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NOTE

INTERACTIVE METHODS AND COLLABORATIVE PERFORMANCE: A NEW FUTURE FOR INDIRECT INFRINGEMENT

*Josh Rychlinski**

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An individual is liable for patent infringement if he infringes one or more patented claims either directly under 35 U.S.C. § 271(a) or indirectly under 35 U.S.C. § 271(b) or § 271(c). In 2012, the Federal Circuit clarified its interpretation of § 271(b) and § 271(c) in the case of Akamai v. Limelight. However, the court failed to address issues of “divided” direct infringement, where two or more entities combine and together complete each and every step of a method claim, but no single entity does all of the steps. This Note walks through the history of the judicial interpretation of §§ 271(b) and (c) up until Akamai v. Limelight, discusses the decision itself, and acknowledges the accompanying criticism. This Note proposes a reformed test for cases of divided infringement: a finding of divided direct infringement should be a prerequisite for §§ 271(b) and (c) liability, but divided direct infringement liability under § 271(a) should not be possible absent the alleged infringer meeting the single entity rule.

INTRODUCTION

Under 35 U.S.C. § 271(a), an individual is liable for direct infringement if he “makes, uses, or sells any patented invention, within the United States.”¹ Direct infringement requires a showing that at least one claim of the patent has been infringed.² Method claims, a specific type of patent claim, are generally a series of steps that performs some function or accom-

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1. 35 U.S.C. § 271(a) (2012).
2. See, e.g., Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc., 424 F.3d 1293, 1310 (Fed. Cir. 2005) (“To prove direct infringement, the plaintiff must establish by a prepon-

plishes some result.³ For direct infringement of method claims, each and every step of the claimed method must be performed by the actor in order to engender liability for that actor.⁴ In contrast, the doctrine of indirect infringement requires one of two acts to create liability for an actor – either by (1) inducing another to directly infringe, as codified in 35 U.S.C. § 271(b) or (2) contributing to another’s direct infringement in some way, such as supplying a component which constitutes a material part of the invention, as in 35 U.S.C. § 271(c).⁵ “Indirect infringement” is an umbrella term for the parallel doctrines of inducement and contributory infringement.

Until recently, courts have required direct infringement to occur under the direction or control of a single entity in order for an actor to be liable for indirect infringement.⁶ However, in August of 2012, the Federal Circuit delivered its decision in the case of *Akamai Technologies, Inc. v. Limelight Networks, Inc.*⁷ In a 5-4 *en banc* decision to overturn its own precedent of *BMC v. Paymentech*,⁸ the court eliminated this single entity rule for indirect infringement under 35 U.S.C. §§ 271 (b) and (c).⁹ Thus, liability for § 271(b) and § 271(c) is no longer premised on a single actor infringing a patent under § 271(a).¹⁰ Rather, liability under § 271(b) can now attach in the absence of § 271(a) direct infringement.¹¹

A key tension in indirect infringement cases—and cases of software indirect infringement, in particular—is how best to “[confine] the protection of the law exclusively to the invention or discovery covered by the patent grant.”¹² With that goal in mind, a crucial requirement of indirect infringement, under either § 271(b) or § 271(c), should be that the patentee is granted the full measure of protection afforded by the laws — no more, and no less.

derance of the evidence that one or more claims of the patent read on the accused device literally or under the doctrine of equivalents.”).

3. See *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972) (“A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.”).

4. E.g., *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1307 (Fed. Cir. 2012) (“In the context of a method claim, that means the accused infringer must perform all the steps of the claimed method, either personally or through another acting under his direction or control.”).

5. 35 U.S.C. § 271(b) (2012); 35 U.S.C. § 271(c) (2012).

6. *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 (Fed. Cir. 2007) (establishing the single entity rule).

7. *Akamai*, 692 F.3d.

8. *BMC Res.*, 498 F.3d 1373.

9. *Akamai*, 692 F.3d.

10. *Id.* at 1333 “[T]he majority does not require proof of direct infringement, but holds that the entity that advises or enables or recommends the divided infringement is fully responsible for the consequences of the direct infringement.”).

11. *Id.*

12. Note, *Section 271(b) of the Patent Act of 1952: Confusion Codified*, 66 YALE L.J. 132, 141 (1956).

This Note examines the changing doctrine of indirect infringement and its effect upon the courts, and in particular, patented software. Part I of this Note presents an overview of the judicial application of the indirect infringement doctrine before and after the 1952 Patent Act, both by the Federal Circuit and the Supreme Court. Part II illustrates the various policies behind interpretative changes to the doctrines through the lens of *amici curae* filings in *Akamai*. Part III analyzes the *en banc* decision of *Akamai*, its effect on precedent, and the separate path for the doctrine articulated in one dissent. Part IV proposes an alternative for the future of the doctrine in light of the decision of *Akamai*, while remaining cognizant that a future Supreme Court decision on this case is likely.¹³ In particular, this Note argues that loopholes presently existing in the doctrine allowing software firms to avoid infringement of method patents should be closed in a different manner than that advocated by the Federal Circuit in *Akamai*.¹⁴ In general, divided direct infringement should not give rise to liability in the absence of meeting the single entity rule under *BMC*, but a finding of divided direct infringement should be a prerequisite for a finding of liability under § 271(b) or § 271(c). This approach would protect the potential economic value of software patents, keep case law in line with precedent and statutory meaning, and prevent innocent third party infringers (i.e., end users of software) from being liable for damages.

I. THE DOCTRINE — PAST AND PRESENT

Generally, indirect infringement creates a cause of action for activity that knowingly leads to a third party infringing a patent.¹⁵ This gives the patentee “a valuable device for preventing competitors from destroying his legal monopoly.”¹⁶ In the traditional era of component patents, the tools of precedent were enough for courts to deal with direct and indirect infringement.¹⁷ However, as the line between patentable and unpatentable subject matter continued to erode and software began to ease into the realm of patentability,¹⁸ courts began to confront computer-related patents for the first

13. See, e.g., Daniel A. Devito et al., *Federal Circuit Clarifies Standard for Induced Infringement of Method Claims*, SKADDEN (Sept. 6, 2012), <http://www.skadden.com/insights/federal-circuit-clarifies-standard-induced-infringement-method-claims> (“A petition for Writ of Certiorari to the Supreme Court is a virtual certainty, and there is a good chance that it will be accepted given the attention these cases have garnered and the heavily divided *en banc* decision.”).

14. *Akamai*, 692 F.3d at 1306, (“[W]e find that these cases and cases like them can be resolved through an application of the doctrine of induced infringement.”).

15. Note, *supra* note 12, at 132.

16. *Id.*

17. See *Wallace v. Holmes*, 29 F. Cas. 74 (C.C.D. Conn. 1871) (No. 17,100); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961).

18. See *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (writing that patentable subject matter includes “anything under the sun that is made by man.”).

time. Still, without certain hardware advances, the software aspect of many infringement cases could be set aside—software was still intrinsically tied to the hardware it ran on.¹⁹ Eventually, as hardware became more unspecialized, software could be more generally written to affect a variety of platforms.²⁰ Consequently, software could no longer be as easily ignored in an infringement analysis. This, combined with a further increase in the scope of patentable subject matter as well as the Internet boom, led to interactive software method patents taking center stage. In the years prior to *Akamai*, the Federal Circuit would wrestle with how best to apportion liability for infringement of these interactive methods.

A. *The Doctrine Prior to the 1952 Patent Act*

The two brothers-in-arms indirect infringement doctrines of inducement and contributory infringement originated in a decision from the 1800s, *Wallace v. Holmes*.²¹ The *Wallace* court held that two separate individuals could infringe a combination patent when they each manufactured a separate component of the patented invention.²² The controversy in *Wallace* involved a patent on a two-piece lamp and two alleged infringers.²³ One alleged infringer manufactured only the chimney; the other infringer manufactured only the burner.²⁴ Each of these components had no use outside of the claimed lamp structure.²⁵ The court rebuked the notion that the alleged infringers could escape liability: “[i]t cannot be, that, where a useful machine is patented as a combination of parts, two or more can engage in its construction and sale.”²⁶ Otherwise, the court noted, combination patents would be “of little value.”²⁷

The *Wallace* fact pattern is typical of indirect infringement cases—two or more infringers separately infringe one or more aspects of the patent, but no single actor infringes the patent as a whole.²⁸ Often, the customer completes the direct infringement by performing the final step, such as assembling the components to create the entire lamp as in *Wallace*.²⁹ As some courts began to push the doctrine of contributory infringement to an illogical

19. See Part I.C.

20. See Part I.D.

21. See, e.g., *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 179-80 (1980) (“The idea that a patentee should be able to obtain relief against those whose acts facilitate infringement by others has been part of our law since *Wallace v. Holmes*, 29 F.Cas. 74 (No. 17,100) (CC Conn. 1871).”).

22. *Wallace v. Holmes*, 29 F. Cas. 74 (C.C.D. Conn. 1871) (No. 17,100).

23. *Id.* at 79.

24. *Id.*

25. *Id.*

26. *Id.* at 80.

27. *Id.*

28. See, e.g., *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961).

29. *Id.*

conclusion (that manufacturing and selling only an unpatented part of a combination patent was infringement),³⁰ other courts developed the doctrine of patent misuse as a defense to charges of infringement.³¹ Under patent misuse, patentees who improperly attempted to expand the scope of their patent in litigation could be denied relief.³² Eventually, in the case of *Mercoid v. Mid Continent*, the Court expanded the doctrine of patent misuse so as to “limit substantially the doctrine of contributory infringement. . . . What residuum may be left we need not stop to consider.”³³ As a result, the *Mercoid* decision effectively neutered indirect infringement.³⁴ Because Congress thought the doctrine of indirect infringement was important, the *Mercoid* decision necessitated (in part) the 1952 Patent Act.³⁵

The 1952 Patent Act codified the common law doctrines composing indirect infringement in 35 U.S.C. § 272(b) (“inducement”) and 35 U.S.C. § 272(c) (“contributory”). Section 271(b) of the statute states “[w]hoever actively induces infringement of a patent shall be liable as an infringer.”³⁶ Congress designed this section to protect patentees.³⁷ At the time, this section was intended to impose liability on anyone who aided or abetted infringement.³⁸ For example, a hospital might order its doctors to perform a medical procedure. Assuming that by doing this procedure the doctors directly infringe a medical procedure patent, the hospital would be liable for inducing the doctors’ direct infringement. Section 271(c), which covers contributory infringement, states:

- (c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or ap-

30. See, e.g., Matthew T. Nesbitt, Comment, *From Oil Lamps to Cell Phones: What the Trilateral Offices Can Teach Us About Detangling the Metaphysics of Contributory Infringement*, 21 EMORY INT’L L. REV. 669, 677 (2007) (“The scope of contributory infringement may have reached its zenith in *Henry v. A.B. Dick*, where the Supreme Court held that a patent holder could control the supplier of components of a patented device and that using an unapproved component could result in contributory infringement.”).

31. *Carbice Corp. of America v. Am. Patents Dev. Corp.*, 283 U.S. 27, 33-34 (1931) (“Relief is denied because the [plaintiff] is attempting, without sanction of law, to employ the patent to secure a limited monopoly of unpatented material used in applying the invention.”).

32. The doctrine of patent misuse was also codified in 35 U.S.C. 271(d) in the 1952 Patent Act.

33. *Mercoid Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 669 (1944).

34. Nesbitt, *supra* note 30, at 681 (“[O]thers believed that *Mercoid* rendered combination patents ineffective.”).

35. *Id.* at 684 (“§ 271 was meant to override the *Mercoid* decision and support the validity of contributory infringement.”).

36. 35 U.S.C. § 271(b) (2012).

37. Note, *Section 271(b) of the Patent Act of 1952: Confusion Codified*, 66 YALE L.J. 132, 141 (1956).

38. S. REP. NO. 82-1979, at *2402 (1952) (declaring the purpose of the 1952 amendment).

paratus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.³⁹

Section 271(c) addressed the most common indirect infringement scenario: components of a combination patent as seen with the *Wallace* lamp. With its exceptions and explicit knowledge requirements, Congress intended § 271(c) to address the common *Wallace* scenario while correcting the Supreme Court's decision in *Mercooid*, encouraging competition but not giving patentees overbroad protection.⁴⁰

Although most commentators view § 271(c) as a needed provision and a mere codification of *Wallace* and subsequent holdings,⁴¹ § 271(b) has been under attack since its very enactment.⁴² Some wrote that the section is merely a nebulous statute which will create difficulties with deciding which activities violate the statute.⁴³ Others believed that it would “produce new interpretative problems.”⁴⁴ The concern regarding vagueness was not unfounded—courts often conflate § 271(b) and § 271(c), or collapse their analysis of both into one discussion.⁴⁵ These concerns were realized when courts began to confront indirect infringement for interactive software method patents.

B. Early Establishing Cases (1960–1980)

In this timeframe, courts began to interpret the 1952 Patent Act and its new codifications of §§ 271(a), (b), and (c) for the first time. Early court decisions focused primarily on situations where different entities manufactured partial components, as in *Wallace*, and discussed § 271(c) significantly

39. 35 U.S.C. § 271(c).

40. Note, *supra* note 12, at 141.

41. See generally, Giles S. Rich, *Infringement Under Section 271 of the Patent Act of 1952*, 21 GEO. WASH. L. REV. 521 (1952) (discussing generally the drafting of the 1952 Patent Act).

42. See, e.g., Note, *supra* note 12.

43. *Id.* at 138-140.

44. Dawson Chem. Co. v. Rohm & Haas Co., 448 U.S. 176, 208 (1980) (quoting *Contributory Infringement: Hearings on H.R. 2866 Before the Subcomm. No. 4 of the H. Comm. on the Judiciary*, 81st Cong. 11, 50-56 (1949)).

45. See, e.g., C.R. Bard, Inc. v. Advanced Cardiovascular Sys., Inc., 911 F.2d 670, 673 (Fed. Cir. 1990) (active inducement and contributory infringement); Met-Coil Sys. Corp. v. Korners Unlimited, Inc., 803 F.2d 684, 687 (Fed. Cir. 1986) (active inducement and contributory infringement); see also, Akamai Techs., Inc. v. Limelight Networks, Inc., 692 F.3d 1301, 1332 (Fed. Cir. 2012) (“In *Grokster*, 545 U.S. at 930 n. 9, 125 S.Ct. 2764, the Court observed that ‘the lines between direct infringement, contributory infringement and vicarious liability are not clearly drawn,’ quoting *Sony*, 464 U.S. at 435 n. 17, 104 S.Ct. 774.”).

more than § 271(b). These cases form the bedrock of precedent which courts would later use to examine software method patents.

Aro Mfg. Co. v. Convertible Top Replacement Co. (“*Aro I*”)⁴⁶ marked the first time the Supreme Court considered § 271(c) after its passage.⁴⁷ As with many cases from the time, the defendant sold one component of a patented invention: the fabric for a convertible top.⁴⁸ The plaintiff sold the patented convertible top as a whole.⁴⁹ With normal use, the fabric was often ruined after a few years.⁵⁰ Accordingly, many users purchased new replacement tops.⁵¹ In *Aro I*, the court was wary of extending the reach of the patent beyond its proper scope.⁵² The court reasoned that “[t]he patent is for [the] combination [of the convertible top] only. Since none of the separate elements of the combination is claimed as the invention, none of them when dealt with separately is protected by the patent monopoly.”⁵³ The court further recognized that 35 U.S.C. § 271(c) simply codified a long-standing common law precedent: “there can be no contributory infringement in the absence of a direct infringement.”⁵⁴ This aspect of the holding—without direct infringement there is no indirect infringement—became a central component of the indirect infringement doctrine after the 1952 Patent Act, in both the § 271(b) inducement context as well as the § 271(c) contributory infringement context.⁵⁵

The case came up again after remand in what became known as *Aro II*, allowing the Court to consider an important facet of indirect infringement doctrine—mens rea.⁵⁶ The majority of the *Aro II* court held that § 271(c) requires a showing that “the alleged contributory infringer *knew* that the combination for which his component was especially designed was both patented and infringing.”⁵⁷ This differs from the mens rea knowledge standard in direct infringement, which imposes no mens rea requirement at all, and

46. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961).

47. Irving Faber, *Contributory Infringement – A Limited Tort*, 42 Chicago-Kent L. Rev. 1, 5 (“The first case to be decided by the Supreme Court after passage of section 271 was *Aro Mfg. Co. v. Convertible Top Replacement Co.*”).

48. *Id.* at 337-338.

49. *Id.*

50. *Id.* at 338.

51. *Id.*

52. *Id.* at 342.

53. *Id.* at 341.

54. *Id.*

55. *See, e.g.*, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1308 (Fed. Cir. 2012) (discussing *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961) and stating “[t]hat principle, that there can be no indirect infringement without direct infringement, is well settled.”).

56. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476 (1964).

57. *Id.* at 488 (emphasis added).

thus is a strict liability tort.⁵⁸ Until recently, it was unclear whether § 271(b) carried any knowledge requirement, or, if so, the level of mens rea required. However, based in part on the framework of *Aro II*, the Supreme Court concluded in 2011 that § 271(b) imposes the same mens rea requirement as § 271(c).⁵⁹ The court's early analytical framework for combination patents in *Aro I* and *Aro II* laid much of the precedential framework for future software method patents and indirect infringement.

C. *The Emergence of Patented Software (1980–2000)*

Even as courts advanced the patentable subject matter doctrine in *Diamond v. Chakrabarty*⁶⁰ and *Diamond v. Diehr*,⁶¹ the indirect infringement doctrine remained relatively stable during the era of 1980-2000. Due to the limited capability of hardware, the number of different hardware manufacturers, uncertain status of software as patentable subject matter, and the straightforward nature of a traditional *Aro* component-based analysis, courts did not have a reason to consider the complications of software. Without general purpose hardware, complicated software could not be directed to a wide array of different hardware platforms, and software patents were narrowly directed to a specific hardware platform.⁶² This specificity in hardware made it easier for courts to ignore the software present. For example, Ralph Baer, the father of video games,⁶³ owned an early video game patent for an “interactive television gaming system.”⁶⁴ All of the claims reference a set of “game control circuits”, with the dependent claims elaborating on the specifics of these circuits.⁶⁵ The word software does not appear in the pat-

58. ROBERT P. MERGES & JOHN F. DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 922 (5th ed. 2011).

59. See *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2068 (2011) (“[W]e now hold that induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement.”). This decision relied on the *Aro II* court holding that 271(c) carries a knowledge component. The Federal Circuit first adopted this approach in *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464 (Fed. Cir. 1990).

60. *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980) (“Congress plainly contemplated that the patent laws would be given wide scope.”).

61. *Diamond v. Diehr*, 450 U.S. 175, 177 (1981) (“We granted certiorari to determine whether a process . . . which includes in several of its steps the use of a mathematical formula and a programmed digital computer is patentable subject matter under 35 U.S.C. § 101.”).

62. See Alfred P. Ewert & Irah H. Donner, *Will the New Information Superhighway Create “Super” Problems for Software Engineers? Contributory Infringement of Patented or Copyrighted Software-Related Applications*, 4 ALB. L.J. SCI. & TECH. 155, 158 (1994).

63. Declan Burrows, *Baer’s Odyssey: Meet the Serial Inventor Who Built the World’s First Game Console*, ARS TECHNICA (July 13, 2013, 11:00 AM), <http://arstechnica.com/gaming/2013/07/in-the-beginning-ralph-h-baer-and-the-birth-of-the-game-console/> (“When asked if [Mr. Baer] feels directly responsible for modern consoles like the Xbox 360 and PlayStation 3, [Mr. Baer’s] answer is clear-cut. ‘Totally.’”).

64. U.S. Patent No. 4,034,990, (issued July 12, 1977) (patent for an “Interactive television gaming system.”).

65. *Id.*

ent.⁶⁶ Thus, when the patent was litigated, courts did not have to concern themselves with the software on those game control circuits.

In this era, the newly created Federal Circuit sidestepped any issues presented by multiple actors acting in concert in method patents by continuing the component-based analysis espoused in *Aro*, *Aro II*, and *Wallace*.⁶⁷ For example, consider a patent that claimed a method which produced a composition.⁶⁸ The alleged infringer manufactured the apparatus for implementing the method without completing the method itself—the customers who bought the machine completed the method.⁶⁹ Because the patent only covered the entire method, there was no direct infringement resulting from the sale of the apparatus for either the manufacturer or the purchaser, until the purchaser actually used the apparatus and completed the processes.⁷⁰ Under *Aro I* precedent, there could not be indirect infringement without direct infringement, so selling an apparatus which implemented the patented method by itself did not give rise to any liability.⁷¹ A similar component analysis approach was used in *Magnavox v. Mattel*, a case concerning early home video game consoles.⁷² Since software was still written to specific platforms (similar to the Ralph Baer patent *supra*),⁷³ the court was able to stop its analysis at the hardware component level—a deeper dive was not necessary.⁷⁴ The court ruled that merely selling the game cartridges contributed to infringement under § 271(c).⁷⁵ Thus, it was not necessary for the court to consider the software method implications, even though the software was a part of the games at issue.⁷⁶

D. *The Doctrine Evolves and Confronts Software (2000–Present)*

In this timeframe, the doctrine underwent major changes as courts were forced to address the problems created by software patents. With the arrival

66. *Id.*

67. *See* Standard Havens Prods., Inc. v. Gencor Indus., Inc., 953 F.2d 1360 (Fed. Cir. 1991).

68. *Id.* at 1363.

69. *Id.*

70. *Id.* at 1374.

71. *Id.* at 1374-1376 (citing the holdings of *Aro I* and *Aro II*).

72. *Magnavox Co. v. Mattel, Inc.*, No. 80 C 4124, U.S. Dist. LEXIS 13773 (N.D. Ill. Jul. 29, 1982).

73. *See* Ewert & Donner, *supra* note 62 at 158-159.

74. *Magnavox Co.*, U.S. Dist. LEXIS 13773, *68 (However . . . the circuitry of the [defendant's product] is in many ways directly analogous to the circuitry of the [plaintiff's patent]. The various components listed are merely the circuit components that one would use once the choice is made to use that particular approach to the design using hardware currently available.)

75. *Id.* at *98.

76. *Id.* at *68 (writing that there is “no software program” present in the digital circuit at issue).

of cheap microprocessors,⁷⁷ general purpose hardware became more widespread, and the tight coupling of hardware and hardware-specific software that had allowed courts to ignore the problems presented in cases like *Magnavox* began to disappear.⁷⁸ Software was no longer targeted for specific hardware platforms like in *Magnavox*, and patents involving software began to be written more generally to reflect this.⁷⁹ On the legal side, several decisions increased the scope of patentability. The *State Street Bank* decision allowed patentability of business methods and anything that produces a useful, concrete and tangible result.⁸⁰ This decision, endorsed in *Bilski v. Kappos*,⁸¹ combined with the collaborative nature of the Internet and its burgeoning popularity, created a new wave of software method patents and related litigation.⁸² Many of these patents were interactive—they might have involved a user, a server, and a third party.⁸³ As courts began to confront this litigation, problems arose with the way that *Aro I* and *Aro II* handled the direct infringement predicate for either inducement or contributory infringement, and the Federal Circuit decided a new gloss on this was needed in the decision of *BMC v. Paymentech*. This gloss imported some aspects of agency law into patent law, and held that in order for there to be indirect infringement under either the inducement of § 271(b) or the contributory infringement of § 271(c), the direct infringement of § 271(a) must be performed by a single entity.⁸⁴ Unfortunately, this single entity rule had its own

77. Edward Harding, *The History of Microprocessors*, <http://jupiter.plymouth.edu/~harding/historymicro.html> (last visited Nov. 27, 2013) (“The year 1975 also witnessed a dramatic lowering of microprocessor prices. At the September WESCON trade show, MOS Technology created a sensation by offering its 6502 8-bit microprocessor for just \$25. At the time, Intel’s 8080 and Motorola’s 6800 had already come down from \$360 to \$179. Intel and Motorola immediately dropped their prices to \$69.95. By 1980, improved versions of Intel’s 8080 cost under \$5.”).

78. See Ewert & Donner, *supra* note 62 at 159.

79. See *id.*

80. *State St. Bank & Trust Co. v. Signature Fin. Grp., Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998).

81. *Bilski v. Kappos*, 130 S. Ct. 3218, 3224 (2010).

82. *Intellectual Property: Assessing Factors that Affect Patent Infringement Litigation Could Help Improve Patent Quality*, U.S. GOVERNMENT ACCOUNTABILITY OFFICE (Aug. 22, 2013), <http://www.gao.gov/products/GAO-13-465>, (“GAO’s analysis of these data also found that lawsuits involving software-related patents accounted for about 89 percent of the increase in defendants over this period.”).

83. See, e.g., U.S. Patent No. 6,757,898 (issued Jun. 29, 2004). This patent was asserted by McKesson against Epic. Claim 1 requires users to actually initiate the communication via a website, connecting the user with their doctor. *Id.*

84. Even though it contains no mention of the *Aro* direct infringement prerequisite, the Federal Circuit found no flaw in the following jury instruction: “When infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement. Infringement of a patented process or method cannot be avoided by having another perform one step of the process or method. Where the infringement is the result of the participation and combined action(s) of one or more persons or entities, they are joint infringers and are jointly liable for the infringement.” On

problems as well, and the Federal Circuit ultimately removed this rule in *Akamai*.⁸⁵

Additionally, the introduction of the Internet created a unique set of problems because it provided an infringing environment unlike any other.⁸⁶ Suddenly, millions of semi-anonymous users could utilize an infringing website. As such, many advocated indirect infringement as the only reasonable means of confronting infringement on such a wide scale, since direct infringement, with its strict liability component, would sweep up numerous innocent end users.⁸⁷

As patent law began to confront software and contributory infringement, courts looked to the doctrine of indirect infringement in copyright law. Copyright law had already wrestled with the issue of indirect infringement and the Internet in the file sharing cases.⁸⁸ As a result, these copyright cases gained new importance in the realm of patent law. The Supreme Court based their analysis in the file sharing cases entirely on the intent standards for indirect patent infringement.⁸⁹ While this mixing of patent and copyright law may seem odd, after expressing its view that inducement in the patent sphere carried a heavy requirement of intent, the Court explicitly imported this view of patent inducement into copyright law.⁹⁰ Thus, based on this copyright law decision, the Court held that liability in patent law for inducement must come from conduct that is clearly purposeful.⁹¹ Later in *Akamai*, the Federal Circuit would take note of these pronouncements on copyright infringement.⁹² The court stated that the file sharing cases provided valuable direction and ascertained when it is proper to hold an individual accountable for

Demand Mach. Corp. v. Ingram Indus., Inc., 442 F.3d 1331, 1344-45 (Fed. Cir. 2006). The Federal Circuit later repudiated this as dicta in *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007), although both the majority in *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2012) and Judge Newman's dissent cite it.

85. *Akamai*, 692 F.3d.

86. See Keith E. Witek, *Software Patent Infringement on the Internet and on Modern Computer Systems—Who Is Liable for Damages?*, 14 SANTA CLARA COMPUTER & HIGH TECH. L.J. 303, 306 (1998).

87. *E.g.*, *id.* at 383.

88. See *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, 545 U.S. 913, 930 (2005); *A & M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir. 2001). These cases are collectively called the file sharing cases.

89. Richard J. Stark & Andrei Harasymiak, *Inducement of Patent Infringement: The Intent Standard and Circumstantial Evidence of Intent, 2011 Edition*, in RECENT TRENDS IN PATENT INFRINGEMENT LAWSUITS: LEADING LAWYERS ON UNDERSTANDING RECENT CASES AND CONSTRUCTING EFFECTIVE DEFENSE STRATEGIES *5 (Feb. 2011), available at 2011 WL 601766 (“Accordingly, the Court justified. . . its decision in *Grokster* by articulating its view of indirect infringement in patent law, and then applying the resulting doctrine to copyright law.”).

90. *Id.* at *6-7.

91. *Grokster*, 545 U.S. at 937.

92. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1325 (Fed. Cir. 2012).

the actions of another, alluding to the well-developed tort doctrine of respondeat superior.⁹³ This tort law contour allows courts to consider potential liability where other actors perform steps of a method patent on an alleged infringer's behalf.⁹⁴ However, under the single entity rule of *BMC*, the common law test of agency still needs to apply to the vicarious actors.⁹⁵ This test is rarely met in the interactive world of the Internet.⁹⁶

Nevertheless, the Federal Circuit began to apply this copyright law agency principle in patent infringement cases.⁹⁷ For example, consider a method used to stabilize and align the bones of a patient's spine.⁹⁸ The surgeons that implemented the final steps of the method by actually working on a patient were not common law agents of the manufacturer of the spinal screws. Courts found this failure to demonstrate an agent-relationship sufficient to raise a question regarding surgeon liability, even though the surgeons' actions appear to be infringement.⁹⁹

The 2007 case of *BMC v. Paymentech* emphasized the extent to which the Federal Circuit preferred agency-driven analysis in § 271(c) by creating the single entity rule.¹⁰⁰ In *BMC*, the patent at issue claimed a method for processing debit transactions without a Personal Identification Number (PIN), and required the combined action of several actors, including the payee's agent, the financial institutions which issued the debit card, and a remote payment network.¹⁰¹ Various actors completed each step of the patent.¹⁰² However, the defendant did not control, or cause to be controlled, the financial institutions or the ATM network.¹⁰³ In order to find infringement, the court needed to identify "some connection" between [the defendant] and the firms taking the additional claimed steps."¹⁰⁴ Essentially, this required a connection that rose to the level of a common-law agency relationship. Citing the Restatement (Second) of Agency, the Federal Circuit noted "the law

93. *Id.* at 1332.

94. *See* *Cross Med. Prods. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1311 (Fed. Cir. 2005) ("Cross Medical argues that the situation is analogous to those in which courts have found a party to directly infringe a method claim when a step of the claim is performed at the direction of, but not by, that party.").

95. *See generally* *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (Fed. Cir. 2007) ("This court acknowledges that the standard requiring control or direction for a finding of joint infringement may in some circumstances allow parties to enter into arms-length agreements to avoid infringement.").

96. For example, nearly all users of Facebook are not agents of the company itself (except those users who also happen to be employees of Facebook).

97. *See, e.g.*, *DSU Med. Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1303-1306 (Fed. Cir. 2006) (discussing the *Grokster* decision and its effect on patent law).

98. *Cross Med. Prods.*, 424 F.3d at 1297.

99. *Id.* at 1311.

100. *BMC Res., Inc.*, 498 F.3d 1373.

101. *Id.* at 1375.

102. *Id.* at 1381.

103. *Id.* at 1382.

104. *Id.* at 1378.

imposes vicarious liability on a party for the acts of another in circumstances showing that the liable party controlled the conduct of the acting party.”¹⁰⁵ Finding no such circumstances, the court granted summary judgment to the defendant.¹⁰⁶ The court acknowledged that this approach created a potential loophole for agreements where neither party is an agent of the other, but decided to live with this loophole rather than increase the liability reach of direct infringement.¹⁰⁷ This case created what became known as the single entity rule, which requires each step of the patent to have been conducted under the control or direction of a single entity in order for liability to attach.¹⁰⁸

In a particularly damaging decision for interactive method patents, the Federal Circuit later elaborated on the single entity rule in *Muniauction, Inc. v. Thomson Corp.*¹⁰⁹ The patent at issue involved an integrated auction system for bonds, located on a single server that allowed issuers to run the auction and bidders to prepare and submit bids using a conventional web browser.¹¹⁰ The court noted that its own decision in *BMC* had created a new legal proposition: what eventually became known as the single entity theory of indirect infringement.¹¹¹ Since the bidders were not under the control of the defendant using the traditional agency law definition, the Federal Circuit found no infringement, despite the patent itself being infringed in the abstract.¹¹² The *Muniauction* holding has dire implications for the many software method patents which have a host-user component. Since most host-user relations are traditional arms-length relationships, the relationships between the infringing entities do not satisfy any kind of control or agency standard.¹¹³ Thus, any type of claim which necessitates a finding of divided infringement is essentially unenforceable, unless of course one of the parties is naïve enough to assert an agency level of control over the other.

The case of *Golden Hour Data Systems, Inc. v. emsCharts, Inc.*, in which a district court applied the *BMC* and *Muniauction* precedent, exempli-

105. *Id.* at 1379.

106. *Id.* at 1378-81.

107. *Id.* at 1381.

108. See, e.g., *Method Claims and the “Single-Entity Rule” – Headed for En Banc Re-assessment?*, COATS & BENNET, P.L.L.C. (Apr. 13, 2011, 1:48 PM), <http://coatsandbennett.com/our-blog/method-claims-and-the-single-entity-rule-headed-for-en-banc-re-assessment> (“First articulated in *BMC*. . .this single entity rule. . .”).

109. *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008)

110. *Id.* at 1321-22.

111. *Id.* at 1328-29.

112. *Id.* at 1328-1330.

113. See, e.g., Darren M. Franklin, *Muniauction, Inc. v. Thomson Corp.: The Federal Circuit Again Weighs In On Software Patents*, INTELLECTUAL PROPERTY LAW BLOG (Oct. 7, 2008), <http://www.intellectualpropertylawblog.com/archives/patents-muniauction-inc-v-thompson-corp-the-federal-circuit-again-weighs-in-on-software-patents.html> (“[T]he Federal Circuit has left little room for a theory of joint infringement that requires actions by multiple entities that are related only as host-user.”).

fies the ease with which method patents can be directly infringed without consequence under the single entity rule.¹¹⁴ The defendants were two software companies. One company produced patient information software and the other produced dispatch software.¹¹⁵ The patent at issue concerned a method that required the integration of patient information with dispatch information.¹¹⁶ The two companies had agreed to bundle their software and sell it together.¹¹⁷ However, in their contract the companies were equal players, neither agent of the other, and thus the court found no common-law agency relationship.¹¹⁸ Holding that the single entity rule was not met, the court overturned a jury verdict finding infringement.¹¹⁹

This bifurcated approach, where patents on methods are uniquely vulnerable to an agency law runaround, neither incentivizes inventors nor gives any better notice of the patent's scope to the public in general.¹²⁰ Because of the Federal Circuit precedents of *BMC* and *Muniauction*, patented methods that can be performed by multiple actors are now difficult to enforce. Like *Mercoïd* before the 1952 Patent Act, *BMC* and *Muniauction* have drastically limited the scope of validly granted patents. Like the 1952 Patent Act, a similarly drastic solution is needed to remedy this issue. Unfortunately, *Akamai* is not the solution.

II. POLICY FACTORS AND STAKEHOLDERS OF AKAMAI-MCKESSON

The outcome of *Golden Hour* demonstrated that the single entity rule announced in *BMC* and expanded upon in *Muniauction* lessened the enforceability of interactive methods in an indirect infringement context. This line of cases essentially neutered the doctrine of indirect infringement for software patentees—the loopholes presented by agency law and arm's length contracting were too easy to exploit. Before discussing the outcome of *Akamai* and the possible future after that decision, it is useful to consider the policy interests advocating for particular interpretative changes to indirect infringement jurisprudence. Four different viewpoints are considered here: (1) consumers, (2) companies favoring continuance of the single entity rule, (3) companies that disfavor the single entity rule because of the loopholes it presents, and (4) academic interests. The Electronic Frontier Foun-

114. *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 2009 WL 943273 (E.D. Tex. Apr. 3, 2009).

115. *Id.* at *1-2.

116. *Id.*

117. *Id.* at *3 (“The evidence at trial showed that [defendants] had a non-exclusive distributorship agreement that lasted about a year. The agreement defined the relationship as not creating ‘any agency, partnership, joint venture, or employer/employee relationship.’”).

118. *Id.* at *4.

119. *Id.* at *5.

120. Mark D. Janis & Timothy R. Holbrook, *Patent Law's Audience*, 97 MINN. L. REV. 72, 120 (2012).

dation represents consumer interests.¹²¹ Cisco Systems and Facebook represent the interests of those in favor of the single entity rule.¹²² Myriad Genetics and pharmaceutical interests generally represent the interests of those against the single entity rule.¹²³ Finally, the American Intellectual Property Law Association represents academic interests.¹²⁴

A. Consumers and Innocent Third Parties

The Electronic Frontier Foundation (“EFF”) is a consumer group representing the public interest on the Internet and in other areas of technology.¹²⁵ The EFF is particularly concerned about the effect of indirect infringement on end users and believes that overruling *BMC* and *Muniauction* in favor of a rule that more easily attaches liability to third-party users could have far-reaching consequences on innovation and technological advances.¹²⁶ Because of direct infringement’s strict liability nature and possibility to ensnare innocent end users, the EFF cautions against expanding direct infringement.¹²⁷ To the EFF, economics and fundamental fairness dictate that an unsuspecting third party should not bear the costs of potential infringement.¹²⁸ The EFF also indicates that litigation targeting the unsuspecting third party has been and will be brought even though the third party may not have deep pockets.¹²⁹ Expanding indirect infringement to encompass third-party users would mean that anyone could be liable simply by using a particular website, or downloading an approved development kit from a manufacturer.¹³⁰ If a patent for an online bidding system (similar to *Muniauction*) were to be asserted against a company like eBay, potentially *anyone* who

121. *About EFF*, ELECTRONIC FRONTIER FOUNDATION, <http://www.eff.org/about> (last visited Nov. 27, 2013) (“From the beginning, EFF has championed the public interest in every critical battle affecting digital rights.”).

122. See *infra* Part II.B.

123. See *infra* Part II.C.

124. See *infra* Part II.D.

125. *About EFF*, *supra* note 121 (“Blending the expertise of lawyers, policy analysts, activists, and technologists, EFF achieves significant victories on behalf of consumers and the general public.”).

126. See Brief for Electronic Frontier Foundation as Amicus Curiae Supporting Respondents at 2-3, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (2012) (No. 2009-1372).

127. *Id.* at 3-4.

128. *Id.* at 4.

129. See *id.* at 7.

130. *E.g.*, Julie Samuels, *Apple Should Stand Up and Defend Its Developers*, ELECTRONIC FRONTIER FOUNDATION (May 20, 2011), <https://www.eff.org/deeplinks/2011/05/apple-should-stand-up>. Defendants each developed applications for Apple’s iPhone, using technology provided by and indeed mandated by Apple. Lodsys provided a license to Apple but that license might not be extended to developers.

listed items, sold items, bought items, or even viewed items,¹³¹ could be liable for patent infringement. The EFF is wary of such a world.¹³²

B. *Maintaining the Single Entity Rule*

Despite the fact that many software companies hold method patents, most software *amici* are in favor of the continuance of the rule as it is outlined in *BMC*: each step of the patent must be done at the control or direction of a single entity in order to find infringement.¹³³ Since so few method patents actually reach the single entity standard for direct infringement, many software companies have relied on the *BMC* precedent to fight off prospective litigation by patent assertion entities.¹³⁴ This type of prospective litigation typically involves major competitors in a market (such as smart phones), which are all sued for a common feature.¹³⁵ Under the possible new contributory regime these *amici* are advocating against, this would be a multi-step collaborative claim wherein the final steps are taken by the users of the smartphone (or some other device or website). The overturn of the single entity rule would separate the act from the actor and create liability for those using less than the full-patented method.

Additionally, overturning the single entity rule would create complicated legal issues arising from multi-actor infringement theories.¹³⁶ For example, how should damages be calculated for an entity that only practices some but not all steps of a method claim? If greater damages are appropriate for an entity that practices the “novel” steps of a claim, which steps are the novel ones? Alternatively, if the damages would be determined via a mul-

131. This of course depends on the reach of the claims in the patent, but it is easy to imagine a patent which covers all aspects of an online bidding marketplace, including viewing of listed items.

132. Brief for Electronic Frontier Foundation as Amicus Curiae Supporting Respondents at 4, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (2012) (No. 2009-1372) (“[T]he policies underlying the imposition of strict liability do not reach to third parties, who likely will not benefit from the notice function of the patent that they allegedly infringe. As such, economics and fundamental fairness dictate that an unsuspecting third party should not bear the costs of potential infringement.”).

133. *E.g.*, Corrected Brief of Amici Curiae Cisco Systems, Inc. et al as Amici Curiae Supporting Respondents at 1-3, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (2012) (No. 2009-1372).

134. *Id.* at 1.

135. This type of litigation might be less common after the American Invents Act. See Michael Liu, Note, *Joinder Under the AIA: Shifting Non-Practicing Entity Patent Assertions Away From Small Businesses*, 19 MICH. TELECOMM. & TECH. L. REV. 489 (2012) (discussing joinder under the AIA as a tool as against opportunistic litigants).

136. Corrected Brief of Amici Curiae Cisco Systems, Inc. et al as Amici Curiae Supporting Respondents at 4-5, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (2012) (No. 2009-1372).

tiparty hypothetical negotiation,¹³⁷ how would such a negotiation be simulated? These questions barely scratch the surface of the complexities involved in calculating damages in multi-actor infringement scenarios.¹³⁸ Software companies participate in an industry that inherently leads to multi-actor joint infringement scenarios, especially where software provides some service to an end user over the Internet. This state of affairs invites these complicated damages theories, which could create “a recipe for unbounded and disproportionate liability.”¹³⁹ The software industry believes overturning the single entity rule established in *BMC* and the following cases will create a “legal labyrinth,”¹⁴⁰ and there is no such support in the common law for imputing the acts of an unrelated third party to be the acts of the defendant in patent law.¹⁴¹

C. *Overturning the Single Entity Rule*

The biotechnology and pharmaceutical industries aim to “[strengthen] the U.S. patent system and [protect] the public interest in the issuance of enforceable patents.”¹⁴² The biotechnology industry relies on proprietary processes and method patents extensively, and considers this intellectual property to be their most valuable asset.¹⁴³ A biotech company makes money from consumers paying for the right to use processes or the products resulting from said process; a software company makes money from consumers using their processes for free. Accordingly, software companies are not as concerned about the methods or process underlying their product.

Since the single entity rule creates a loophole permitting actors acting in concert, as discussed in Part I.C *supra*, the biotechnology and pharmaceutical industries are completely against the continuance of the single entity rule. Both of these industries still find one prerequisite appropriate for indirect infringement: the method or processes accused of allegedly infringing a patent must meet the all-elements rule — all the steps of the claim must be performed.¹⁴⁴ This is simply the oft-repeated *Aro* precedent in another guise.

137. See *Ga. Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp 1116 (SD NY 1970) (discussing a hypothetical negotiation as one part of the multi-factor test to determine damages in a patent lawsuit).

138. Corrected Brief of Amici Curiae Cisco Systems, Inc. et al as Amici Curiae Supporting Respondents, *supra* note 136, at 5-6 (discussing the complexity of multi-actor infringement damages).

139. *Id.* at 6.

140. *Id.* at 24.

141. Brief for Facebook, Inc. & LinkedIn Corp. as Amici Curiae Supporting Respondents at 3, *Akamai Techs., Inc., et al. vs. Limelight Networks, Inc.*, 692 F.3d 1301 (2012) (No. 2009-1372).

142. Amicus Curiae Brief of Biotechnology Industry Organization in Support of Neither Party as Amicus Curiae Supporting Neither Party, *Akamai Techs., Inc., et al. vs. Limelight Networks, Inc.*, 692 F.3d 1301 (2012) (No. 2009-1372), 2011 WL 3101890, at *2.

143. *Id.* at *1.

144. *Id.* at *29.

For Myriad Genetics, the single entity rule “eviscerates a large number of method patent claims . . . [and] significantly weakens the U.S. patent system.”¹⁴⁵ For the life sciences, patents often represent a large investment in both time and money. Removing the single entity rule helps these companies recoup some of their investment with a fully enforceable patent.

D. Academic Interests

The American Industry Property Law Association (AIPLA), not relying on any industry-specific positions, believes that the single entity rule is based on incorrect statutory construction of § 271.¹⁴⁶ In an argument largely accepted by Judge Newman in her dissent,¹⁴⁷ AIPLA asserts that the “whoever” in the statute can apply to multiple actors, and that the addition of agency principles dilutes the traditional tort basis of patent infringement.¹⁴⁸ The tort basis for patent infringement is significant. Prior to the introduction of the single entity rule, the case law concerning infringement relied on tort law principles.¹⁴⁹ AIPLA believes the addition of agency law has created loopholes which drastically reduce the scope of validly issued patents by allowing sophisticated legal entities to escape patent law.¹⁵⁰ As many have noted, the single entity rule renders certain valid patents “practically unenforceable.”¹⁵¹ Based on this proposition, AIPLA argues that agency law should be removed from patent infringement and courts should instead look to its traditional basis in tort law, which does not have joint tortfeasor issues.¹⁵² The Federal Circuit considered these concerns in *Akamai*.¹⁵³

III. A LOOPHOLE CLOSED, NEW GAPS CREATED

In *Akamai*, the Federal Circuit overturned the single entity rule for indirect infringement in an extremely fractured opinion, decided by only a slim majority, which removed the *Aro* precedent of direct infringement as a predicate for indirect infringement. This section will discuss two components of

145. Corrected Brief of Amicus Curiae Myriad Genetics, Inc. in Support of Neither Party at 3, *McKesson Techs., Inc. v. Epic Sys. Corp., Inc.*, 463 Fed.Appx. 906, (2011) (No. 2010-1291).

146. See Brief of Amicus Curiae American Intellectual Property Law Association in Support of Reversal, But in Support of Neither Party, *McKesson Techs., Inc. v. Epic Sys. Corp., Inc.*, No. 2010-1291 (Fed. Cir. July 1, 2011), 2011 WL 3101832, at *1-2.

147. See Part III.D.

148. Brief of Amicus Curiae American Intellectual Property Law Association in Support of Reversal, But in Support of Neither Party, *supra* note 146, at *2.

149. See *id.* at *11.

150. See *id.* at *2.

151. Damon Gupta, *Virtually Uninfringeable: Valid Patents Lacking Protection Under the Single Entity Rule*, 94 J. PAT. & TRADEMARK OFF. SOC'Y 61, 61 (2012).

152. See Brief for American Intellectual Property Law Association as Amicus Curiae Supporting Neither Party, *supra* note 146, at *15.

153. Judge Newman's dissent incorporates much of AIPLA's viewpoint. See *infra* Part III.D.

the opinion: the majority opinion and Judge Newman's dissent. Judge Lynn also dissented, but merely advocated following the precedent of *BMC* and *Muniauction*, so that dissent is not discussed. A roundup of scholars' critiques of the decision is also included, noting various effects of the decision upon the legal landscape.

In *Akamai*, the Federal Circuit actually combined two different cases from two different defendants—Epic Systems (with plaintiff McKesson) and Limelight (with plaintiff Akamai).¹⁵⁴ Both of the patents at issue in *Akamai* concerned method software patents, in which the steps of the methods were divided between various parties.¹⁵⁵ Defendant Limelight's infringing use consisted of a content delivery service to content providers' web pages where end users outside the control of Defendant Limelight modified their web pages themselves.¹⁵⁶ Accordingly, the final step of the patented method was conducted by individual users. In a similar fact pattern, Defendant Epic created an application called MyChart that infringed on McKesson's patent covering a method of electronic communication between healthcare providers and patients.¹⁵⁷ In Defendant Epic's case, Defendant Epic did not perform any steps of the patent. Instead, the steps were divided between healthcare providers (licensed users of MyChart) and patients (not Epic's direct customers).¹⁵⁸

A. The Majority Opinion

The majority opinion in *Akamai* overturned the single entity rule established in *BMC v. Paymentech*. Recognizing the distinction between direct infringement and direct infringement by a single entity,¹⁵⁹ the court was dismissive of its own *BMC* decision:

It would be a bizarre result to hold someone liable for inducing another to perform all of the steps of a method claim but to hold harmless one who goes further by actually performing some of the steps himself.¹⁶⁰

After this quick dismissal, the majority stated that criminal and tort vicarious liability analogies should inform the standard for inducement under § 271(b), and that there was no such thing as "attempted infringement."¹⁶¹ According to *Aro*, a finding of direct infringement was still necessary, but a

154. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1306 (Fed. Cir. 2012).

155. *Id.*

156. *Id.*

157. *Id.*

158. *Id.*

159. *Id.* at 1308.

160. *Id.* at 1309.

161. *Id.* at 1308.

single actor no longer needed to directly infringe.¹⁶² The court concluded that the *BMC* and *Muniauction* line of cases improperly applied the standard announced under *Aro*, which created a method of “knowingly sidestep[ping] infringement liability” that Congress did not endorse in the creation of the 1952 Patent Act.¹⁶³

After *Akamai*, a plaintiff can succeed on an induced liability claim if: (1) the defendant knew of plaintiff’s patent, (2) defendant induced the performance of the steps of the method in the patent, and (3) those steps were actually performed.¹⁶⁴ This third step does not require a traditional showing of direct infringement.¹⁶⁵ Curiously, the issue the parties were required to brief (whether a court can find direct infringement when no single entity performs all of the claim steps of the patent) was not resolved; instead, the *Akamai* court considered the issue “not necessary.”¹⁶⁶

B. Commentary

Reaction to the decision has been mixed, but generally favorable. Professor Dennis Crouch notes the decision “closes a major loophole” by no longer allowing “entities to knowingly and intentionally take advantage of a patented invention while avoiding the need to take a license.”¹⁶⁷ The end result is a “mixed blessing.”¹⁶⁸ The “use of active inducement . . . is a gain” but the confusion regarding divided direct infringement under § 271(a) as a prerequisite leaves uncertainty in the system.¹⁶⁹ However, the court’s decision did appease the EFF by ensuring that third-party infringers are not potentially liable.¹⁷⁰ Additionally, the court did not address the primary reason for review in the first place: the issue of divided direct infringement.¹⁷¹

162. *Id.* at 1316.

163. *Id.* at 1318.

164. *Id.*

165. *Id.* at 1319 (Newman, J., dissenting) (“The majority further holds that only the ‘inducer’ is liable for divided infringement, and that the direct infringers are not liable although the patent rights are ‘plainly being violated by the actors’ joint conduct.’”).

166. *Id.* at 1306 (“It is not necessary for us to resolve [the briefed issue] today because we find that these cases and cases like them can be resolved through an application of the doctrine of induced infringement.”).

167. Dennis Crouch, *Joint Infringement: Federal Circuit Changes the Law of Inducement*, PATENTLY-O (Aug. 31, 2012), <http://www.patentlyo.com/patent/2012/08/joint-infringement-federal-circuit-changes-the-law-of-inducement.html>. Professor Crouch maintains the Patently-O blog.

168. Janis & Holbrook, *supra* note 120, at 119.

169. *See id.* at 119-120.

170. *See* Michael Barclay, *Federal Circuit Decides Joint Liability Issue—By Deciding Something Else*, IPDUCK (Sept. 1, 2012), <http://ipduck.blogspot.com/2012/09/federal-circuit-decides-joint-liability.html> (Michael Barclay is also writer of the EFF Amicus brief).

171. *Id.* (writing that the decision “did not resolve the issue of joint or divided DIRECT infringement.”).

However, Professor Timothy Holbrook observed an unforeseen side effect of removing direct infringement as a predicate to inducement: the majority created a new category for inducement completely apart from direct infringement.¹⁷² This decouples the territorial requirement of § 271(a) (“within this country”) from § 271(b), creating an extraterritoriality problem where § 271(b) is no longer necessarily tied to activities within the United States.¹⁷³

C. After Akamai

Since this was an *en banc* decision overturning precedent with a slim majority, many commentators believe that Supreme Court will grant certiorari.¹⁷⁴ In March of 2013, Epic and McKesson settled their portion of the lawsuit, and Epic withdrew any further appeals in exchange for a license to the patent at issue.¹⁷⁵ However, Akamai’s petition for certiorari is still pending.¹⁷⁶ At the end of the October 2012 term this past June, the Court invited the U.S. Solicitor General to brief the Court on the government’s views in a Call for the Views of Solicitor General (“CVSG”).¹⁷⁷ This generally means the Court views the case as “sufficiently important,” and further indicates that the Court is considering the case closely.¹⁷⁸

172. Mike Masnic, *Appeals Court Says Companies Can Be Guilty of Inducing Infringement. . . Even if There Is No Direct Infringement*, TECHDIRT (Aug. 31, 2012), <http://www.techdirt.com/articles/20120831/12080220232/appeals-court-says-companies-can-be-guilty-inducing-infringement-even-if-there-is-no-direct-infringement.html>.

173. See generally Timothy R. Holbrook, *The Potential Extraterritorial Consequences of Akamai*, 26 EMORY INT’L L. REV. 499, 501 (2012) (“This state of affairs may change dramatically after *Akamai*. There, the Federal Circuit decoupled active inducement from § 271(a), meaning that infringement under § 271(b) is free-standing, and infringement is not defined by reference to other provisions of § 271.”).

174. See, e.g., Kevin E. Noonan, *Akamai Technologies, Inc. v. Limelight Networks, Inc. and McKesson Technologies, Inc. v. Epic Systems Corp. (Fed. Cir. 2012) (en banc)*, PATENT DOCS (Sept. 04, 2012), <http://www.patentdocs.org/2012/09/akamai-technologies-inc-v-lime-light-networks-inc-and-mckesson-technologies-inc-v-epic-systems-corp-f.html> (“[I]t is unlikely that the Supreme Court will deny certiorari in a case of statutory construction where the Federal Circuit is so plainly fractured.”).

175. Press Release, McKesson Corp., *McKesson and Epic Settle Patent Infringement Litigation* (Mar. 4, 2013), available at <http://www.mckesson.com/about-mckesson/newsroom/press-releases/2013/mckesson-and-epic-settle-patent-infringement-litigation/>. Although the press release did not mention any monetary compensation, it is likely that Epic paid a fair amount to end the litigation.

176. *Docket for 12-960*, SUPREME COURT OF THE UNITED STATES, <http://www.supremecourt.gov/Search.aspx?FileName=/docketfiles/12-960.htm> (last visited Sept. 20, 2013) (listing the most recent developments in Akamai’s petition for certiorari).

177. *High Court’s End of Term Actions on IP Cert Petitions: Akamai CVSG, Pay-for-Delay GVR*, BLOOMBERG BNA (June 25, 2013), <http://www.bna.com/high-courts-end-n17179874765/>.

178. Lisa McElroy, “CVSG”s in Plain English, SCOTUSBLOG (Feb. 10, 2010, 10:15 AM), <http://www.scotusblog.com/2010/02/last-week-in-plain-english-2/>.

Limelight's Supreme Court petition presents a perfect encapsulation of the errors in the *Akamai* decision: "Whether the Federal Circuit erred in holding that a defendant may be held liable for inducing patent infringement under 35 U.S.C. § 271(b) even though no one has committed direct infringement under § 271(a)." ¹⁷⁹ The petition, of course, answers that question with an affirmative.

The Supreme Court has a recent history of rejecting Federal Circuit tests. ¹⁸⁰ Given this history, if the Supreme Court grants certiorari in *Akamai*, the current rule—a judicially created inducement rule without direct infringement—will likely fall like prior Federal Circuit tests. In such a scenario, it will be up to the Supreme Court and not the Federal Circuit to craft a proper indirect infringement rule.

Courts and other commentators have stated that perhaps better claim drafting is a way around the morass caused by indirect infringement and interactive methods. ¹⁸¹ The *Akamai* court, among others, disagrees: ¹⁸² "[T]he presence or absence of infringement should not depend on cleverness or luck to satisfy a malleable single entity rule." ¹⁸³ It is naïve to suggest that some claims can be drafted such that a single entity rule is met since any patent providing some sort of service to a user over the Internet will inherently involve at least the service provider and the user.

D. Dissent of Judge Newman

In her dissent, Judge Newman was very critical of the majority, finding that "[the majority decision] raises new issues . . . and contains vast potential for abuse . . . [This] appeal can readily be resolved under existing law." ¹⁸⁴ Relying on the language of § 271(a), Judge Newman explained that the single entity rule (or the new inducement rule of the majority) was unnecessary because the word "whoever" in § 271(a) "embraces the singular and the plural." ¹⁸⁵ Infringement should not depend on "how many people it takes to

179. Petition for a Writ of Certiorari, *Akamai Techs., Inc.* (No. 12-960). Structuring the question in this manner highlights the issue with *Aro I* and *Aro II* precedent.

180. See, e.g., *Bilski v. Kappos*, 130 S. Ct. 3218, 3226 (2010) (rejecting the Federal Circuit's machine-or-transformation test as the sole test for determining patent subject matter eligibility); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) (rejecting the strict application of the Federal Circuit's teaching, suggestion, or motivation to combine test in obviousness cases).

181. See, e.g., *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (Fed. Cir. 2007); Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272-75 (2005) (writing that it should be "straightforward" to draft unitary claims).

182. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1325 (Fed. Cir. 2012); e.g., *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 188 (1980) (cautioning that "the technicalities of patent law" should not enable persons "to profit from another's invention" by performing "acts designed to facilitate infringement by others").

183. *Akamai*, 692 F.3d at 1325.

184. *Id.* at 1319 (Newman, J., dissenting).

185. *Id.* at 1322 (Newman, J., dissenting).

perform a patented method” because an important “keystone” of patent law is the ability to exclude “others”—not only a single entity—from utilizing the invention.¹⁸⁶ Judge Newman prefers a divided direct infringement rule, wherein once divided direct infringement has been recognized, liability for the divided direct infringement can be analyzed in a fact specific manner.¹⁸⁷

Judge Newman agreed with the majority that the single entity rule had no support in precedent,¹⁸⁸ but took issue with the majority’s holding of indirect infringement via inducement with no direct infringement prerequisite.¹⁸⁹ Regarding the majority’s construction of indirect infringement, tort, and criminal law, Judge Newman wrote:

The court has fractured into two flawed positions, each a departure from established precedent, each poorly suited to the issues and technologies that dominate today’s commerce. Today’s new rule of inducement-only liability serves no public interest, no innovation need. The consequences for the technology communities are uncertainty, disincentive, and new potential for abuse.¹⁹⁰

This language clearly shows the undesirable effects of *Akamai*: a decision unsupported by precedent and fraught with negative consequences.

IV. PROPOSED SOLUTION: THE SCOPE OF THE PATENT RIGHT, NO MORE, NO LESS

Problems of divided direct infringement, where end users complete the final method of a patented step, and indirect infringement are not going away. Method patents are no less deserving of protection than any other type of patent—after all they protect “some of the most important industrial developments of our age.”¹⁹¹ In *Akamai*, the majority created a new three step test for indirect infringement liability: (1) the defendant must know of plaintiff’s patent, (2) the defendant must induce the performance of the steps of the method in the patent, and (3) the plaintiff must prove those steps were actually performed.¹⁹² With the third step not requiring any form of actual direct infringement under § 271(a), *Akamai* does not solve any problems in

186. *Id.* at 1323 (Newman, J., dissenting).

187. *Id.* at 1330-1332 (Newman, J., dissenting) (When the several steps of a process claim are performed by more than one entity, whether the entities operate under common direction or control, or jointly or independently or interactively, remedy for infringement is appropriately allocated based on established criteria of culpability, benefit, and the like.”).

188. *Id.* at 1325 (Newman, J., dissenting).

189. *Id.* at 1328 (Newman, J., dissenting) (writing that the majority has created a “quandary”).

190. *Id.* at 1336 (Newman, J., dissenting).

191. John F. Duffy, *Why Business Method Patents?*, 63 STAN. L. REV. 1247, 1251-52 (2011).

192. *Id.*

the divided direct infringement or indirect infringement arena. Quite the opposite, *Akamai* likely exacerbates the issue with this three step test by decoupling § 271(a) from § 271(b) and § 271(c)—an approach that is against the precedent of *Aro* and removes the “within this country” limitation of § 271(a).¹⁹³ A proper approach would restore § 271(a) direct infringement as a prerequisite for §§ 271(b) and (c) liability, but not allow divided direct infringement liability under § 271(a) absent meeting the single entity rule.

The solution to the problem of finding liability for multi-actor infringement of method patents needs to be judicially constructed. As discussed previously, indirect infringement began its doctrinal life as a judicial construction; the 1952 Patent Law Act merely codified it. Congress recently had the opportunity to change § 271(b) and § 271(c) in the America Invents Act.¹⁹⁴ Investigation of the legislative history of the Act shows no discussion of these issues, and infringement itself is only passingly mentioned.¹⁹⁵ Thus, the burden is on courts to come up with the appropriate remedy for interactive method claim infringement by multiple actors. In the enactment of the 1952 Patent Act, a rational Congress could not have intended enforcement for method patents to be lacking.

First, the Court should recognize that the “whoever” of § 271(a) can be multiple actors, per Judge Newman’s dissent in *Akamai*.¹⁹⁶ Therefore, divided direct infringement (under § 271(a)) should be a prerequisite finding for liability under either § 271(b) or § 271(c). Unless the single entity rule is met, in cases where courts find divided direct infringement, culpable parties should be identified by their intent to induce infringement under § 271(b) or contribute to it under § 271(c). For divided direct infringement liability under § 271(a), the single entity rule should be required to be met. Judge Newman’s dissent argues that liability under her proposed system would be apportioned based on “the particular case,” leaving courts to judicially determine each and every time which actors are appropriately included in a patent infringement case.¹⁹⁷ Instead, this approach advocates for the resurrection of the single entity rule. This would allow for strict liability in the “mastermind” cases, where one actor controls the actions of others and their collective actions infringe a patent. Limiting the single entity rule to § 271(a)

193. See *supra* Part I.

194. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284-341 (2011).

195. See, e.g., COMPREHENSIVE LEGISLATIVE HISTORY OF THE LEAHY-SMITH AMERICA INVENTS ACT (Patrick A. Doody ed., 2012), http://www.pillsburylaw.com/siteFiles/Practices/AIA_LegislativeHistory_final.pdf. The discussion concerning the Act is primarily focused on the switch to first-to-file.

196. *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1322 (Fed. Cir. 2012) (Newman, J., dissenting); see *supra* Part III.B.

197. *Akamai*, 692 F.3d at 1336 (Newman, J., dissenting).

fits with patent law's roots in tort law as well as the doctrine of respondeat superior.

Next, while correct in its formulation of "whoever" in § 271(a), Judge Newman's dissent is not without its problems and it should not be adopted entirely. As noted by the EFF,¹⁹⁸ Judge Newman's dissent opens potential liability to far too many actors. Judge Newman noted that "experience makes clear that the target is the deep-pocket commercial participant."¹⁹⁹ This may have been true in the time of *Aro* and similar component based cases. How would one identify the customers who specifically bought the fabric top and the car? But in today's era, where Internet Service Providers are routinely subpoenaed for the identity of users in copyright cases,²⁰⁰ it is not at all far-fetched that customers themselves could be found liable. For example, the holder of a patent on an interactive method infringed by Facebook could request the IP addresses of users who used the particular functionality. This would "ensnare innocent actors" placing "an undue burden on the courts to cut them free."²⁰¹ Protection is clearly needed for these innocent actors, and this is why the intent standard for inducement under § 271(b) is proper. In particular, courts should continue to require specific knowledge of the patent. Specific knowledge of the patent maintains precedent under § 271(b) and § 271(c) and keeps innocent end users out of the reach of patent law.

Turning to the *Akamai* majority, courts should follow a modified version of the three-step test from *Akamai*. The first two steps are generally the same. First, the defendant must know of the plaintiff's patent. Next, in a slight expansion, the defendant must either induce performance of (for § 271(b)) or contribute to the infringement of (for § 271(c)) the patent. Finally, in the third step, rather than proving that the steps of the patent must be performed, the plaintiff must prove that, somewhere, § 271(a) direct infringement has occurred. This § 271(a) infringement can be either the divided direct infringement (with Judge Newman's definition of whoever discussed *supra*) or traditional direct infringement. In the original holding of *Akamai* (besides involving only § 271(b)), the third step involved making a showing that all steps of the patent were performed, not mentioning § 271(a) or direct infringement at all. If the *Akamai* majority had intended § 271(a) to be a predicate for § 271(b) and § 271(c), they would have explicitly included language indicating this intention. That they did not do so is an unequivocal decoupling of the connection between direct and indirect

198. See Barclay, *supra* note 170.

199. *Akamai*, 692 F.3d at 1332 (Newman, J., dissenting).

200. See, e.g., Joe Mullin, "Look, You May Hate Me:" 90 Minutes with John Steele, *Porn Troll*, ARS TECHNICA (Sept. 21, 2013, 9:34 PM), <http://arstechnica.com/tech-policy/2013/05/look-you-may-hate-me-90-minutes-with-john-steele-prenda-porn-troll/2/>.

201. W. Keith Robinson, *No 'Direction' Home: An Alternative Approach to Joint Infringement*, 62 AM. U. L. REV. 59, 100 (2012).

infringement.²⁰² By removing § 271(a) and its “within this country” requirement, the *Akamai* decision introduced a new foreign activity loophole to patent infringement cases which plaintiffs can exploit, as well as uncertainty into the system by upending all indirect infringement case law interpreting the 1952 Patent Act. This state of affairs must be fixed.

Thus, making direct infringement a prerequisite for § 271(a) for § 271(b) and § 271(c) solves this problem. It fixes the troubling precedential problem of *Aro* and moves case law back in line with post-1952 decisions. After all, it would be improper to engender infringement liability merely by encouraging infringement in the absence of some form of direct infringement. Restoring direct infringement as a requirement for indirect infringement in the third step also solves the extraterritorial problem created when the court decoupled § 271(a) from § 271(b), by bringing back the “in this country” requirement of § 271(a).²⁰³ By not making § 271(a) an explicit requirement for § 271(b), the majority opened a new loophole for actions done outside the United States. Restoring § 271(a) to its rightful place as an indirect infringement predicate closes this loophole.

This solution, when viewed in total, closes present loopholes in patent infringement liability. When an entity controls another, the single entity rule is met and the mastermind shall be liable under § 271(a). In other cases, where there is divided direct infringement (under § 271(a)) but the single entity rule is not met, § 271(b) and/or § 271(c) can be pursued. In the words of Giles Rich, then advising Congress on the 1952 Patent Act, “wherever there is contributory infringement there is somewhere something called direct infringement, and to that direct infringement someone has contributed.”²⁰⁴ This approach also comports much better with the precedent of *Aro* and subsequent cases, as well as restoring the “in this country” limitation of § 271(a) not present in § 271(b) or § 271(c) and therefore limiting extraterritorial effects. Finally, by removing actors from the realm of divided direct infringement liability in the absence of the single entity rule, innocent actors are spared the rigors and expense of a patent trial. However, this solution ensures that the courts can still recognize that “somewhere” direct infringement has occurred, and can then focus the judicial inquiry on § 271(b) or § 271(c) liability for the proper actor.

202. *Akamai*, 692 F.3d at 1329 (Newman, J., dissenting) (“To support its unprecedented ruling of induced infringement without direct infringers, the court also misconstrues the 1952 Patent Act and its history.”).

203. See Holbrook, *supra* note 173.

204. *Patent Law Codification and Revision: Hearings on H.R. 3760 Before Subcomm. No. 3 of the H. Comm. on the Judiciary*, 82d Cong. 151 (1951) (statement of Giles S. Rich, Esq.)

CONCLUSION

Since its creation, the courts have approached the doctrine of indirect infringement with varied treatment. The modern method patents of today were not envisaged by the *Aro* Court, by the drafters of the 1952 Act, nor by the court confronting infringing lamp and chimney manufacturers in *Wallace*. The component-based analysis of § 271(c) case law shows that § 271(c) is ill-equipped to deal with modern method patents. The Internet has given rise to possible infringement on a scale that scholars even as late as the 1990s could only begin to imagine. Internet users numbering in the millions can easily contribute to infringement of an interactive or collaborative method patent. At the same time, the Federal Circuit's single entity rule has allowed actors to avoid liability by not exercising direction or control, an easy loophole with millions of dispersed users. Finally, *Akamai* has announced a new standard for indirect infringement, but has disturbed almost all of the modern era indirect infringement doctrine and has opened geographic loopholes by removing the direct infringement prerequisite.²⁰⁵

The better approach is to make a finding of direct infringement, be it either divided or traditional, a prerequisite for liability under § 271(b) and § 271(c). This comports with the precedent of *Aro* and closes any geographical loopholes. But for various public policy reasons, the Court should not go so far as to extend divided direct infringement liability to all parties as advocated in Judge Newman's *Akamai* dissent. This would open far too many innocent users to infringement and create a mess for courts to disentangle. A culpable party will be evidenced by their intent to infringe. Finally, the single entity rule should continue to be a prerequisite for a finding of § 271(a) liability when multiple actors are involved. If the single entity is not met, a plaintiff can seek redress either through § 271(b) or § 271(c), with a showing of knowledge of the patent, contribution to or inducement of infringement of the patent, and a showing of divided direct infringement.

In conclusion, this approach enables patentees to properly utilize their patents by providing a judicially created construction for enforcement, keeps case law in line with *Aro* precedent and the intent of the 1952 Patent Act drafters, and prevents innocent third-party infringers from being liable for damages.

205. *Akamai*, 692 F.3d at 1328 (Newman, J., dissenting) (“[T]he court holds that there need not be direct infringers.”).