www.acidplanet.com/tools/?p=loops&T=9388> (last visited Oct. 15, 2005).

172. The recording industry's self-interest in sampling undoubtedly is fueling this resolution. Initially, sampling was the domain of small, independent producers. Now, nearly every "top 40" hit employs sampling to some extent. In short, the record companies themselves became samplers.

173. See for example the DirecTV Defense website sponsored by the Electronic Frontier Foundation at <http://www.directvdefense.org> (last visited Oct. 15, 2005). The technologies at issue can be used to copy or mimic the access cards issued to DirecTV subscribers, which allow subscribers to view encrypted programming. See *In re DirecTV, Inc.*, No. C-02-5912-JW, 2004 WL 2645971, at *2 (N.D. Cal. 2004) (discussing DirecTV access card technology). They include "smart cards," which contain decryption algorithms; smart card readers and writers, which can be used in conjunction with smart cards to decrypt DirecTV signals; "unloopers" and "bootloaders," which facilitate the recycling of smart cards; and "emulators," which are circuit boards that mimic smart cards. See

DirecTV cases result from a massive investigation into the distribution of decryption devices after DirecTV obtained sales records of several companies that sold the devices.¹⁷⁴ The company has issued over 100,000 cease and desist letters and has sued over 24,000 individuals.¹⁷⁵ DirecTV's claims arise under federal wiretap and copyright laws, including the Digital Millennium Copyright Act,¹⁷⁶ the Electronic Communications Privacy Act,¹⁷⁷ and the Federal Communication Act's rules concerning unauthorized satellite signal reception,¹⁷⁸ as well as state statutes and common law.¹⁷⁹

DirecTVDefense, Which Devices are Threatened?, <http://www.directvdefense.org/threat> (last visited Oct. 15, 2005).

174. See *DirecTV, Inc. v. Cavanaugh*, 321 F. Supp. 2d 825 (2003); Lauren McBrayer, *The DirecTV Cases: Applying Anti-Slapp Laws to Copyright Protection Cease-and-Desist Letters*, 20 BERKELEY TECH. L.J. 603, 613 (2005).

175. *Id.*

176. The Digital Millennium Copyright Act (DMCA) provides a cause of action for circumvention of "copyright protection measures" and for trafficking in technology that facilitates such circumvention. 17 U.S.C. §§ 1201(a)(1), (2) (1998).

177. 18 U.S.C. §§ 2511-2512 (2000). This is a wiretap statute that prohibits the unauthorized intentional interception, use, or disclosure of "wire, oral, or electronic communication." See generally *id.*

178. 47 U.S.C. § 605(a) (2001). This section also is essentially a wiretap statute, which prohibits the unauthorized receipt or transmission of wire or radio signals. See *id.*

179. See, e.g., *DirecTV, Inc. v. Adkins*, 58 Fed. R. Serv. 3d 90 (W.D. Va. 2003) (reciting claims that included state common law unjust enrichment, tortious interference, and unfair competition). As a case study in reverse private attorney general litigation, the DirecTV cases are particularly interesting because DirecTV works very closely with law enforcement agencies, particularly the Federal Marshall's Service, which is responsible for executing writs of seizure. It should be noted that the DirecTV cases were not the first reverse private attorney general claims against end users of cable or satellite television services. In fact, the DirecTV cases were prefigured by earlier actions involving analog circumvention technology. In the early cable and satellite television cases, consumers used what would today be called "circumvention" technology to decrypt television and movie signals and obtain the benefits of cable or satellite television for free. See *Movie Sys., Inc. v. Abel*, 99 F.R.D. 129 (D. Minn. 1983) (granting motion to sever claims filed against 1,795 individuals who allegedly intercepted microwave television signals without authorization); *Tele-Media Co. of W. Connecticut v. Antidormi*, 179 F.R.D. 75 (D. Conn. 1998). The "sharing" norm was not as pronounced in those cases, because the technology involved was primarily "hard wired" and there was no commercial internet through which circumvention technology could be distributed. Most of the courts that encountered such cases summarily rejected the content providers' efforts to aggregate claims against individual defendants. *Bridgeport Music, Inc. v. 11C Music*, 202 F.R.D. 229 (M.D. Tenn. 2001) (severing claims against 770 publishing companies, entertainment companies, and other defendants that allegedly copied excerpts from copyrighted musical compositions without authorization). As one district court stated:

Many of the DirecTV cases were filed as aggregated actions.¹⁸⁰ The cases have sparked a substantial grassroots resistance, including counterclaims under “SLAPP” statutes and anti-DirecTV lawyers and advocates who maintain a vigorous online presence.¹⁸¹ Much of the opposition stems from allegations that DirecTV has improperly sued individuals who obtained decryption technology for legitimate uses.¹⁸² As with the RIAA cases, some courts have held that joinder of DirecTV claims is appropriate under Federal Rules of Civil Procedure 20(a),¹⁸³ while others have held otherwise because the individual cases do not arise from a common set of facts.¹⁸⁴

The DirecTV cases seem to involve norms that lie somewhere between the early analog satellite cases and the P2P cases. The “sharing” norm is not as pronounced as in the P2P cases, because DirecTV smart-card users do not literally share content. However, some of the norms that relate to the coding of P2P applications also are at play in the DirecTV cases. This is because individual hackers and crackers often become involved in creating the hardware and software used to decrypt DirecTV signals.¹⁸⁵ More-

[T]he attempted filing of these actions with such an inordinate number of party defendants in each raises an issue of proper joinder of parties under Rule 20, has created unmanageable administrative problems in the clerk's office and has occasioned unfairness, confusion and prejudice to defendants in their efforts to answer plaintiff's complaints, make responsive motions and conduct pre-trial proceedings.

Movie Systems, 99 F.R.D. at 129-30.

180. See, e.g., *In re DirecTV, Inc.*, No. C-02-5912-JW, 2004 WL 2645971, at *1, *6 (N.D. Cal. 2004); *DirecTV, Inc. v. Boggess*, 300 F. Supp. 2d 444, 449-50 (S.D. W. Va. 2004); *DirecTV, Inc. v. Hosey*, 289 F. Supp. 2d 1259, 1262 (D. Kan. 2003); *DirecTV v. Loussaert*, 218 F.R.D. 639 (S.D. Ia. 2003); *DirecTV, Inc. v. Perez*, No. 03 C 3504, 2003 WL 22682344 (N.D. Ill. 2003); *DirecTV, Inc. v. Russomanno*, No. 03-2475, 2003 U.S. Dist. LEXIS 23403 (D.N.J. 2003); *DirecTV, Inc. v. Essex*, No. C02-5503RJB, 2002 U.S. Dist. LEXIS 26923, at *4 (W.D. Wash 2002).

181. See McBrayer, *supra* note 174, at 614-20; Welcome to DirecTVDefense.org, <http://www.directvdefense.org> (last visited Oct. 15, 2005); About DTVLawsuits.com, <http://www.dtvlawsuits.com> (last visited Oct. 15, 2005); Lakeshore Law Center, DirecTV Class Action FAQ, <http://www.lawyers.com/lakeshorelaw/directv.jsp> (last visited Oct. 15, 2005).

182. See websites listed in *supra* note 181.

183. See, e.g., *Hosey*, 289 F. Supp. 2d at 1262; *Russomanno*, 2003 U.S. Dist. LEXIS 23403; *Essex*, 2002 U.S. Dist. LEXIS 26923, at * 4.

184. See, e.g., *Boggess*, 300 F. Supp. 2d at 449-50; *In re DirecTV*, 2004 WL 2645971, at *1, *6 (dismissing without prejudice aggregated claims involving over 775 defendants); *Loussaert*, 218 F.R.D. at 639; *Perez*, 2003 WL 22682344.

185. This is consistent with my personal experience in representing an individual defendant in a DirecTV case.

over, the DirecTV cases resemble the P2P cases in that many consumer advocates believe the content provider's aggressive litigation practices are disproportionate to the value of the rights being protected.¹⁸⁶

It is unclear whether the DirecTV cases have succeeded in changing public norms regarding the taking of satellite television signals, as there do not seem to be reliable sources of empirical data about this practice. What does seem clear is that DirecTV's litigation campaign continues, and pre-figures future similar campaigns against users of encrypted works.

This brief survey of reverse private attorney general intellectual property litigation outside the P2P context suggests that such litigation is not unique to the P2P wars. Rather, it is becoming a significant enforcement tool, particularly for entertainment content industries. The DirecTV litigation suggests that end-user cases involving individual consumers may be difficult to resolve on a global basis, while the sampling litigation suggests that the market might provide a reasonably efficient licensing solution if the content provider has sufficient incentive to grant licenses. It does not appear in either case that the end-user litigation has influenced sharing norms, and it has only influenced sharing behavior in the music sampling context when a reasonable license is made available.

B. Why the Trend Towards Reverse Private Attorney General Intellectual Property Litigation Will Accelerate

A number of technological, cultural, and legal factors conspire to accelerate the trend toward mass lawsuits by large content providers against end users. These include, on the technology front, the widespread availability of broadband internet access and cheap, user-friendly digital reproduction technology; on the legal side, new legal tools such as the DMCA coupled with a continued dearth of criminal enforcement activity; and culturally, a deepening divide between the norms of propertizing and sharing intellectual property.

186. See, e.g., Darrin Schlegel, *DirecTV Dragnet Casting Wide Net: But Defendants say Piracy Suits Unfair*, Jan. 17, 2004, DTVLAWSUITS.COM, http://www.dtvlawsuits.com/news/details.cfm?nID=32¤tpage=1&pt_startrow=1&pt_endrow=20 (quoting Pearland lawyer Peggy Bittick, who represents fifty clients in Texas accused of stealing the company's signal who notes that "DirecTV is like this big machine . . . [that] just marches on relentlessly, and they don't care who is on the other side, they just roll over people").

1. *Technological Factors Relating to Reverse Private Attorney General Intellectual Property Litigation*

Recent technological developments portend more reverse private attorney general intellectual property litigation. Broadband internet access should become nearly universal in developed countries within the next five to ten years.¹⁸⁷ This facilitates the transfer of large multimedia files. In addition, the technology to utilize multimedia files is cheap and ubiquitous. Entry-level personal computers come equipped with MP3 players and CD/DVD burners.¹⁸⁸ Using desktop production software, a hobbyist can mix audio and video samples to produce professional results with surprising ease.¹⁸⁹ The iPod and other portable MP3 players allow users to carry thousands of files anywhere and to transfer them seamlessly between computers and devices.¹⁹⁰ In short, the technology that facilitates disaggregation and sharing of digital content is becoming as commonplace as broadband internet access. If the traditional content industries wish to maintain control over their content, they must either control this technology or change public norms about how the technology should be used.

Over the longer term, P2P technology will increasingly find its way into the mainstream of personal computing. The convergence of comput-

187. In the United States, President George W. Bush has set the goal of universal, affordable broadband access by 2007. *See* Press Release, Office of the Press Secretary, President Bush Meets with First-Time Homebuyers in MN and AZ, Remarks by the President on Homeownership (Mar. 26, 2004), *available at* <http://www.whitehouse.gov/news/releases/2004/03/20040326-9.html>; *see also* U.S. DEPT. OF COMMERCE REPORT, A NATION ONLINE: ENTERING THE BROADBAND AGE (Sept. 2004), *available at* <http://www.ntia.doc.gov/reports/anol/NationOnlineBroadband04.htm> (detailing rise of broadband usage in the U.S. and discussing areas in which further penetration of broadband service is needed); ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT REPORT, ICCP BROADBAND UPDATE (Oct. 2004), *available at* <http://www.oecd.org/dataoecd/18/9/18464850.pdf> (discussing adoption of broadband in OECD countries).

188. At the time of this writing, Dell Computer, a popular retailer, was offering a "media center" desktop computer, complete with TV tuner, CD burner, and MP3 software, for under \$1,000. *See* Dell, Desktops, <http://www1.us.dell.com/content/products/category.aspx/desktops?c=us&cs=19&l=en&s=dhs&~ck=mn> (last visited Dec. 6, 2005). The next generation of home digital entertainment centers, represented by Microsoft's recently-released "Xbox 360," will bundle digital gaming, video, music, and broadband connectivity in a sleek unit. *See* Xbox 360 FAQ, <http://www.xbox.com/en-US/hardware/xbox360/xbox360faq.htm> (last visited Dec. 12, 2005).

189. *See, e.g.*, Cakewalk, Home Recording Products, <http://www.cakewalk.com/Products/HomeRecording.asp> (last visited Dec. 12, 2005) (offering various digital audio workstation software products).

190. *See, e.g.*, iPod, <http://www.apple.com/ipod> (last visited Dec. 12, 2005).

ing, communications, and wireless technologies suggests that the networks of the future will be ubiquitous, wireless, and decentralized. One can imagine, for example, an *ad hoc* network of commuters exchanging files on the train ride home using handheld computers connected to each other through wireless radios.¹⁹¹ In fact, to some extent, that scenario already exists with devices such as the Blackberry handheld computer and the Palm Treo.¹⁹² If P2P models become integrated into how people share ordinary information, as is likely, the technology will be bundled and promoted as part of communication and computing devices, much like the way in which the Internet Explorer web browser is featured in Windows-based computers today. In fact, the next revolution in network technology, called “grid” computing, eventually will entirely supplant the client-server model with a distributed model that incorporates P2P connectivity on a far larger scale than today’s P2P networks.¹⁹³ On the networks of the near future, many will use P2P technology to facilitate seamless sharing of files and computing power among wireless, wired, mobile, and desktop devices. The norms of sharing over networks will become even more entrenched, and the intent-based “gatekeeper” liability standard announced in *Grokster* will likely exist only as an anachronism. Intellectual Property enforcement against individual end users will then become even more important.

191. For a technical description of how wireless P2P networks might function, see Frank Uwe-Anderson et al., *An Architecture Concept for Mobile P2P File Sharing Services*, INFORMATIK 2004—INFORMATIK VERBINDET 229-33 (2004), available at http://www.fmi.uni-passau.de/lehrstuehle/demeer/publications/conferences/conf_2004/architecturemobilep2p.pdf.

192. See About Blackberry, <http://www.blackberry.com/products/blackberry/index.shtml> (last visited Oct. 13, 2005). Blackberry users typically do not communicate P2P, but rather send and receive messages that travel over cellular telephone networks to local, usually client-server, computer networks. See *id.* Personal and laptop computers can communicate P2P using wireless modems, although the manner in which wireless networking presently is employed typically involves a local wireless connection to a computer connected, via the internet or otherwise, to a centralized client-server network. As these technologies become smaller, more powerful, and more affordable, the moving, wireless, *ad hoc* P2P network likely will become as commonplace as today’s client-server models. In fact, technologists already are working on the architecture for such networks. See, e.g., Frank Uwe-Anderson et al., *supra* note 191.

193. See IBM Grid Computing, What is Grid Computing, http://www-1.ibm.com/grid/about_grid/what_is.shtml (last visited Oct. 13, 2005) (noting that “[l]ike peer-to-peer, grid computing allows users to share files” and “[u]nlike peer-to-peer, grid computing allows many-to-many sharing—not only files, but other resources as well”).

2. *Cultural Factors Relating to Reverse Private Attorney General Intellectual Property Litigation*

A new set of norms concerning creative works is congealing around networked digital technology. Increasingly, songs, film clips, pictures, and video are considered as isolated units rather than as part of compilations of similar works or segments of larger works. For music in particular, the concept of the “album” or “CD” as a basic creative unit is waning, except perhaps in the rare case of a breakthrough concept album such as Green Day’s recent “American Idiot.”¹⁹⁴ Consumers choose their favorite individual songs from various artists, whether on P2P networks or through paid services such as iTunes and the new Napster. Similarly, digital video recorders, on-demand digital cable and satellite television, and subscription channels with highly specialized content are completing the dismantling of network viewing continuity begun by the remote control. Many consumers seem to expect access to digital copies of any individual portion of content they desire at any time.

This digital buffet runs counter to the traditional business models of most content providers, which make money primarily by aggregating and distributing the creative output of others.¹⁹⁵ This conflict provides fertile ground for infringement. Consumers who want access to disaggregated content may resort to self-help if the “legitimate” market fails to produce a solution.

3. *Legal Factors Relating to Reverse Private Attorney General Intellectual Property Litigation*

The content industry’s problem has both technological and cultural dimensions, but the cultural aspects follow from the technology. If the technology that facilitates digital disaggregation and distribution can be controlled or disabled, the infringement problem can be sidestepped—at least in the near term. The content industries have indeed adopted encryp-

194. See, e.g., Edna Gundersen, *Downloading Squeezes the Art Out of the Album*, USA TODAY, Dec. 5, 2003, available at http://www.usatoday.com/life/music/news/2003-12-04-album-main_x.htm; Clay Shirky, *Napster and the Death of the Album Format*, http://www.shirky.com/writings/napster_nyt.html (last visited Oct. 19, 2005); see also *American Idiot*, WIKIPEDIA: THE FREE ENCYCLOPEDIA, http://en.wikipedia.org/wiki/American_Idiot (last visited Oct 13, 2005).

195. See Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 295-300 (2002) (discussing the economics of content distribution).

tion technologies designed to control access to digital works.¹⁹⁶ Many economically feasible encryption measures, however, can likely be cracked.

In order to support the utility of encryption measures, Congress passed the Digital Millennium Copyright Act (DMCA) in 1998.¹⁹⁷ The DMCA makes it unlawful to circumvent most encryption measures that protect access to copyrighted works, or to distribute decryption technology under most circumstances.¹⁹⁸ There are few viable defenses to a DMCA claim—in particular, there is nothing equivalent to a “fair use” defense—and the penalties for infringement are severe.¹⁹⁹ Thus, the DMCA provides a sharp sword against suspected infringers. As the DirecTV litigation demonstrates, the content industries are likely to employ this weapon on a large scale against individual suspected infringers.²⁰⁰

At the same time, government enforcement of criminal penalties in the copyright law has been sporadic at best.²⁰¹ Although government copyright policy has consistently favored the content industries, as evidenced most dramatically by the passage of the DMCA and the lack of a “fair use” regulation under the DMCA, the content industry has yet to persuade the Justice Department that it should divert resources toward prosecuting file sharers. Moreover, given federal law enforcement’s more pressing concerns—for example, terrorism—a significant increase in copyright en-

196. See U.S. Copyright Office, Anticircumvention Hearings Rulemaking Schedule, <http://www.copyright.gov/1201/2003/hearings/schedule.html> (last visited Oct. 31, 2005) (providing transcripts of testimony, including testimony from industry members, before U.S. Copyright Office regarding encryption measures and DMCA rulemaking).

197. Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of 17 U.S.C.).

198. See 17 U.S.C. § 1201 (2000).

199. See *id.* §§ 1201(d)-(j) (listing exemptions for nonprofit libraries, archives, educational institutions, law enforcement activities, reverse engineering, encryption research, protection of minors, protection of confidential personal information, and security testing); § 1203 (listing available civil remedies, including actual or statutory damages, attorneys fees, and enhanced damages in some cases); § 1204 (listing criminal penalties, including fines of up to \$500,000 and imprisonment of up to five years for a first offense).

200. See *infra* Part IV.

201. See U.S. Department of Justice Computer Crime and Intellectual Property Section (CCIPS), Intellectual Property Cases, <http://www.usdoj.gov/criminal/cybercrime/ipcases.htm> (last visited Oct. 13, 2005) (providing a “representative sample” of eighty-four criminal copyright cases dating back to 1999). The majority of cases presented on the U.S. Department of Justice website concern counterfeit computer software. See *id.* The same site identifies seventeen criminal actions under the DMCA, largely concerning smart cards and satellite television piracy. See *id.*

forcement is unlikely.²⁰² This means the content industry must rely on civil, not criminal penalties.

If these factors indicate that reverse private attorney general intellectual property litigation is likely to become increasingly important, we should ask whether such litigation will be efficient, effective, or fair. The next Sections analyze the fairness and utility of reverse private attorney general intellectual property litigation under private attorney general theory.

C. Reverse Private Attorney General Litigation and Private Attorney General Theory

1. *Reverse Private Attorney General Intellectual Property Litigation and the Balance Rationale*

As discussed in Part II above, the balance rationale for private attorney general litigation holds that private attorney general procedures facilitate claims by people who could not otherwise afford access to the judicial system. It is difficult to conceive of any circumstance in which the balance rationale would apply to reverse private attorney general intellectual property litigation. By definition, this type of litigation involves claims by persons or entities that control valuable resources against individuals who lack those resources. In the RIAA litigation, the plaintiffs are large, wealthy, powerful corporations that have aggregated the various intellectual property rights inherent in a sound recording. They are arguably among the most powerful players in the new media economy and, as evidenced by legislation such as the DMCA, are more than capable of influencing the lawmaking process. The defendants, in contrast, typically are ordinary people, including in some notorious cases, schoolchildren, and grandparents.²⁰³ Likewise, the DirecTV cases involve a leading content

202. See U.S. DEP'T. OF JUSTICE, 2003-2008 STRATEGIC PLAN, available at <http://www.usdoj.gov/jmd/mps/strategic2003-2008/index.html> (last visited Oct. 22, 2005). The Strategic Plan notes that the Justice Department's primary goal is to "prevent terrorism and protect the Nation's security." *Id.* at pt. II. The Department's second goal is to "enforce federal laws and represent the rights and interests of the American people." *Id.* The priorities listed under that goal are reducing violent crime; reducing trafficking in illegal drugs; combating white collar crime, economic crime, and cybercrime; and upholding civil rights. *Id.* The section on "cybercrime" focuses primarily on consumer fraud, although intellectual property theft is mentioned briefly. *Id.*

203. See Associated Press, *Hundreds of Music Swappers Sued*, MSNBC.COM, Sept. 8, 2003, <http://msnbc.msn.com/id/3078419> (quoting Durwood Pickle, a seventy-one-year-old grandfather named in an RIAA case because his grandchildren used his com-

provider as the private attorney general. The balance rationale, then, cannot support reverse private attorney general intellectual property litigation.

2. *Reverse Private Attorney General Intellectual Property Litigation and Social Advocacy Theory*

The RIAA litigation arguably promotes some important social values. Our law and public policy reflect the significance of intellectual property rights. The *Grokster* court expressed its concern that P2P software “is fostering disdain for copyright protection”; even Justice Breyer, in his generally pro-technology concurrence, equated deliberate unlawful copyright infringement with “garden-variety theft.”²⁰⁴ To the extent the *Grokster* rule fails to curb the growth of P2P and other dual use technology, perhaps the RIAA litigation makes sense under a social advocacy private attorney general theory.

The social advocacy justification for private attorney general litigation originally grew out of concern for underrepresented minorities who lacked access to other avenues of social change.²⁰⁵ This sort of litigation is one type of response to the problems presented by public choice theory. It should act, to use John Coffee’s term, as a “failsafe” against regulatory capture.²⁰⁶ Moreover, the social advocacy justification focuses on concerns that are central to our constitutional system, such as the individual rights guaranteed under the Bill of Rights.²⁰⁷ In early civil rights litigation, for example, African-Americans who were not heard by racist legislatures obtained some measure of relief, and more importantly, began to change public perception of racism through the courts.²⁰⁸

Large intellectual property owners such as wealthy RIAA members are not oppressed minorities that require special protection in this manner. Indeed, the RIAA litigation may perversely represent an effort to capture the judicial system. More importantly, intellectual property does not implicate policy concerns that rise to the level of the life, liberty, or even property interests inherent in many other kinds of social advocacy private attorney general litigation.

puter to download music files, who said, “How do I get out of this? Dadgum it, got to get a lawyer on this.”).

204. *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 125 S. Ct. 2764, 2793 (2005) (Breyer, J. concurring).

205. See Rabkin, *supra* note 15, at 187-94. For more discussion, see *supra* Part II.

206. Coffee, *supra* note 32, at 227.

207. See Rabkin, *supra* note 15, at 187-89.

208. See *id.*

For example, Justice Breyer's comment that downloading copyrighted music amounts to "garden-variety theft" is questionable. If someone steals the laptop computer on which I am composing this Article, the theft represents a serious threat to our economic, social, and moral order. My laptop is a rivalrous resource. The thief and I cannot possess my laptop equally at the same time. In economic terms, the theft means I will lose the value of the labor through which I had obtained money to purchase the laptop, and I will further lose the opportunity to divert future income to other productive uses because I will need to replace the laptop. In social and moral terms, the thief will have degraded long-standing norms about my right to possess personal property obtained through my labor. If this type of theft continues undeterred on a large scale, our economy and society would collapse.

In contrast, if the thief makes digital copies of a song I wrote and produced, I still possess my copy of the recording as well as my ideas about the song's lyrics, chord changes, and structure. The intellectual property inherent in the song is a nonrivalrous resource.²⁰⁹ When the thief takes a digital copy, I have not necessarily lost the value of the labor and other inputs used in creating the song, the thief has not necessarily transgressed any established norms supporting the culture in which I created the song, and large scale undeterred theft of a similar sort will not necessarily degrade our economy or society. As suggested by the ongoing debate over the nature and scope of intellectual property—and indeed over the concept of intellectual "property" itself—the analysis is far more complicated than "garden-variety theft."²¹⁰

209. See, e.g., Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1051 (2005). There, Professor Lemley wrote:

Precisely because its consumption is nonrivalrous, information does not present any risk of the tragedy of the commons. It simply cannot be "used up." Indeed, copying information actually multiplies the available resources, not only by making a new physical copy but by spreading the idea and therefore permitting others to use and enjoy it. The result is that rather than a tragedy, an information commons is a "comedy" in which everyone benefits. The notion that information will be depleted by overuse simply ignores basic economics.

Id. As I have discussed elsewhere, however, the proposition that ideas are nonrivalrous resources must be qualified depending on the context of the idea. See David W. Opperbeck, *The Penguin's Genome, or Coase and Open Source Biotechnology*, 18 HARV. J. L. & TECH. 167 (2004).

210. There is substantial debate over whether intellectual property should be considered "property" at all. See, e.g., John W. Duffy, *The Marginal Cost Controversy in Intellectual Property*, 71 U. CHI. L. REV. 37 (2004) (analogizing intellectual property to public

The norms of intellectual property likewise are not as entrenched as norms relating to fundamental rights. The moral ambivalence evident in public opinion surveys about copyright infringement arguably reflects more than simple opportunism.²¹¹ It may also suggest deeper cultural traditions about who “owns” things like popular songs, visual arts, and literature. Indeed, on a historic and global scale, the concept of individual “ownership” of such intellectual property may be anomalous. Generations of people across nearly all cultures have created artwork, told stories, and sung tunes shared by the broader community. The notion that an author should retain sole control over a song, story, or picture creates dissonance with some earlier norms about “ownership” of creative work.²¹²

In light of this background, the most troubling aspect of the P2P end-user litigation—and of reverse private attorney general intellectual property litigation generally—may be its tendency to delegitimize intellectual property law. In the near term, reverse private attorney general actions against individual infringers might reflect a “strong” intellectual property regime. Over the long term, however, the heavy hand of intellectual property enforcement will produce increasing resistance in the form of aversion, avoidance, and outright rebellion. This creates a serious issue concerning the legitimacy of intellectual property rules.

utility regulation); Lemley, *supra* note 209, at 1031 (tracing the history of the “propertization” of intellectual property, and arguing that the current intellectual property framework provides an excessive level of control to intellectual property rights owners); Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87 (2004) (noting and critiquing the increasingly regulatory nature of copyright legislation); Tim Wu, *Copyright’s Communications Policy*, 103 MICH. L. REV. 278 (2004) (describing how copyright is, in part, a communications regulatory regime). *But see* Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1 (2004) (reviewing the propertization of intellectual property and suggesting that limitations on other sorts of property should serve to limit the expansion of intellectual property protection); Richard A. Epstein, *Liberty Versus Property? Cracks in the Foundations of Copyright Law*, 42 SAN DIEGO L. REV. 1 (2005) (arguing that intellectual property is properly considered a form of “property” under Lockean labor theory); Peter K. Yu, *Intellectual Property and the Information Ecosystem*, 2005 MICH. ST. L. REV. 1 (2005) (discussing critiques of the propertization of intellectual property).

211. See *supra* Section IV.B.1 for a discussion of public opinion surveys and their results.

212. See, e.g., Anupam Chander & Madhavi Sunder, *The Romance of the Public Domain*, 92 CALIF. L. REV. 1331 (2004) (describing how TRIPS and other international conventions have upset the balance between propertization and the international public domain); Yu, *supra* note 210 (proposing the concept of an “information ecosystem” as a framework for international intellectual property protection rather than a traditional “property” model).

As Richard Fallon recently observed, “legitimacy” has at least three possible dimensions: legal, sociological, and moral.²¹³ Legal legitimacy results from decisions that comport with existing law.²¹⁴ Sociological legitimacy is the Weberian concept that the relevant public regards as “justified, appropriate, or otherwise deserving of support for reasons beyond fear of sanctions or mere hope for personal reward.”²¹⁵ Finally, moral legitimacy refers to a law’s inherent “moral justifiability or respect-worthiness.”²¹⁶ Moral legitimacy theorists, according to Fallon, tend to refer to a “moral ideal” to which the law should aspire, or to the minimum governmental control people should be willing to accept in the absence of better alternatives.²¹⁷

For Fallon, who writes from a legal positivist perspective, sociological legitimacy is the central question in assessing the legitimacy of fundamental laws such as a constitution.²¹⁸ Others, such as those who adhere to a concept of natural law, might emphasize moral legitimacy.²¹⁹ Regardless, legitimacy is not a monochromatic issue.

If we attempt to apply Fallon’s three aspects of legitimacy to the P2P end-user litigation, the empirical data concerning file sharing activity demonstrate a serious sociological legitimacy problem.²²⁰ People believe they should be allowed to share their music files, and they continue to do so in large numbers despite the RIAA’s concerted litigation efforts.²²¹ This is perhaps the most significant legitimacy problem presented by the RIAA litigation.

213. Richard H. Fallon, Jr., *Legitimacy and the Constitution*, 118 HARV. L. REV. 1787 (2005).

214. *Id.* at 1794-95.

215. *Id.* at 1795-96 (discussing the political theory of Max Weber).

216. *Id.* at 1796.

217. *Id.* Fallon cites the Madisonian/Hamiltonian idea that government should be based on the consent of the governed as an example of a “moral ideal” theory. *Id.* (citing 22 THE FEDERALIST 152 (Clinton Rossiter ed., 1961) describing “the consent of the people” as the “pure, original fountain of all legitimate authority”). Fallon also cites John Rawls as a type of a “moral ideal” theorist, in that Rawls locates governmental legitimacy in the exercise of power in accordance with a constitution with which all citizens should reasonably be expected to agree. *Id.* at 1797-98.

218. *See id.* at 1805 (“With respect to the most fundamental matters, sociological legitimacy is not only a necessary condition of legal legitimacy, but also a sufficient one.”).

219. *See id.* at 1805 n.61 and accompanying text.

220. *See supra* Part IV.

221. *See supra* Part IV.

The P2P end-user litigation also is questionable from a moral legitimacy perspective. Although the RIAA portrays the litigation as a moral crusade against piracy, the morality of the RIAA's cause is debatable from a moral ideal, minimal control, or natural law moral theory. As to a moral ideal theory, it is questionable whether those governed by the copyright laws ever truly consented to the sort of control over content distribution that RIAA's members seek. The Constitution's intellectual property clause is designed to incentivize *authors*, not distributors.²²² The social bargain on which the limited monopoly of copyright is based—at least to the extent cases like the Supreme Court's *Sony* decision remain good law after cases like *Eldred* and *Grokster*—is one by which the public agreed to give authors a limited monopoly in order to enhance the public domain. The process by which a few content distributors, like the RIAA's members, aggregate content and then enforce those aggregated rights *en masse* against the public arguably subverts that bargain.

As to a natural law theory, a natural law perspective would recognize some moral right in an author concerning attribution and the integrity of the work, and a Lockean natural law perspective would grant an author some inherent right to profit from the fruit of her labor.²²³ However, natural law theory would also likely resist efforts by a small number of distributors to control the public's access to music, art, and literature.²²⁴

222. U.S. CONST., art. I, § 8, cl. 8 (“The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to *Authors* and *Inventors* the exclusive Right to their respective Writings and Discoveries”) (emphasis added).

223. *See, e.g.*, Epstein, *supra* note 210 (applying various iterations of Lockean labor theory to intellectual property rules); Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L.J. 287 (1988); Adam Mossoff, *Rethinking the Development of Patents: An Intellectual History*, 52 HASTINGS L.J. 1550-1800 (2001) (discussing the Lockean basis for early adjudication of patent claims).

224. Adam Mossoff's discussion of the history of early patent law suggests that courts and legislators drew on Lockean and proto-Lockean labor theory to justify the reward of a limited monopoly to an individual inventor for disclosing his invention. Mossoff, *supra* note 223. At the same time, there was growing suspicion of state-sanctioned monopolies that achieved their status through mere royal fiat. *See id.* at 1276. There are parallels between this balance between rewarding creators and avoiding monopolies and the concern that large content distributors are upsetting the intellectual property bargain by aggregating claims and obtaining rents for mere distribution rather than creation. *See* Epstein, *supra* note 210, at 28 (concluding that copyright is properly viewed as a form of property under Lockean labor theory, but that “it seems clear that the peculiar nature of the rights in question justifies rules that allow for limited duration and fair use, and perhaps some other restrictions”).

Finally, although the RIAA end-user lawsuits are within the rules of pleading, their legal legitimacy is uncertain to the extent they rely on the rules of joinder and result in non-negotiable form settlements.²²⁵ There is little doubt that the rules of joinder themselves pass the test of legal legitimacy, but, to the extent courts permit such claims to proceed without carefully analyzing the joinder problem, the legitimacy of the outcome is questionable. In fact, such cases arguably represent a form of regulatory capture over the judicial branch, rather than a fair day in court for all concerned parties.

These sorts of legitimacy concerns will likely apply to reverse private attorney general intellectual property litigation concerning other technologies—especially if, as I have suggested, reverse private attorney general intellectual property litigation becomes a more widespread enforcement mechanism. The inevitable backlash against such tactics may result in a different kind of “digital divide”: a divide between content distributors and content consumers, fueled by and fueling technological evolution, without an end in sight.

3. *Reverse Private Attorney General Litigation and the Efficiency Rationale*

The lack of a “David slaying Goliath” element to reverse private attorney general intellectual property litigation is emotionally unsatisfying, as is the lack of social *gravitas* inherent in typical private attorney general cases. Although we would prefer our private attorney general to resemble Atticus Finch,²²⁶ we might tolerate a private attorney general who looks more like Gordon Gecko²²⁷ if the litigation were an efficient use of judicial resources. On this count, however, reverse private attorney general intellectual property litigation fails. The RIAA litigation strategy, in particular, fails to account for the symbiosis between file sharing and file coding norms as they relate to P2P technology, and mass litigation against individual end users of intellectual property in general ultimately subverts positive effects of intellectual property litigation.

225. *See supra* Part III.

226. Atticus Finch is the central character in *To Kill a Mockingbird*, Harper Lee’s classic novel about the ideals of a small-town lawyer in the face of racial injustice.

227. Gordon Gecko, played by Michael Douglas, is a central character in the 1987 film *Wall Street*. Gecko is symbolic of corporate power and greed—the movie’s most famous line is Gecko’s proclamation at a shareholders’ meeting that “greed is good.”

Intellectual property litigation entails significant social costs, but enforcement also brings important benefits.²²⁸ The incentive system established by an intellectual property regime depends on a strong enforcement mechanism. If defending an intellectual property claim is excessively costly or difficult, the right will be far less attractive, the pace of innovation may slow, and innovators may choose secrecy rather than disclosure. Moreover, a robust enforcement mechanism ensures that a free-riding infringer's rents are transferred back to the rights-holder through a damages claim.²²⁹

In addition to these enforcement benefits, intellectual property litigation can entail social benefits through the adjudication of close cases. We can call this a "boundary-mapping" function. In copyright cases, for example, judicial application of the merger doctrine, fair use, and other defenses can inform the public about what constitutes the public domain.²³⁰ Similarly, in patent cases, judicial application of the novelty and obviousness standards, as well as judicial interpretation of claim language, identify the boundaries between private and common property, and help define the scope of the prior art. And, in trademark cases, courts determine whether a claimed mark or trade dress belongs to the public because it is generic or merely descriptive, or whether the use of a mark is permissible descriptive fair use.²³¹

Litigation's boundary-mapping function is particularly important in copyright cases because, in contrast to patents and trademarks which face significant administrative review of the adequacy of a claim of rights, there is minimal *ex ante* administrative review of copyright applications,

228. "Ordinary" intellectual property litigation is costly. Recent studies suggest that each side in a typical intellectual property case incurs average fees of \$1 million for patent cases, \$699,000 for trade secret disputes, \$502,000 for trademark disputes, and \$400,000 for copyright cases. See Kevin M. Lemley, *I'll Make Him an Offer He Can't Refuse: A Proposed Model for Alternative Dispute Resolution in Intellectual Property Cases*, 37 AKRON L. REV. 287, 311-12 (2004) (citing 2001 American Intellectual Property Law Association survey).

229. For a discussion and critique of the "free rider" rationale in intellectual property law see Lemley, *supra* note 210.

230. See, e.g., Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 YALE L.J. 283, 362-65 (1996) (discussing the important limiting functions of copyright); L. Ray Patterson, *Free Speech, Copyright, and Fair Use*, 40 VAND. L. REV. 1, 26-40 (1987) (discussing history of fair use doctrine).

231. See J. THOMAS MCCARTHY, TRADEMARKS AND UNFAIR COMPETITION § 3:01 (4th ed. 2005) (nature and function of trademarks generally); *id.* § 11:01 (spectrum of trademark distinctiveness); *id.* § 11:45 (fair use).

and there is no useful way to search existing copyright claims.²³² In the United States, copyright registration is not required to obtain the right, but registration is necessary to maintain an infringement action and carries other procedural benefits.²³³ The registration process typically is perfunctory: the applicant completes a pre-printed form, includes deposit copies, and pays a minimal fee.²³⁴ Applications are not published prior to approval, and interested parties have no opportunity to oppose an application. The administrative review is limited to obvious defects in the application or a failure to pay the required fee. In short, given the sheer scope of copyright—covering any original expression fixed in a tangible medium—and the subtlety of doctrines such as the idea/expression dichotomy, merger, and fair use, copyright policy in the U.S. purposely leaves the boundary-defining function almost entirely to private litigation.

The RIAA litigation has avoided some of the costs inherent in ordinary intellectual property litigation because few defendants have challenged the RIAA's claims on substantive grounds. Nevertheless, the litigation imposes significant burdens on the judicial system.²³⁵ Obversely, the RIAA litigation has generated few of the social benefits of ordinary intellectual property litigation. As the P2P network connectivity data demonstrate, the RIAA litigation has failed to deter file sharing. Instead, it has fueled a technological arms race that has allowed P2P file sharing to flourish.

One could argue that this technological arms race is itself a benefit of the litigation. Innovation has social value, and the development of less

232. In the United States, patent applications are reviewed by examiners trained in the claimed subject matter. An application can founder on any of the statutory requirements for patentability. *See* 35 U.S.C. § 131 (2000); 37 C.F.R. § 1.104(a) (2005). Likewise, U.S. trademark applications are examined by special administrative officers to ensure that the proposed mark meets all the statutory requirements under the Lanham Act. *See* 35 U.S.C. § 2 (establishing U.S. Patent and Trademark Office); *see generally* USPTO, TRADEMARK MANUAL OF EXAMINING PROCEDURE (TMEP) (4th ed. 2005), available at <http://www.uspto.gov/web/offices/tac/tmep>. In addition, for both patents and trademarks, the administrative systems include searchable databases of existing proprietary claims. *See* USPTO, Trademark Electronic Search System (TESS), <http://www.uspto.gov/index.html> (follow "Search" hyperlink below "Trademarks") (last visited Nov. 7, 2005); USPTO, Patents – Patent Full-Text and Full-Page Image Databases, <http://www.uspto.gov/patft/index.html> (last visited Nov. 7, 2005).

233. 17 U.S.C. § 411 (2000); *see also* U.S. Copyright Office, Copyright Basics (Circular 1), <http://www.copyright.gov/circs/circ1.html#rp> (last visited Nov. 7, 2005).

234. *Id.*

235. *See* General Order, *In re* Cases Filed by Recording Cos. (W.D. Tex. Nov. 17, 2004) (noting administrative costs of aggregated actions), available at http://www.txwd.uscourts.gov/rules/stdord/Austin/recording_111704.pdf.

centralized P2P technology may have spillover benefits not yet fully understood. As discussed in Section III.B, however, economic innovation theory predicts that efficient levels of technological innovation will occur when there is appropriate market demand for the innovation. The type of innovation fueled by the P2P litigation, then, does not generate as much social value as ordinary innovation.

Moreover, because most individual defendants lack the resources to contest the RIAA's claims, the benefits of boundary mapping in intellectual property litigation have not materialized. For example, with respect to any given work involved in a RIAA case, factual investigation and discovery might reveal defenses concerning the work's originality or ownership.²³⁶ But because the RIAA pursues form settlements that cost individual defendants far less than the anticipated costs of such investigation and discovery, the litigation almost never performs this important function.

In addition, a plausible fair use defense could be constructed against a music file sharing claim. Such a defense was rejected by the *Napster* court, which found that "ripping" compact discs is not a "transformative" use and that P2P music file sharing harms the market for the copyrighted work by reducing compact disc sales and depriving the copyright owner of access to the market for on-line digital distribution.²³⁷ The *Napster* court was particularly persuaded by testimony from record industry executives and experts about declining compact disc sales.²³⁸

The *Napster* court's findings about file sharing's effect on the market are belied by more recent and more thorough data. A study conducted by faculty at the Harvard Business School and the University of North Carolina, for example, demonstrated that most file sharers would not have purchased the music they downloaded for free.²³⁹ In addition, the advent of pay-per-song download services such as iTunes, the new Napster, Musicmatch, and others, demonstrates that a profitable online digital market exists or RIAA's members alongside "free" P2P networks. As discussed in

236. See, e.g., *Tuff 'n Rumble Mgmt., Inc. v. Profile Records, Inc.*, No. 95 Civ. 0246 (SHS), 1997 WL 158364, at *2 (S.D.N.Y. 1997) (involving copying of music tracks, plaintiff was unable to establish chain of title to the copyright in the songs at issue).

237. *A&M Records v. Napster, Inc.*, 239 F.3d 1004, 1014-20 (9th Cir. 2001).

238. *Id.* at 1015-17.

239. Felix Oberholzer & Koleman Strupf, *The Effect of File Sharing on Record Sales, An Empirical Analysis* (Mar. 2004), http://www.unc.edu/~cigar/papers/FileSharing_March2004.pdf. But see OECD Report, *Digital Broadband Content: Music*, DSTI/ICCP/IE(2004)12/FINAL (Jun. 8, 2005), available at <http://www.oecd.org/dataoecd/13/2/34995041.pdf> (summarizing recent surveys and empirical studies of effects of file sharing on CD sales and noting inconclusive and mixed results).

Section III.B above, P2P activity has steadily increased even as the pay-per-download services have become more popular. P2P drives interest in and increases demand for individual song downloads. The presence of some free riders arguably expands the “legitimate” market rather than destroying it.²⁴⁰ However, the nature of P2P end-user litigation precludes, as a practical matter, any possibility of litigating such a defense.

VI. ALTERNATIVES TO REVERSE PRIVATE ATTORNEY GENERAL INTELLECTUAL PROPERTY LITIGATION

The preceding Part suggests that reverse private attorney general litigation is becoming a prominent feature of the intellectual property landscape. It also suggests that such litigation is inefficient, delegitimizes intellectually property law, and generally undermines the rule of law. The question then arises whether the system should be changed. This Part evaluates the prospect of stasis against a number of proposed alternatives to the current system.

A. Allow the Market to Correct any Imbalances

Perhaps any cure would be worse than the disease, in which case the best course is to do nothing. Judges can continue to evaluate reverse private attorney general intellectual property actions under the rules of joinder, with a deeper concern for the efficiency and legitimacy problems created by such actions. If courts limit when intellectual property claims can be aggregated and manage discovery so that individual litigants are not forced into early non-negotiable settlements, the attractiveness of reverse

240. The relationships between P2P file sharers, the RIAA end-user litigation, and the “legitimate” download are complex. The RIAA litigation may also contribute to the legitimate market by making the decentralized P2P network aversion strategy too costly for many users. Such users, who might otherwise have used a P2P network, prefer to pay \$1 per song rather than to risk being sued in an end-user case. (Thanks to Prof. Erik Lillquist for this insight.) The costs of using a decentralized network as an aversion strategy, however, include not only the threat of a RIAA case, but also the inconvenience of installing a P2P application, the costs of vigilance against the spyware, viruses, and other security problems that often accompany such applications, and the costs of filtering access to unwanted files, such as pornography. Moreover, another factor to consider is the volume of music a given end user consumes. A casual music fan, who might download ten or twenty songs in a given month, might be more willing to spend \$10 or \$20 instead of investing in an aversion strategy. Some of these variables are discussed in the Oberholzer and Koleman study, but there do not appear to be any empirical studies accounting for all of them. In any event, the premise that P2P file sharing has a significant negative effect on legitimate markets is dubious.

private attorney general intellectual property litigation should diminish. And, if legislatures avoid sweeping changes to intellectual property laws that either favor content distributors or impose levies on new technology or its users, the market will work to correct any imbalance in the intellectual property incentive scheme caused by activity such as P2P file sharing.

Indeed, such market correction is happening in music sampling. The music sampling market is beginning to mature as licensing terms become standardized and royalty-free sample content fills a market niche.²⁴¹ As for music distribution, prior to Napster, there was no market for individual song downloads. Now the market is more robust: Apple's non-iPod music products, which includes iTunes, grew from sales of 47 million in the last quarter of 2003 to 177 million in the last quarter of 2004.²⁴² In July 2005, Apple celebrated its five hundred millionth download.²⁴³ Given the success of services such as iTunes, it is easy to forget that they represent only the first baby steps of an industry recently forced into the digital age by the destructive technology of P2P. Just as P2P technology will continue to adapt in response to litigation threats, the commercial market for digital content will continue to adapt in response to the new technology. The symbiosis between law, code, and norms reflected in the P2P wars is not only present among the content distributors, file sharers, and file sharing application coders. It also is present in the commercial content market. Content providers threaten file sharers, file sharing application coders adapt to the threat, the market adapts to the file sharing culture, and the rhythms of life and death in the digital jungle go on.

The serious problem with the market correction solution is that it undermines respect for the rule of law. File sharing is not an isolated phenomenon—as the empirical data in Part III suggest, over eight million people connect to P2P networks every day, and the numbers are steadily growing. An intellectual property system that leaves enforcement against this volume of infringing activity to reverse private attorney general litigation will be ineffective and will be perceived by much of the public as un-

241. *See supra* Part III.

242. Apple Computer, Inc., Securities and Exchange Commission Form 10-Q, Feb. 1, 2005, at 25, available at http://www.sec.gov/Archives/edgar/data/320193/000110465905003520/a05-2329_110q.htm (providing financial data for Apple Computer, Inc. and its related products).

243. *Apple Sells Half a Billion Songs Through iTunes*, MAC NEWS NETWORK, July 17, 2005, <http://www.macnn.com/articles/05/07/17/half.a.billion.songs>.

fair and illegitimate.²⁴⁴ Moreover, as P2P and other distributed computing technologies grow in importance, the war between file sharers and content industries in fields other than music will intensify.²⁴⁵ This will result in a new digital divide between content distributors and a rebellious public.

B. Increase Criminal Enforcement

One solution that has received relatively little attention is the possibility of increased criminal enforcement. United States copyright law contains criminal as well as civil penalties,²⁴⁶ but the criminal sanctions are rarely and selectively enforced.²⁴⁷ This reflects the relative unimportance of copyright in the federal government's allocation of law enforcement resources. And this, in turn, may represent the relative unimportance of copyright as a social institution.

Some commentators, including Glynn Lunney, Anthony Reese, and Mark Lemley, have suggested that increased criminal enforcement, along with higher civil penalties, could effectively deter infringement.²⁴⁸ Nevertheless, Reese and Lemley note that selective enforcement, overdeterrence, mistaken prosecution, and a lack of political will among prosecutors present serious problems for enforcement based on high criminal or civil penalties.²⁴⁹ Moreover, as discussed in Part III above, the belief that selective enforcement will change norms of compliance is belied by the empirical evidence, which indicates that direct enforcement efforts have resulted in aversion strategies. Increased criminal enforcement, then, presents the same efficiency and legitimacy problems as the RIAA end-user litigation, with the added concern that some individuals will suffer severe criminal punishment that is disproportionate to the crime.

244. See *supra* Part IV for a discussion of the legitimacy issues raised by reverse private attorney general intellectual property litigation.

245. See *supra* Part III for a discussion of the cultural, technological, and legal factors that are likely to result in increased reverse private attorney general intellectual property litigation.

246. 17 U.S.C. § 506 (2000).

247. For a discussion of criminal sanctions and their use, see *supra* note 202.

248. Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1398 (2004) ("The reason the already substantial civil and criminal penalties [under the Copyright Act] have only begun to have a deterrent effect is that for the most part they have not yet seriously been pursued against alleged direct infringers on p2p networks."); Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 825, 850 (2001).

249. *Id.* at 1401-05.

Finally, the relative lack of criminal enforcement is particularly problematic if we view file sharing and coding norms as forms of “sticky” norms.²⁵⁰ As Dan Kahan has observed, when the law condemns certain conduct more strongly than a typical decisionmaker under that law, the decisionmaker will balk at enforcement.²⁵¹ If there is public ambivalence about a norm the law is seeing to change, efforts to increase the penalties for non-compliance will have the paradoxical effect of making public sentiment about that norm more entrenched.²⁵² Under such circumstances, it is unlikely that the effort at regulation will produce significant change.²⁵³ Increased criminal enforcement, then, does not seem to present a meaningful solution to the intellectual property enforcement problem.

C. Eliminate Copyright

In his article *The Creative Destruction of Copyright*, Raymond Ku suggests that copyright can safely be discarded in the age of desktop media production and digital distribution.²⁵⁴ Ku argues that, with respect to music, traditional content distributors such as the major record labels add no value to the creative process.²⁵⁵ Copyright, then, does not provide incentives for deep creativity, but rather, it provides the foundation for a business model by which music has become increasingly homogenized.²⁵⁶ Freeing music from copyright, Ku argues, would permit a more organic creative process, in which local music created by independent artists could flourish.²⁵⁷

Ku’s thesis is appealing because, to a large extent, it accurately describes certain problematic aspects of today’s music business. The large record labels do indeed maintain excessive influence and control over what music gets heard. Ku may not, however, have adequately accounted for the increased importance of the production process as digital technology has become mainstream. It is true that, with digital technology, a straight-ahead rock band like the White Stripes can record and produce a song without any outside assistance. It is equally true, however, that digi-

250. See Dan M. Kahan, *Gentle Nudges vs. Hard Shoves: Solving the Sticky Norms Problem*, 67 U. CHI. L. REV. 607 (2000).

251. *Id.* at 608.

252. *Id.*

253. *Id.*

254. Ku, *supra* note 195.

255. *Id.*

256. *Id.*

257. *Id.*

tal sampling and synthesis have opened new creative vistas for skilled producers working in conjunction with musicians.²⁵⁸

Moreover, as digital music distribution has gained prominence, it has become ever-more difficult for consumers to find the music they want. More choices mean higher search costs.²⁵⁹ A recent Google search for "ska music," for example, yielded over seven million hits.²⁶⁰ The high placement of some of those hits undoubtedly resulted from efforts to game the Google algorithm through link farms, blog spam, and the like.²⁶¹ This information overload suggests that there may yet be some role for content aggregators, like traditional record labels, in reducing search costs through branding, advertising, and promotion of content. As long as such a role exists, it is likely that copyright law will continue to provide some useful incentives.

In addition, the United States and all other industrialized nations are subject to treaty obligations that require minimum standards of copyright protection.²⁶² Any political move to abolish copyright, therefore, would require a global consensus that is unlikely to materialize.

A more realistic proposal might be to revise the scope of copyright protection to limit rent seeking by distributors. One such possibility is to extend the "first sale" doctrine to digital works, and then to append to it a fair use right of redistribution.²⁶³ The first sale doctrine permits the owner of a lawfully acquired copy of a work to "dispose of the possession" of that copy however she desires, including by selling or gifting it to another person.²⁶⁴ The first sale doctrine currently does not apply to P2P file sharing because at least one additional copy of the work is made by the downloader (and often, if the work originally resided on a CD, yet another copy is made by the uploader), and the uploader does not "dispose of pos-

258. *Id.*

259. See Posner, *supra* note 107 for a discussion of search costs.

260. www.google.com (search "ska") (Dec. 19, 2005) (printed results on file with author).

261. For a discussion of these practices, see Blog Spam, WIKIPEDIA: THE FREE ENCYCLOPEDIA, http://en.wikipedia.org/wiki/Blog_spam (last visited Nov. 5, 2005).

262. These include the Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, revised in Stockholm, July 14, 1967, 21 UST 1583, 828 U.N.T.S. 305; the Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, revised in Paris, July 24, 1971, 25 U.S.T. 1341, 828 U.N.T.S. 221; and the Trade Related Aspects of Intellectual Property (TRIPS) Agreement, Apr. 15, 1994, 33 I.L.M. 81, available at http://www.wto.org/english/tratop_e/trips_e/t_agm0_e.htm.

263. See 17 U.S.C. § 109 (2001) (first sale doctrine).

264. *Id.*

session” of her copy, but instead retains the original file.²⁶⁵ As discussed in Section III.B, although this arguably is a transformative “fair use” by the purchaser of the work, a traditional fair use argument is difficult at best. Therefore, the Copyright Act’s fair use provisions would need to be extended to noncommercial distribution of digital copies for the “digital first sale” doctrine to work in connection with P2P technology.²⁶⁶

If the first sale doctrine were extended in this manner, the content provider could obtain compensation for its initial distribution of the work, and the original purchaser would be free to make digital copies available to others. Although we might expect such a regime to create a free rider problem, P2P networks have always required *someone* to purchase the music initially, and they have thrived despite the presence of free riders. This is because, as discussed in Part III above, the norms of file sharing ensure that some downloaders will also upload. A first sale/fair use limitation, then, might prove workable, at least with respect to entertainment products like music.

D. Alternative Dispute Resolution Procedures

The solution Lemley and Reese favor is an alternative dispute resolution mechanism for claims by content providers against individuals.²⁶⁷ They suggest as a model the Uniform Dispute Resolution Procedure (UDRP) for internet domain name disputes.²⁶⁸ In their model, the Copyright Act would include an option by which a copyright owner could choose to enforce his or her rights through an abbreviated administrative proceeding.²⁶⁹ The administrative proceeding would be available only against a person who has uploaded at least fifty copyrighted works during

265. See Berkman Center for Internet and Society at Harvard Law School, Digital Media Project, iTunes: How Copyright, Contract and Technology Shape the Business of Digital Media—A Case Study (Jun. 15, 2004), at 56, available at <http://cyber.law.harvard.edu/media/uploads/81/iTunesWhitePaper0604.pdf> [hereinafter iTunes Case Study].

266. For discussion of a possible “digital first sale” doctrine, see *id.* at 55-58; Brian Mencher, *Online Music Distribution: Proposal for a Digital First Sale Doctrine*, 21 ENT. & SPORTS LAW. 16 (2004); R. Anthony Reese, *The First Sale Doctrine in the Era of Digital Networks*, 44 B.C. L. REV. 577 (2003); Ryan Roemer, *Trusted Computing, Digital Rights Management, and the Fight for Copy Control on Your Computer*, 2003 UCLA J.L. & TECH. 8 (2003) (discussing digital first sale provisions in proposed BALANCE Act); Eurie Hays Smith IV, *Digital First Sale: Friend or Foe?*, 22 CARDOZO ARTS & ENT. L.J. 853 (2005).

267. See Lemley & Reese, *supra* note 248, at 1351-52.

268. *Id.* at 1411.

269. *Id.* at 1413.

a thirty-day period over a P2P network.²⁷⁰ Copyright owners would be permitted to aggregate their claims against individual uploaders in a single proceeding.²⁷¹ Uploaders who wish to assert defenses would be required to file a declaratory judgment action in federal court after the arbitration is concluded.²⁷² A defendant found liable as an infringer would be subject to monetary penalties of \$250 per song uploaded, and would be designated an “infringer” for purposes of online service provider liability under the DMCA.²⁷³ Finally, an uploader found to be an infringer would be liable for the plaintiff’s costs and attorneys’ fees.²⁷⁴

In short, Lemley and Reese would make the reverse private attorney general intellectual property litigation model easier and cheaper for the content provider. This model might deter some infringement if the \$250 per song civil penalty and “infringer” label outweigh the benefits of aversion. Serious legitimacy questions, however, would remain. Does the right of distributors like the record and film companies to control the content they aggregate rise to such a fundamental level that the uploaders should face the prospects of bankruptcy and exclusion from the legitimate online community? The “infringer” designation seems particularly Draconian, as it would deprive the wearer of the “infringer’s badge” from access to any online service provider that desires protection under the safe harbors afforded by the DMCA.²⁷⁵ This would create an online class system, in which “infringers” are relegated to provider ghettos willing to forgo the DMCA harbors. The “cure” of an administrative dispute resolution mechanism for file sharing, then, seems worse than the disease.

An administrative dispute resolution model might prove more palatable, however, if it were combined with a regulatory model of intellectual property rights. As discussed in the next two Sections, levies and rate regulation hold some promise, although neither is a perfect solution in itself. If there were some form of levy and rate regulation system for intellectual property rights, content providers would require some means of collecting payments. A collection system could involve a regulatory proceeding in which the content owner can collect the regulatory rate from a consumer who has refused to pay. The proceeding might also include the remedy of “turning off” the debtor’s online access temporarily until a

270. *Id.*

271. *Id.*

272. *Id.* at 1414-17.

273. *Id.* at 1417-20.

274. *Id.* at 1422-23.

275. *See* 17 U.S.C.A. § 512(i)(1)(A) (2000).

payment plan is established. The regulatory rate, however, would be substantially less than the statutory award proposed by Reese and Lemley, and would be designed solely as compensation rather than as a deterrent.

E. Levies

Neil Netanel and Terry Fisher have proposed a levy model, by which digital works would be subject to a compulsory license, and the owner of the copyright would be compensated through the proceeds of a tax on software, services, or hardware used to distribute the content.²⁷⁶ There is precedent for such a levy system, Lemley and Reese have noted, in Canadian and European models, as well as in the Audio Home Recording Act of 1992.²⁷⁷

Potential difficulties with a levy system include determining which technology to tax, how much tax to assess, and how to collect the tax.²⁷⁸ Reese and Lemley suggest that a broad-based technology tax is problematic because it would force many consumers to subsidize the downloading activities of a smaller number of consumers, and might create a moral hazard problem by incentivizing downloaders to gorge on files.²⁷⁹ They suggest that a levy on bandwidth usage might be more efficient, as bandwidth use bears some relationship to file downloading.²⁸⁰

A bandwidth levy, however, would constitute only a short-term solution to the music P2P problem. It would not address the larger problems that certainly will arise from the more widespread use of broadband services and the convergence of digital technologies. Relatively few internet users today share music and video files. It is relatively easy today to trace high bandwidth usage to activities such as file sharing. This will no longer be the case when movies, music, television, gaming, and telephony services enter the home through the same pipe. Even today, high bandwidth usage might represent infringing P2P file sharing activity, or it may represent an active, law-abiding gamer who plays Halo 2 or Everquest every night.²⁸¹ Moreover, a bandwidth levy would not address the possibility of

276. WILLIAM FISHER, PROMISES TO KEEP: TECHNOLOGY LAW AND THE FUTURE OF ENTERTAINMENT (2004); Neil W. Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARV. J.L. & TECH. 1, 2 (2003).

277. See Lemley, *supra* note 248, at 1407-08.

278. See *id.* at 1408-10.

279. *Id.*

280. *Id.*

281. Halo 2 is a popular video game that can be played online against live opponents. See Xbox, Halo 2, <http://www.xbox.com/en-us/halo2/default.htm> (last visited Oct. 19, 2005). Everquest is a popular online multiplayer game. See Everquestlive.com,

reverse private attorney general litigation concerning infringing patented technology traded over P2P trading networks. In short, in the near future, bandwidth usage is unlikely to constitute a reasonable proxy for infringement.

F. Technological Measures

An alternative to a levy system is the use of technological measures to restrict content use. The technology to restrict the manner in which digital files can be copied and used has proved quite successful under the iTunes business model, which allows users to download individual songs for \$0.99 each.²⁸² This model is facilitated by Apple's Fairplay digital rights management system, which limits the functionality of music files purchased over iTunes to five computers and limits the number of CD-copies of a playlist a customer can burn.²⁸³ The iTunes Digital Rights Management (DRM) system is supported by provisions in the iTunes clickwrap user agreement.²⁸⁴

The success of the iTunes model suggests that a combination of DRM and contractual limitations can facilitate the exchange of digital files at reasonable costs to consumers. Further, the use of a strong but flexible DRM system eliminates the perceived need for reverse private attorney general actions by content providers against users of the encrypted content.

The iTunes model, however, is not a flawless solution. Nearly any viable encryption scheme can be broken, and any DRM method involving music or video can be circumvented by exploiting the "analog hole."²⁸⁵ In fact, several Fairplay decryption programs have been developed, including "Playfair," which was developed as an open source project; "Hymn," a successor to "Playfair"; and DeDRMS, a tool created by Jon Johansen, the

<http://eqlive.station.sony.com> (last visited Oct. 19, 2005). For a discussion of some legal implications of online gaming, see Jack M. Balkin, *Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds*, 90 VA. L. REV. 2043 (2004); F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1 (2004); Tal Z. Zarksy, *Information Privacy in Virtual Worlds: Identifying Unique Concerns Beyond the Online and Offline Worlds*, 49 N.Y.L. SCH. L. REV. 231 (2004).

282. For a description of the iTunes business model, see iTunes Case Study, *supra* note 265, at 8-10.

283. *See id.* at 11-12.

284. *See id.* at 14-15.

285. *See id.* at 41-42. The "analog hole" refers to the fact that a digital media file can be copied using analog devices—for example, a digital sound recording can be copied using a tape recorder positioned near the computer speakers.

infamous teenage programmer who cracked the CSS encryption algorithm used in connection with DVDs.²⁸⁶

The ability to crack DRM, however, does not necessarily create enforcement problems of the same magnitude as P2P technology has presented. As discussed in Part III above, consumers who lack strong intellectual property norms will choose aversion strategies when the costs of aversion are lower than the costs of compliance. As the success of the iTunes model demonstrates, for a significant number of consumers, the \$0.99 per song charge under the iTunes service is lower than the costs of aversion using P2P technology.²⁸⁷ The “cracking” problem, then, can be addressed, at least to some extent, through the market’s response.

A more significant problem for the DRM/contract model is the degree of control it vests in the content providers. Using DRM and contractual provisions, content providers can easily exceed the degree of control afforded under basic copyright law. This can create barriers to entry in product markets ancillary to copyright content market.²⁸⁸ It also allows content providers to avoid copyright doctrines that were designed to limit the scope of the copyright monopoly, including the fair use and first sale doctrines.²⁸⁹ DRM, then, is not attractive as a broad solution to the enforcement problem.

286. *See id.* at 42; *see also* Fairplay, WIKIPEDIA: THE FREE ENCYCLOPEDIA, <http://en.wikipedia.org/wiki/FairPlay> (last visited Oct. 30, 2005). “DeCSS,” the program created by Jon Johansen to crack the CSS algorithm used to encode DVDs, resulted in a criminal prosecution against Johansen in Norway. *Norway v. Johansen*, No. 02-507 M/94 (Oslo First Instance Ct., 2003), *available at* http://www.eff.org/IP/Video/Johansen_DeCSS_case/20030109_johansen_decision.html; *see also* Electronic Frontier Foundation, *Norway v. Johansen*, http://www.eff.org/IP/Video/Johansen_DeCSS_case (last visited Oct. 19, 2005) (providing the decision for *Norway v. Johansen* and other related documents).

287. The costs of aversion using P2P technology include the prospect of infringement liability, the pop-up advertising, spyware and spam that result from installing many popular P2P applications, the threat of viruses and other malicious files transmitted on the P2P network, and the search costs involved in eliminating “spoofed” or corrupted files from the search results.

288. For example, under Apple’s DRM scheme, iTunes files cannot be played on any portable devices except for Apple’s iPod. *See iTunes Case Study*, *supra* note 265, at 45. Given the popularity of iTunes, this creates a significant entry barrier for manufacturers of other portable MP3 players. *Id.* at 45-48.

289. *See id.* at 51-54 (first sale doctrine); *id.* at 67-74 (fair use).

G. A Regulatory Model of Intellectual Property Rights

Another possibility is to treat intellectual property rights like a public utility.²⁹⁰ Under this scenario, content owners would police their rights primarily through technological protection measures, but the amount of royalties that could be charged and the restrictions that could be placed on the use and distribution of the content would be limited by regulation. In many respects, this is the most attractive of the various solutions. It would eliminate reverse private attorney general intellectual property litigation, as consumers who fail to pay the required content fees would be subject to a strictly compensatory regulatory collection proceeding. And, it would restrict the content industries' ability to engage in rent seeking by making access and copying restrictions overly burdensome or setting royalties too high.

This mechanism also, however, is problematic. Even if the political will for such sweeping changes existed, the question of the content industry's ability to capture the resulting regulatory body would remain. Further, the costs of regulation would shift to some extent from the content industries to the government, an externality that ultimately would be funded by the public in tax dollars. Finally, the cost of the online content "utility" might prove prohibitive to many people, resulting in inequities similar to those that exist today in housing markets.

In short, there is no single solution to the growing problem evident in the P2P wars. What does seem clear is that the reverse private attorney general litigation model fails on theoretical and empirical grounds. The courts handling such cases should discourage the use of the reverse private attorney general model by disaggregating cases and carefully managing scheduling and discovery. Congress should not incentivize reverse private attorney general litigation in the intellectual property context by increasing civil penalties or creating alternative dispute resolution mechanisms for infringement claims against individuals. Instead, policymakers should focus on a combination of market forces, modified digital first sale and fair use doctrines, targeted levies, and limited public utility type regulation to better reflect the role intellectual property rights play in our economy and culture.

290. See, e.g., GartnerG2 & The Berkman Center for Internet & Society, *Five Scenarios for Digital Media in a Post-Napster World* 10-12 (Research Pub. No. 2003-07, Nov. 2003), <http://cyber.law.harvard.edu/home/uploads/286/2003-07.pdf>. For a discussion of the regulatory functions of the existing Copyright law, see Joseph P. Liu, *Regulatory Copyright*, 83 N.C. L. REV. 87 (2004); Timothy Wu, *Copyright's Communications Policy*, 103 MICH. L. REV. 278 (2004).

VII. CONCLUSION

Reverse private attorney general litigation likely will gain increasing prominence as companies seek to enforce their rights against a public that holds norms concerning intellectual property rights somewhat loosely. In the intellectual property context, however, such litigation does not seem to satisfy any of the traditional justifications for private attorney general actions. There is no need to remedy any imbalance between content industries and consumers. Moreover, using the P2P end-user litigation as a test case, it appears that reverse private attorney general litigation by content industries against end users will not prove an efficient means of changing intellectual property norms. In fact, the empirical data suggest that such litigation will succeed only in driving technological changes that allow consumers to practice aversion strategies. This, in turn, ultimately will weaken intellectual property norms by undermining the social, moral and legal legitimacy of intellectual property law. Courts therefore should apply the rules of joinder strictly in intellectual property cases against consumers and manage discovery and settlement negotiations so as to minimize, as much as possible, the negative aspects of such litigation.

Congress also should act to limit recourse to reverse private attorney general intellectual property litigation and to establish a better balance between content owners and consumers. Congress should limit the remedies available against individual consumers sued in aggregated actions. In addition, public policy concerning intellectual property rights should reflect a mix of regulatory measures, including expanded digital first sale and fair use doctrines, targeted levies, and rate regulation. In this way, we can avoid a new “digital divide”: a chasm between content providers and consumers filled with the detritus of mass reverse private attorney general litigation.

VIII. APPENDIX

The following is a table of filed cases reported by press releases available on the RIAA website.²⁹¹

Date	Venue Filed or Target Defendants Provided in Press Release	# of Does
9/29/05	Students at: Boston University; Carnegie Mellon University; Columbia University; Drexel University; Georgia Institute of Technology; Harvard University; Massachusetts Institute of Technology; New York University; Princeton University; Rensselaer Polytechnic Institute; Rochester Institute of Technology; University of California, Berkeley; University of California, Los Angeles; University of California, San Diego; University of Massachusetts Amherst; University of Pennsylvania; and University of Pittsburgh	757
8/31/05	California, Colorado, District of Columbia, Georgia, Missouri, New York, Pennsylvania, and Virginia	754
7/28/05	California, Colorado, Georgia, Missouri, New Jersey, New York, Pennsylvania, and Virginia	765
6/29/05	California, Colorado, District of Columbia, Georgia, Missouri, New Jersey, New York, Pennsylvania, and Virginia	784
4/27/05	California, Colorado, District of Columbia, Georgia, Missouri, New York, Pennsylvania, and Virginia	725
2/28/05	Students at: Hamilton College; Louisiana State University; Louisiana Tech. University; Loyola University Chicago; Ohio University; Old Dominion University; Rensselaer Polytechnic Institute; Texas A&M University; University of Southern California; Vanderbilt University; and Wright State University	753

291. <http://www.riaa.org> (last visited Dec. 14, 2005).

1/24/05	Students at: Bentley College, Bridgewater State College, College of Mount Saint Vincent, Georgetown University, Harvard University Medical School, Illinois State University, Indiana Institute of Technology, Indiana University, Michigan State University, Old Dominion University, Ohio State University, Ohio University, Pace University, SUNY at Morrisville, Texas A&M University, University of Kentucky, University of Massachusetts (Lowell), University of Michigan (Ann Arbor), University of South Florida, University of Southern Mississippi, Virginia Commonwealth University, Wabash College, and Wayne State University	717
12/16/04	Connecticut, District of Columbia, Georgia, Illinois, Missouri, New York, Pennsylvania, and Virginia	754
11/18/04	American University, Amherst College, Assumption College, Boston College, Boston University, Bridgewater State College, Emerson College, Iowa State University, James Madison University, Mount Holyoke College, Northeastern University, and the University of Massachusetts.	761
10/28/04	Unclear	750
9/30/04	Students at: Appalachian State University, Augsburg College, Claremont McKenna College, Colgate University, College on Mount Saint Vincent, Columbia University, Georgetown University, Hampton University, Illinois Institute of Technology, Kean College, Kent State, Louisiana State University, Michigan State University, Minnesota State University, New York University, Pacific Lutheran University, Portland State University, St. John's University, Stanford University, State University of West Georgia, SUNY College at Old Westbury, University of Connecticut, University of Louisville, University of the South, Virginia State University, and Western Illinois University	762

8/25/04	Oakland, California; Denver, Colorado; Atlanta, Georgia; Covington, Kentucky; St. Louis, Missouri; Trenton, New Jersey; New York, New York; Austin, Texas; and Madison, Wisconsin.	744
7/20/04	Atlanta, Georgia; St. Louis, Missouri; New York, New York; Plano, Texas; Alexandria, Virginia; and Seattle, Washington	506
6/22/04	Colorado, District of Columbia, Missouri, and New Jersey	482
5/24/04	Alabama, Arizona, California, Colorado, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, New Jersey, New York, Minnesota, Missouri, Pennsylvania, South Dakota, and Texas	493
4/28/04	Students at: Brown University; Emory University; Georgia Institute of Technology; Gonzaga University; Mansfield University; Michigan State University; Princeton University; Sacred Heart University; Texas A & M University; Trinity College (Connecticut); Trinity University (Texas); University of Kansas; University of Minnesota; and Virginia Polytechnic Institute	477
3/23/04	California, Colorado, Missouri, Texas, and Virginia	532
2/17/04	Orlando, Florida; Atlanta, Georgia; Trenton, New Jersey; and Philadelphia, Pennsylvania	531
1/21/04	Unclear	532