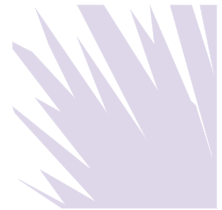


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Recommended Citation: Mark A. Lemley et al., *Divided Infringement Claims*, 6 SEDONA CONF. J. 117 (2005).

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DIVIDED INFRINGEMENT CLAIMS

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I. INTRODUCTION

Patent law is territorial. It is also designed to deal with the circumstance of unified infringement by a single actor. But modern commerce is not limited by national boundaries or by corporate forms. Patents written to cover modern technologies, particularly network computing technologies, are attempting to bring the distributed acts of different users around the globe into the ambit of a territorial legal system that looks for a single infringer. Not surprisingly, the effort to do so has created significant problems for patent cases.

This article focuses on two examples of what we call “divided” or “distributed” claims: multi-user and multi-jurisdictional claims. These claims exist where patents are infringed only by aggregating the conduct of more than one actor or conduct that occurs in more than one country, respectively. Patent law doesn’t deal well with either class of divided patent claim. Prosecutors and litigators need to be aware of these problems in order to most effectively represent their clients.

II. MULTI-USER CLAIMS

A person may invent a new and useful process that requires steps (a) and (b) of a claimed process to be performed by one person and step (c) to be performed by another person. These distributed or divided patent claims are surprisingly common, particularly in the field of computer networking, where a patented process may involve some steps performed on the client side and others performed on the server side.¹ If the claim is not drafted carefully, the invention may fulfill every requirement for patentability but, given the statutory scheme of infringement, the patent may leave its owner without a remedy.

Liability for infringement is governed by the text of the patent statute.² The statute creates a cause of action for both direct and indirect infringement.³ Section 271(a) governs direct infringement. Indirect infringement is governed by sections 271(b)⁴ and (c),⁵ which define inducement and contributory infringement, respectively.

Where one person does not perform each and every step of the claimed process, no person directly infringes the claim. Section 271(a) imposes liability on “whoever without authority makes, uses, offers to sell or sells any *patented invention*” Accordingly, only the practice of each and

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1 See, e.g., U.S. Patent No. 6,421,726 (issued July 16, 2002) (claiming a method that caches and serves a media file from a Web page in which the network attributes are selected by the caching provider, but a page linking to that media file is served by the Web-page provider. To the extent it is relevant, Kecker & Van Nest LLP was involved in the litigation of this patent on behalf of Speedera Networks.).

2 N. Am. Philips Corp. v. Am. Vending Sales Inc., 35 F.3d 1576, 1579, 32 U.S.P.Q.2d (BNA) 1203, 1205 (Fed. Cir. 1994) (“[T]he cause of action for patent infringement is created and defined by statute.”).

3 35 U.S.C. Section 271(a) (2001) (providing that “whoever without authority makes, uses, offers to sell or sells any patented invention . . . infringes the patent”).

4 35 U.S.C. Section 271(b) (2001) (providing that “[w]hoever actively induces infringement of a patent shall be liable as an infringer”).

5 35 U.S.C. Section 271(c) (2001) (providing that, for parts relevant to patented processes, “within the United States . . . a material or apparatus 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 non-infringing use, shall be liable as a contributory infringer”).

every step of the claimed method constitutes direct infringement.⁶ Similarly, a process or method claim is “directly infringed only when the process is performed.”⁷

Where a defendant participates in infringement but does not directly infringe the patent, the normal recourse under the law is to indirect infringement. But “indirect infringement, whether inducement to infringe or contributory infringement, can only arise in the presence of direct infringement.”⁸ For example, in *Dynacore Holdings Corp. v. U.S. Philips Corp.*, the plaintiff had sued more than a dozen companies whose products, it alleged, could be used in a manner that indirectly infringed its patent. However, the Federal Circuit held that because the plaintiff could not show that either the named defendants or their customers directly infringed the patent in suit, it could not “even reach the question of the defendants’ vicarious liability for indirect infringement.”⁹

The patent laws thus leave a hole in the statutory infringement scheme in the case of divided patent claims. No cause of action for infringement may lie unless some person performs each and every step of a claimed process. Yet, some patents claim new and useful inventions that cannot be performed by one person. Who, if anyone, is liable in such a case?

A few courts have sought to fill part of this statutory hole by permitting suits under a theory akin to inducement, where one party was responsible for directing others to perform the steps of the patented process.¹⁰ Under this theory, courts have imposed liability for direct infringement where another person acts as an agent of the alleged infringer, in effect aggregating the conduct of defendants acting in concert for liability purposes. For example, in *Shields v. Halliburton Co.*, two defendants between them performed all of the steps of a claimed process, but no single defendant performed each and every claimed step.¹¹ Yet, because “[i]nfringement of a patented process or method *cannot be avoided by having another perform one step of the process or method*,” the court found the claims “singularly and jointly infringed by defendants” where one had instructed the other to perform the infringing steps.¹² Likewise, in *Mobil Oil Corp. v. W. R. Grace & Co.*, the court held that “defendant, in effect, made each of its customers *its agents* in completing the infringement step, *knowing full well that the infringement step would in fact be promptly and fully completed by those customers*.”¹³

These two district court cases are the exception rather than the rule, however. More typical are cases in which a single party does perform all the steps of the patent at the direction of another. Thus, in *Crowell v. Baker Oil Tools, Inc.*, the Ninth Circuit reasoned that:

It is obvious that one may infringe a patent if he employ [sic] an agent for that purpose or have [sic] the offending articles manufactured for him by an independent contractor. We do not agree that it is necessary that appellant himself be a manufacturer of the alleged infringing devices or that he have [sic] machinery or manufacturing facilities or employees to make them or a written or an oral contract for supplies for such manufacture.¹⁴

6 See *Canton Bio-Medical, Inc. v. Integrated Liner Techs., Inc.*, 216 F.3d 1367, 1370, 55 U.S.P.Q.2d (BNA) 1378, 1379 (Fed. Cir. 2000); *Gen. Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1274, 23 U.S.P.Q.2d (BNA) 1839, 1840 (Fed. Cir. 1992); *Roberts Dairy Co. v. United States*, 530 F.2d 1342, 1354, 182 U.S.P.Q. (BNA) 218, 225 (Ct. Cl. 1976).

7 *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 773, 28 U.S.P.Q.2d (BNA) 1378, 1381 (Fed. Cir. 1993).

8 *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1272, 70 U.S.P.Q.2d (BNA) 1369, 1375 (Fed. Cir. 2004).

9 *Id.* at 1277, 70 U.S.P.Q.2d (BNA) at 1379.

10 On inducement, see Mark A. Lemley, *Inducing Patent Infringement*, 39 U.C. DAVIS L. REV. (forthcoming 2005); Recent Cases, *Patent Law - Active Inducement of Infringement - District Courts Hold That Inducement Liability Requires Proof of Intent to Induce Violation of the Law*, 115 HARV. L. REV. 1246 (2002).

11 493 F. Supp. 1376, 1389, 207 U.S.P.Q. (BNA) 304, 315 (W.D. La. 1980) (noting that: “[o]n Freeport, the actual grouting operation was conducted by Halliburton which was assisted by Brown and Root employees on the platform. On Marathon, Halliburton again performed the grouting operations and the employees of Brown and Root who were on the platform assisted by controlling and bleeding off the air pressure as Halliburton pumped grout. At least one of the legs of each platform was grouted successfully using the procedures of RE 28,232.”).

12 *Id.*, 207 U.S.P.Q. (BNA) at 316 (emphasis added); see also *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 586 F. Supp. 1176, 1226, 222 U.S.P.Q. (BNA) 863, 902 (D. Kan. 1984), *aff’d in part*, 772 F.2d 1570, 227 U.S.P.Q. (BNA) 177 (Fed. Cir. 1985) (“It is well settled that a party cannot avoid infringement merely by having a third party practice one or more of the required steps. Defendant maintains or controls the pH of the soybean starting material used in its process within the meaning of the asserted claims.”); *Metal Film Co. v. Milton Corp.*, 316 F. Supp. 96, 110 n.12, 167 U.S.P.Q. (BNA) 267, 278 n.12 (S.D.N.Y. 1970) (“That defendants choose to have the vacuum metallizing, which was a conventional step . . . done by outside suppliers does not mitigate their infringement of the overall process.”).

13 367 F. Supp. 207, 253, 180 U.S.P.Q. (BNA) 418, 450 (D. Conn. 1973) (emphasis added).

14 *Crowell v. Baker Oil Tools, Inc.*, 143 F.2d 1003, 1004, 62 U.S.P.Q. (BNA) 176, 177 (9th Cir. 1944).

It is worth noting that *Crowell* did not actually involve a divided claim at all, but rather a single act of infringement by a contractor at the direction of the defendant. As the court noted in *E.I. DuPont De Nemours and Co. v. Monsanto Co.*, these cases establish that a person “cannot avoid liability for infringement of [a] process patent by paying [another] to practice step (a) of the patented process for it.”¹⁵ They are thus consistent with the policy behind Section 271(f), which seeks to prevent a defendant from inducing infringement while avoiding liability by having portions of a device made overseas and then combined into an infringing product.¹⁶ The courts themselves don’t generally distinguish between direct infringement and inducement, finding that the parties are part of a collaborative scheme directed by one of them to cause infringement.¹⁷

But these cases do not resolve the issue of truly divided claims, because they deal only with the relatively straightforward case in which a single defendant seeks to avoid liability for an infringing act by employing agents to perform the steps of the patented process. Where there is no agency relationship or similar coordination - for example where the different actors do not know each other at all, or are in an arm’s-length business transaction - courts have not been willing to apply the law of inducement to aggregate the disparate acts of unrelated parties. Courts require proof of a sufficient connection between the coordinator and the entity performing the steps that the coordinator, “through its connection with the entity performing only part of the process, is in actuality performing the combination of each and every step of the claimed method.”¹⁸ This is a rather strict standard, contemplating almost an alter ego and certainly not a mere customer relationship. This reluctance stems from the language of Section 271(b),¹⁹ which requires an act of direct infringement and permits liability only where “specific intent and action to induce infringement” are found.²⁰

For example, in *Faroudja Laboratories, Inc. v. Dwin Electronics, Inc.*,²¹ the patent covered a method for improving television image quality by converting films to TV signals and then doubling the number of scan lines.²² The defendant sold a line-doubler that worked with televisions.²³ Movie studios converted films into television signals before broadcasting those films; home viewers doubled the number of scan lines when they viewed a movie.²⁴ But while all the steps of the patented method were performed, no one entity performed them. Nor was it the case that the defendant sold its line-doubler with instructions teaching buyers how to make infringing use. The problem was that the claim was divided - three different actors had to come together to perform the method, and there was no central entity coordinating their actions. The court concluded that no one was liable for direct infringement because no one actually performed all the steps of the patented method.²⁵ The court in *E. I. DuPont De Nemours and Co. v. Monsanto* similarly found no direct infringement in such a divided claim situation.²⁶ And the Ninth Circuit in dictum has expressed doubts about whether anyone can be held liable in such a situation.²⁷

While these decisions seem unfair at first glance, because they create a right without a remedy, they in fact serve an important policy purpose. Direct infringement is a strict-liability offense, but it is limited to actually performing all the steps of a patented process. By contrast, indirect liability requires evidence of “specific intent” to induce infringement,²⁸ or knowledge that a good is specially adapted for aiding infringement and has no other use.²⁹ Construing the patent laws

15 903 F. Supp. 680, 735 (D. Del. 1995).

16 35 U.S.C. Section 271(f) (2001). We discuss this section in more detail in our analysis of international infringement issues, *infra* Part IV.A.

17 Courts periodically speak of “joint and several liability” for patent infringement. See, e.g., *Thomson-Houston Elec. Co. v. Ohio Brass Co.*, 80 F. 712, 721 (6th Cir. 1897). But in context it seems clear that they are not creating a new theory of joint infringement but making the familiar point from tort law that once infringement has been proven, all those liable for that infringement must share their liability jointly and severally, rather than apportioning fault.

18 *Marley Mouldings Ltd. v. Mikron Indus., Inc.*, No. 02C 2855, 66 U.S.P.Q.2d (BNA) 1701, 1703 (N.D. Ill. Apr. 29, 2003); see also *Int’l Rectifier Corp. v. Samsung Elec. Co.*, 361 F.3d 1355, 1361 (Fed. Cir. 2004) (rejecting liability for “conspiracy to infringe” where there was no evidence that Samsung exercised control over IXYS, the importer of the infringing goods).

19 35 U.S.C. Section 271(b) (2001) (punishing only a person who “actively induces infringement”).

20 *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1364, 65 U.S.P.Q.2d (BNA) 1481, 1491 (Fed. Cir. 2003).

21 No. 97-20010 SW, 1999 WL 111788 (N.D. Cal. Feb. 24, 1999).

22 *Id.* at *1.

23 *Id.* at *2.

24 *Id.* at *1.

25 *Id.* at *7; see *Cordis Corp. v. Medtronic Ave, Inc.*, 194 F. Supp. 2d 323, 349 n.19 (D. Del. 2002) (reading *Faroudja* as requiring “some connection” between the parties, but not specifying the strength of the connection).

26 903 F. Supp. 680, 734-35 (D. Del. 1995).

27 *Mobil Oil Corp. v. Filtrrol Corp.*, 501 F.2d 282, 291-92, 182 U.S.P.Q. (BNA) 641, 648 (9th Cir. 1974).

28 *Heulett Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 U.S.P.Q.2d (BNA) 1525, 1529 (Fed. Cir. 1990); *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 553, 16 U.S.P.Q.2d (BNA) 1587, 1594 (Fed. Cir. 1990).

29 35 U.S.C. Section 271(c) (2001).

to permit the individual, non-infringing acts of unrelated parties together to add up to infringement would render both Section 271(b) and Section 271(c) meaningless. Section 271(b) provides that a party is liable if it knowingly induces another to infringe. But on a theory of joint infringement, no one need ever sue for inducement. All they need allege is that a party performed one of many steps of a method, and that someone else performed another step. No intent would be required.

The result would be to unreasonably expand liability for indirect infringement by conflating it with direct infringement. Consider a patent on a method of improving data delivery over the Internet. Both Dell Computer, which makes personal computers, and Verizon, which owns the telephone lines, make equipment that can be used - in combination with other devices and steps - to infringe that patent. Were a patent owner to allege that Dell and Verizon engaged in direct infringement because they supplied those devices, we have no doubt the courts would (properly) reject such a claim out of hand. Dell and Verizon are not themselves infringing. Nor are they instructing anyone else to infringe. They can be liable for supplying a device only in the limited circumstances of contributory infringement - where the device has no substantial use other than to infringe the patent.

The Federal Circuit has recognized the risk of expanding liability for direct infringement in this way. Indeed, in *Joy Technologies, Inc. v. Flakt, Inc.*, it refused to extend the scope of direct infringement to encompass providing a device that performs one step in a patented process because “[t]o hold that the sale of equipment which performs a patented process is itself a direct infringement would make that portion of Section 271(c) relating to the sale of an apparatus for use in practicing a patented process meaningless.”³⁰ Nor can they permit the patent holder to “control the distribution of unpatented articles unless they are unsuited for any commercial non-infringing use,” because the “sale of an article which though adapted to an infringing use is also adapted to other and lawful uses, is not enough to make the seller a contributory infringer.”³¹

III. MULTI-JURISDICTIONAL CLAIMS

A. The Territorial Nature of Patent Law

Patent claims covering computer networks need not be distributed in the sense that the acts of more than one person are necessary to infringe. They may also be distributed in a geographic sense, requiring or permitting different steps of a patented process to occur in different locations. Indeed, permitting geographically distributed use is the very point of computer networks, so it is hardly surprising that networking patents might be practiced by aggregating work in different locations.

The United States Supreme Court held thirty-three years ago in *DeepSouth Packing Co. v. Laitram Corp.* that U.S. patent laws are territorially based and are not violated by overseas acts that would constitute infringement in the U.S.³² Though Congress repudiated *DeepSouth's* precise holding by promulgating Section 271(f), which imposes liability for manufacturing a substantial portion of a patented invention's components and having those components assembled overseas, the broader principle that animated the decision has historically influenced, and continues to influence, distributed patent infringement decisions.³³ Because patent law, unlike copyright, is territorial in nature, those who want worldwide protection must seek patents in multiple countries.³⁴

30 6 E3d 770, 774, 28 U.S.P.Q.2d (BNA) 1378, 1381 (Fed. Cir. 1993); see also *DuPont v. Monsanto*, 903 F. Supp. 680, 735 (D. Del. 1995) (“Similarly, in this case, it seems that if Monsanto were liable as a direct infringer under Section 271(a) for making and selling a component of the claimed process, then Section 271(c), which imposes liability for ‘sell[ing] a . . . material . . . for use in practicing a patented process’ would be superfluous.”). Strictly speaking, while such a reading would indeed make Section 271(c) superfluous, there might remain some room for operation of Section 271(b). Because inducement, unlike contributory infringement, need not involve any actual participation in the making of an accused device, liability for inducement would still be relevant in a joint infringement world in the situation in which a defendant directed another to infringe but did not itself participate at all in the act of infringement. But this is not the normal case of inducement, and, historically at least, inducement law reached further.

31 *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 441, 220 U.S.P.Q. (BNA) 665, 678 (1984) (quoting *Henry v. A.B. Dick Co.*, 224 U.S. 1, 48 (1912)); see also *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1276 n.6, 70 U.S.P.Q.2d (BNA) 1369, 1378 n.6 (Fed. Cir. 2004) (citation omitted) (holding that the “sale of a lawful product by lawful means, with the knowledge that an unaffiliated, third party may infringe, cannot, in and of itself, constitute inducement of infringement”).

32 406 U.S. 518, 531, 173 U.S.P.Q. (BNA) 769, 774 (1972).

33 *Intl Rectifier Corp. v. Samsung Elecs.*, 361 F.3d 1355, 70 U.S.P.Q.2d (BNA) 1124 (Fed. Cir. 2004). For a general discussion of the territoriality principle, with specific application to the problem of international offers for sale, see Timothy R. Holbrook, *Territoriality Waning? Patent Infringement for Offering in the United States to Sell an Invention Abroad*, 37 U.C. DAVIS L. REV. 701 (2004).

34 On the international nature of copyright law and the choice of law problems it presents, see Paul Edward Geller, *Conflicts of Laws in Copyright Cases: Infringement and Ownership Issues*, 51 J. COPYRIGHT SOC'Y USA 315, 337-38 (2004).

The territorial nature of patent law creates problems when applied to computer networking patents. Where those patents are practiced from locations in different countries, no one country's patent law may actually cover the infringing activity, even if the inventor owns patents in each relevant country.³⁵ The result may be a gap that seems parallel to the one we discussed in the last part: collectively, a patented invention is being practiced, but no country's laws may actually cover that activity.³⁶ The issue has come up several times in recent years.

B. Liability under 35 U.S.C. Sections 271(f) and (g)

The obvious place to start in considering international infringement is with 35 U.S.C. Sections 271(f) and (g) - the Congressional response to Deepsouth Packing. Section 271(f) reverses the precise holding of Deepsouth, providing that a defendant who ships physical components from the United States with the intent that they be combined abroad infringes the patent. Section 271(f), however, has proven difficult to apply in the computer environment. In *Pellegrini v. Analog Devices, Inc.*, the Court rejected a claim that Section 271(f) covered a defendant that designed components in the U.S. and transmitted instructions for manufacturing them overseas.³⁷ The Court reasoned that applying Section 271(f) to designs or instructions would eviscerate its at least implied requirement that physical components be shipped to or from the United States.³⁸ By contrast, the Federal Circuit came to the opposite conclusion the following year in *Eolas Technologies, Inc. v. Microsoft Corp.*³⁹ In that case, Microsoft had sent a "golden master" disk overseas and used that disk to make new copies of the infringing computer program for distribution abroad.⁴⁰ The Federal Circuit found that Microsoft was liable for infringement because the golden master disk that was shipped abroad itself contained the computer program, and thus necessarily contained all of its components.⁴¹ The court quite reasonably asserted that there was no reason to treat software inventions differently than mechanical or other physical inventions. Getting around Pellegrini presented a tougher problem. The court distinguished Pellegrini on the grounds that in that case the defendant exported data used abroad to design a physical thing, while in the Eolas cases the defendant exported data in the form of code used abroad to produce a computer program.⁴² This seems a weak point of distinction.⁴³

While Eolas suggests a move toward internationalization of U.S. patent liability, the line between it and Pellegrini can readily be gamed. Someone who wants to avoid a U.S. patent can design the invention in the U.S. and send instructions overseas, so long as the actual production and use of the invention occurs overseas. Further, because Section 271(f) does not apply to all process claims,⁴⁴ drafting claims in process form will make it even harder to apply them to international infringement. Even after Eolas, therefore, it is still possible to avoid infringement under Section 271(f) by offshoring.

Nor can the patentee prevent the benefits of a distributed software invention from returning to the United States. Section 271(g) protects patentees against foreign use of patented processes by making it illegal to import into the United States a product produced abroad by a

35 See *Zolek Corp. v. United States*, 62 U.S.P.Q.2d (BNA) 1366, 1368 (Cr. Cl. 2002) (holding that Section 1498(c), which applies patent law to the government but excludes "any claim arising in a foreign country," requires that the defendant have performed all the steps of the infringing process within the United States). Dan Burk recognized more than a decade ago that this problem was coming. See Dan L. Burk, *Patents in Cyberspace: Territoriality and Infringement on Global Computer Networks*, 68 TUL. L. REV. 1, 32 (1993). Now it's here.

36 A good example is *International Rectifier*, where the Federal Circuit refused to hold Samsung liable for the conduct of a third party, IXYS, in importing infringing products Samsung had helped make abroad. While Samsung was prohibited from making or selling the products in the United States, the district court's power to enjoin it did not extend outside the United States or to "conspiracies" to infringe a patent jointly. 361 F.3d at 1361.

37 375 F.3d 1113, 1117-18, 71 U.S.P.Q.2d (BNA) 1630, 1633 (Fed. Cir. 2004).

38 *Id.*

39 399 F.3d 1325, 1341 (Fed. Cir. 2005); see also *Imagexpo, LLC v. Microsoft Corp.*, 299 F. Supp. 2d 550, 553 (E.D. Va. 2003). For a discussion of *Microsoft*, see Donald S. Chisum, *Reforming Patent Law Reform*, 4 J. MARSHALL REV. INTELL. PROP. L. 336, 346-47 (2005).

40 *Eolas*, 399 F.3d at 1331.

41 *Id.* The logical conclusion of Eolas seems to be that Microsoft will be held liable for worldwide damages because it designed its program in the United States and shipped the actual program abroad. The court later so held in *AT&T Corp. v. Microsoft Corp.*, ___ F.3d ___, 2005 WL 1631112 (Fed. Cir. July 13, 2005). By contrast, had it designed the program abroad, it would be liable only for damages based on the importation of the program, if anything.

42 *Eolas*, 399 F.3d at 1331.

43 *But cf.* Alan M. Fisch & Brent H. Allen, *The Application of Domestic Patent Law to Exported Software*: 35 U.S.C. Section 271(f), 25 U. PA. J. INT'L ECON. L. 557, 571 (2004) (arguing for the distinction based on the court's refusal to apply Section 271(f) to process claims).

44 See, e.g., *Enpat, Inc. v. Microsoft Corp.*, 6 F. Supp. 2d 537, 539, 47 U.S.P.Q.2d (BNA) 1218, 1220 (E.D. Va. 1998); *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1374, 21 U.S.P.Q.2d (BNA) 1321, 1332 (Fed. Cir. 1991); *Synaptic Pharm. Corp. v. MDS Panlabs, Inc.*, 265 F. Supp. 2d 452, 464 (D.N.J. 2002). See also *NTR, Inc. v. Research in Motion, Inc.*, ___ F.3d ___, 2005 WL 1806123 (Fed. Cir. Aug. 2, 2005) ("it is difficult to conceive of how one might supply or cause to be supplied all or a substantial portion of the steps of a patented method in the sense contemplated by . . . section 271(f).").

process patented in the U.S. This might be thought to provide substantial protection against the use of a networking patent abroad to benefit users in the U.S. In *Bayer AG v. Housey Pharmaceuticals*,⁴⁵ however, the Federal Circuit held that Section 271(g) applied only to the importation of products, not data. It confirmed that result in *NTP, Inc. v. Research in Motion*.⁴⁶ As a result, the portions of the patent statute designed to deal with extraterritorial infringement will not provide effective protection against infringement over international computer networks.

C. Limited Extraterritoriality under 35 U.S.C. Section 271(a)

Courts have long recognized the potential unfairness of the limits on international patent infringement. Specifically, they have generally taken a relatively lenient approach to traditional types of distributed patent infringement by imposing liability for direct infringement under Section 271(a) where a significant portion of the accused system sits in the United States. An early example is *Rosen v. NASA*,⁴⁷ an interference proceeding that addressed reduction-to-practice of a patent application that claimed a communication satellite and an earth-based control point. The issue in dispute was whether the invention was reduced to practice in the U.S., since the satellite required by the application claims was in outer space.⁴⁸ The Court found persuasive a prior interference ruling that found an applicant had reduced to practice in the U.S. a claimed radio invention because “a substantial portion” of the “integrated instrumentality” was found in the U.S.⁴⁹ Specifically, two of four radio transmitter stations were in the U.S., the other two transmitter stations had initially been established by the U.S. on foreign soil per an intergovernmental agreement, and the receiving device was on a U.S. craft.⁵⁰ The *Rosen* court applied the “integrated instrumentality” test to find that the satellite control point’s location was enough to find the invention to have been reduced to practice in the U.S.⁵¹

Another example of a court finding liability after a fairly generous weighing of the accused instrumentality’s location can be found in *Decca Ltd. v. United States*.⁵² The *Decca* defendant sought to rebut the plaintiff’s infringement allegations against the defendant’s radio-navigation system by arguing that the system required three stations - one of which would always be overseas, to operate optimally - and issued broadcasts to craft outside the U.S.⁵³ The Court rejected this argument because the majority of stations were based in the U.S., the station equipment was made in the U.S., and the foreign stations would always have to synchronize with their U.S. counterparts.⁵⁴ The court focused on the fact that the claims emphasized receiving, not generating, the navigation signals. Put another way, while “use of United States territory is indispensable, . . . [t]he location of facilities in some foreign countries is also essential to the plan, but the selection of any single other country is, apparently, not essential.”⁵⁵

Most recently, the Federal Circuit held in *NTP v. Research in Motion* that a defendant engaged in an act of direct infringement of NTP’s system claims under Section 271(a) by employing a computer system that resided mostly in the United States, but with a critical part based in Canada. The court held that the system is “used” within the United States when two owners of Blackberry devices communicate with each other within the United States, even though one element of the system is performed outside the United States.⁵⁶ In so doing, the Federal Circuit followed *Decca* in focusing on “the place at which the system as a whole is put into service, i.e., the place where control of the system is exercised and beneficial use of the system obtained.”⁵⁷ It concluded that the “location of the use of the communication system as a whole” was within the U.S. because RIM’s customers sent and received their email messages from the U.S. A few other courts have found infringement

45 340 F.3d 1367, 1377-78, 68 U.S.P.Q.2d (BNA) 1001, 1008-09 (Fed. Cir. 2003).

46 ___ F.3d ___, 2005 WL 1806123 (Fed. Cir. Aug. 2, 2005).

47 152 U.S.P.Q. (BNA) 757, 758-59 (Bd. Pat. Inter. 1966).

48 *Id.* at 768.

49 *Id.* at 767.

50 *Id.*

51 *Id.* at 768.

52 544 F.2d 1070, 1083, 191 U.S.P.Q. (BNA) 439, 450 (Cr. Cl. 1976).

53 *Id.* at 1074, 191 U.S.P.Q. (BNA) at 442.

54 *Id.*

55 *Id.* at 1075, 191 U.S.P.Q. (BNA) at 443.

56 *NTP, Inc. v. Research in Motion, Ltd.*, ___ F.3d ___, 2005 WL 1806123 (Fed. Cir. Aug. 2, 2005).

57 *Id.* By contrast, the court held that the patentee’s *method* claims were not infringed: “a process cannot be used ‘within’ the United States as required by section 271(a) unless each of the steps is performed within this country.” *Id.*

based on multi-territorial conduct if the patentee managed to identify a critical part of an accused system with a U.S. nexus.⁵⁸

These courts have reached beyond the traditional territorial limits of patent law, and arguably ignored the intent of *Deepsouth Packing* to avoid an apparently inequitable result. In doing so, however, the courts have adopted a “locus of infringement” approach, under which the invention is deemed to exist in the country with the strongest connection to the invention.⁵⁹ The patents in *Rosen* and *Decca* were enforceable in the U.S., but for that very reason companion foreign patents would not be enforceable anywhere else. This locus has permitted the courts to achieve the results that seem equitable in the cases before them. But the test is subject to manipulation in the computer network environment, because a computer network system can be deliberately located primarily in a country where there is no patent, while users everywhere benefit from practicing the invention.

NTP could be read as going further, holding that a defendant commits an act of direct infringement wherever its networked product is used, regardless of where the network components themselves are located. If so, the legality of even a system wholly within one country would not be tested solely by the laws of that country, but rather by the laws of any jurisdiction whose resident logged on to use the system. But such a reading would put the Federal Circuit at odds not only with the Supreme Court’s *Deepsouth Packing* decision but also with the Court of Claims’ *Decca* decision on which *NTP* relied so heavily. We think that the case is better understood as reinvigorating the dormant line of “locus of infringement” cases, and that the court would limit its holding to cases in which the acts that collectively constitute infringement occurred primarily, though not exclusively, in the United States.

There are plausible policy reasons for trying to find a locus of infringement in a networked computing environment. First, patent law is not fully harmonized globally. Differing rules regarding priority disputes and the divesting effect of publication mean that an invention may be patented by one inventor in the U.S. and another in the rest of the world, or that an invention may be patentable in the U.S. but not in the rest of the world.⁶⁰ As a result, it is not always reasonable to treat patent rights as fungible internationally. Further, as we have seen in other legal fields, the worldwide scope of the Internet may lead to unreasonable liability by exposing anyone who engages in activity online to jurisdiction in hundreds of countries throughout the world.⁶¹ The locus-of-infringement approach seems a reasonable effort to compromise between a rule that would require all elements of a patented claim to be practiced in the same country - and thus make it impossible to enforce networking patents at all against distributing defendants - and a rule that would apply the patent law wherever any element was practiced, leaving a computer network operator vulnerable to suit in multiple jurisdictions throughout the world. But like the *Eolas-Pellegrini* line in Section 271(f), it is a compromise that can be gamed.

IV. PRACTICAL STRATEGIES FOR DEALING WITH DIVIDED CLAIMS

What should a lawyer do when confronted with either a divided patent claim or internationally distributed infringement? We distinguish between prosecution, litigation, and policy strategies.

58 See *Eolas Techs., Inc. v. Microsoft Corp.*, 274 F. Supp. 2d 972, 973-74, 70 U.S.P.Q.2d (BNA) 1937, 1939 (N.D. Ill. 2003), *aff’d Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325 (Fed. Cir. 2005) (holding that sending a “golden master” disk of software source code overseas to load onto computers constituted an infringing act under Section 271(f)); *Hughes Aircraft Co. v. United States*, 29 Fed. Cl. 197, 226, 235-40, 29 U.S.P.Q.2d (BNA) 1974, 1995 (Fed. Cl. 1993) (holding that United States patent law reached spacecraft operating in outer space that were launched from the United States); *cf. N. Am. Philips, Corp. v. Am. Vending Sales*, 35 F.3d 1576, 1579, 32 U.S.P.Q.2d (BNA) 1203, 1205 (Fed. Cir. 1994) (“[T]he ‘tor’ of patent infringement occurs where the offending act is committed and not where the injury is felt.”).

59 In addition to the cases discussed above, *cf. MAGICorp v. Kinetic Presentations, Inc.*, 718 F. Supp. 334, 346 (D.N.J. 1989) (conducting a similar analysis to decide in which of two states infringement of a distributed computer system patent occurred). The *MAGICorp* court concluded that the patent was practiced where the “back end” server existed, not where the front end computers were accessed, and thus that venue was improper in New Jersey.

60 These anomalies result from the U.S. “first to invent” rule, compared to the “first to file” priority rule in the rest of the world; from the U.S. refusal to consider certain inventions that occur outside the U.S.; and from the one-year statutory grace period in the U.S. compared to the absolute novelty rule in Europe.

61 For example, Yahoo! was held subject to criminal liability in France for permitting individuals to sell Nazi memorabilia on its auction site, despite the fact that such conduct is unquestionably lawful in the U.S. See *Yahoo!, Inc. v. La Ligue Contre Le Racisme et L’Antisemitisme*, 169 F. Supp. 2d 1181, 1193-94 (N.D. Cal. 2001), *rev’d*, 379 F.3d 1120 (9th Cir. 2004). And Commonwealth courts have applied libel laws to U.S. publishers who post material online in ways that would violate the First Amendment in the United States.

A. Prosecution Strategies

For those preparing or prosecuting patent applications for inventions susceptible to disaggregation into re-locatable components or steps, the problems of divided or distributed infringement should be of significant concern. Computer networking and software inventions routinely present such challenges, and client- or service-centered claiming strategies have long been employed by those who focus on such technologies. It is important to note, however, that as communications technologies support ever increasing bandwidth, virtually any innovation that employs computation or decision-making is susceptible to placement of a particular component or step with an independent vendor or outside the U.S. in a way that may avoid traditional infringement remedies. In an increasingly outsourced world, applicants (and their counsel) should pay particular attention to these issues.

As detailed above, theories of infringement tend to run into two fundamental problems when applied to divided or distributed infringement. In particular:

- 1) Classic indirect infringement (i.e., liability based on acts that correspond to less than all elements of a claim) requires direct infringement by someone (based on acts that correspond to *all* elements of the claim).
- 2) Infringement under 271(a) cannot generally be based on an extraterritorial act. Liability “as an infringer” for extraterritorial acts arises, if at all, under sections 271(f) and (g) of the statute.

Sweeping statements in some district court opinions notwithstanding, legal theories that seek to attribute acts of one entity to another based on inducement by quasi-agents rest on questionable legal grounds. Accordingly, prosecutors and their clients are best served by understanding divided or distributed infringement problems and developing proactive claiming strategies to avoid these problems. How can this be accomplished? Several strategies make sense.

1. Draft Unitary Claims

First and foremost, it is important to recognize the risk that divided or distributed patent claims may leave the patentee with no remedy at all. Given such recognition, appropriate refinements to claiming strategies are often straightforward.

Most inventions that involve cooperation of multiple entities can be covered using claims drafted in unitary form simply by focusing on one entity and whether it supplies or receives any given element. Compare, for example, two different claims directed (roughly) to a method⁶² commonly employed in electronic commerce to secure communication between browsers and websites:

1. A method for negotiating a secure communications session, comprising
 - (a) transmitting a request to a server;
 - (b) in response to the request, supplying from the server a server certificate, the server certificate including the server’s public key;
 - (c) generating at the client a unique client key and communicating the unique client key to the server using the server’s public key; and
 - (d) thereafter communicating information using a crypto-algorithm that employs a derivative of the unique client key and the server’s public key.

⁶² The reader may recognize the claimed subject matter as an abstraction and simplification of secure sockets layer (SSL) techniques developed by Netscape Communications to enable secure, authenticated communications across the Internet using public key encryption. SSL support is included as part of both the Microsoft and Netscape browsers and most Web server products.

2. A method for negotiating a secure communications session, comprising
 - (a) receiving a request from a client;
 - (b) in response to the request, supplying a server certificate, the server certificate including a public key;
 - (c) receiving from the client a unique client key communicated using the server's public key; and
 - (d) thereafter communicating information using a crypto-algorithm that employs a derivative of the unique client key and the server's public key.

Both claims seek to cover the same invention, but the first is distributed and the second is not, because the first requires that steps be performed by both the client and the server, while in the second only the server is performing any steps. As a result, the enforcement problems we discussed in the first part of this article arise for the first claim but not the second.

The international infringement problem adds some complexity. Claim 2 is infringed in only one location - the place where the server resides. While the unitary strategy played out in claim 2 reduces the risk that no single-entity infringer exists, a competitor could nonetheless avoid a U.S. patent by locating the server offshore. Accordingly, additional strategies come into play. In particular, a complementary version of the unitary claim should be drafted in an attempt to cover client-side acts performed in cooperation with such an offshore server. For example, consider the following client-centric claim:

3. A method for negotiating a secure communications session, comprising
 - (a) transmitting a request to a server;
 - (b) receiving from the server a server certificate including the server's public key;
 - (c) generating a unique client key and communicating the unique client key to the server using the server's public key; and
 - (d) thereafter communicating information using a crypto-algorithm that employs a derivative of the unique client key and the server's public key.

This claim covers the same process as claim 2, but here it is the client rather than the server that is performing the steps.

As a general matter, patentees prefer to be able to sue or license centralized rather than decentralized infringers, and drafting the claim to cover the server therefore normally seems more desirable to the patentee. But if the patentee worries that the server will be located offshore, drafting additional claims to capture the behavior of the client may solve the problem, because any client acting in the United States will be a direct infringer of the patent.

Furthermore, by succeeding in covering an actual direct infringer, the patentee may now have a basis for indirect infringement liability as well. For example, an indirect infringer may induce direct infringement by instructing or licensing the performance of the claimed client-centric method. Unlike in Sections 271(a) and (c), there is nothing in the language of Section 271(b) that requires that the act of inducement itself occur in the United States.⁶³ As a result, inducement may prove a powerful tool for reaching international uses of a computer network, provided that there is a direct

63 Under 35 U.S.C. Section 271(b) (2001), one who "actively induces infringement of a patent shall be liable as an infringer." Courts have read this to mean that "active inducement may be found in events outside the United States if they result in a direct infringement here." *Honeywell, Inc. v. Metz Apparatewerke*, 509 F.2d 1137, 1141, 184 U.S.P.Q. (BNA) 387, 390 (7th Cir. 1975) (citation omitted).

infringer within the United States. However, the strict intent requirement means that it is still not as effective as a claim for direct infringement. Alternatively, an indirect infringer may contribute to the direct infringement by selling, licensing, or importing software or a device especially adapted for use in the direct infringement.⁶⁴ Of particular note, such indirect infringement does not rely on questionable theories that seek to find inducement by performance of less than all method steps.

Once unitary claims have been drafted, an additional strategy to consider is international filing of such claims. However, the sheer number of jurisdictions in which some claims may be practiced can limit the practicality of this approach.

2. Articles and Machines, not just Methods

The unitary claiming strategies described above were applied to methods because of limitations on available remedies for divided or distributed infringement of method claims, most notably under Section 271(f). Similar, though slightly less severe, limitations may also apply to apparatus claims. However, several factors mitigate the problem for apparatus and article claims. First, physical objects typically accumulate the contributions of multiple actors, so in many situations, some act of making, using, selling, or importing will eventually correspond to the claimed apparatus, even if based originally on contributions from multiple parties. Direct and/or indirect infringement remedies may therefore be more readily available. Second, remedies for inducement of or contribution to overseas combination may be available when some or all components of a patented invention are supplied in or from the United States.⁶⁶ Finally, the limitations the Federal Circuit put on the extraterritoriality of method claims in *NTP* mean that system claims are far more likely to avoid distributed infringement problems.

Patent applicants should include in their coverage strategy claims directed to systems and, whenever possible, articles of manufacture.⁶⁷ Too often, applicants focus on methods of operation in their coverage strategies, sometimes to the exclusion of other, more useful, coverage. This can be a mistake because the multiple-entity infringement problems we have discussed arise primarily with respect to method claims. Of course, it is still possible to draft apparatus claims that create divided or distributed infringement problems, and basic unitary claiming strategies described above are applicable here as well. But it is much harder (though not impossible) to *accidentally* draft distributed patent claims to systems, and virtually impossible to draft distributed patent claims to articles of manufacture. Focusing on claims of this type will at the very least make it evident to prosecutors that they are drafting claims to piecemeal inventions, and should raise red flags.

3. Seek Coverage under 35 U.S.C. Section 271(g)

In general, patent applicants will be well served by seeking claim coverage designed to trigger infringement liability under 35 U.S.C. Section 271(g). In general, Section 271(g) results in liability for acts of importation or domestic sale or use of a product made by a patented process without a requirement that the process be performed in the United States.⁶⁸ As a result, Section 271(g) may, in effect, provide a patentee who has obtained appropriate method claims with coverage for some overseas exploitation of his invention.

In terms of the international infringement issues we have discussed herein, such coverage may turn out to be critical, particularly if the product made by the patented process is not itself novel. For this reason alone, patent applicants should seek to achieve such coverage whenever possible.

⁶⁴ Under 35 U.S.C. Section 271(c) (2001), one who "offers to sell or sells within the United States or imports into the United States . . . a material or apparatus 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 . . . shall be liable as a contributory infringer."

⁶⁶ See 35 U.S.C. Section 271(f) (2001).

⁶⁷ There is not always a choice, of course, but often a computer invention can be characterized in either process or system terms. In addition, article-of-manufacture coverage - including claims to computer program products that implement (at least partially) such a process or system or to articles including functionally descriptive information encodings) that are produced by such a process or system - should always be considered.

⁶⁸ 35 U.S.C. Section 271(g) (2001) provides: "Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent."

Further, a careful reader of the statute will recognize that there is no statutory requirement that the patented process be practiced outside the U.S. Accordingly, by its terms the statute can be read to cover acts of infringement resulting from exploitation of a patented process partly inside and partly outside the United States. Indeed, exploitation of a patented process wholly within the United States may result in liability based on a covered sale or use of a product made thereby.⁶⁹ Perhaps even more surprising is the possibility that liability may arise even if no one entity performs all steps of the patented process.⁷⁰

Section 271(g) is not a panacea. There are several substantial limitations on liability under this section. In particular, the statute includes an exhaustion-of-remedies provision⁷¹ and provisions designed to limit the reach of liability.⁷² Further, in *Bayer v. Housey* and *NTP v. RIM*, the Federal Circuit held that for a product to be made by a process patented in the U.S., it must have been a physical article that was “manufactured;” mere production of information was not covered.⁷³ The court also held that the allegedly infringing product must have been made directly by the claimed process.⁷⁴ Accordingly only manufacturing methods create liability under Section 271(g).

While it may not be possible to craft an appropriate claim invoking Section 271(g) for all subject matter, the possibility of avoiding many of the divided and distributed infringement problems we discuss herein suggests that prosecutors give serious consideration to such claims. While the Federal Circuit’s language in *Bayer* and *NTP* seems to exclude products of computational processes from the scope of Section 271(g),⁷⁵ it may be possible to craft claims that comport with the court’s requirement for a manufactured product. Consider for example, the following method of “manufacturing” a computer program product.

- (a) defining an in-memory representation of an execution sequence corresponding to a source representation of a program;
- (b) optimizing the execution sequence based at least in part on a flow analysis of the in-memory representation;
- (c) generating code corresponding to the execution sequence; and
- (d) encoding the generated code in a medium of the computer program product.

The “information product”/“no information product” distinction proved unworkable when applied to patentable subject matter,⁷⁶ and it may run into similar problems here. Creative lawyers will no doubt seek to adapt their language to maximize the likelihood that coverage under Section 271(g) is available.

4. Post-Issue Practice

If your patent has already issued with divided claims, all is not necessarily lost. Patent applicants who keep a continuation pending can use the continuation application to draft unitary claims of the form we discussed above. Even if there is no continuation pending, the applicant can

⁶⁹ See generally DONALD S. CHSUM, CHSUM ON PATENTS Section 16.02[6][d][ii] (1978) (discussing legislative history supportive of this broad reading).

⁷⁰ See *E.I. Dupont De Nemours and Co. v. Monsanto Co.*, 903 F.Supp. 680, 733-34 (D. Del. 1995). While the multiple-entity situation has apparently not been addressed to date in a precedential opinion, it is notable that the traditional pitfall of a multiple-entity method infringement theory, namely absence of a direct infringement, seems inapplicable since the statute specifically contemplates liability even where no direct infringement occurs. Further, as a matter of construction, while Section 271(f) requires that extraterritorial acts supporting infringement liability occur “in a manner that would infringe the patent if such [acts] occurred within the United States,” no such requirement appears in the language of Section 271(g).

⁷¹ 35 U.S.C. Section 271(g) (2001) (providing that “[i]n an action for infringement of a process patent, no remedy may be granted for infringement on account of the noncommercial use or retail sale of a product unless there is no adequate remedy under this title for infringement on account of the importation or other use, offer to sell, or sale of that product”).

⁷² *Id.* (“A product which is made by a patented process will, for purposes of this title, not be considered to be so made after - (1) it is materially changed by subsequent processes; or (2) it becomes a trivial and nonessential component of another product.”).

⁷³ See *Bayer AG v. Housey Pharms., Inc.*, 340 F.3d 1367, 1377-78, 68 U.S.P.Q.2d (BNA) 1001, 1009 (Fed. Cir. 2003); *NTP, Inc. v. Research in Motion, Inc.*, ___ F.3d ___, 2005 WL 1806123 (Fed. Cir. Aug. 2, 2005).

⁷⁴ *Bayer*, 340 F.3d at 1378, 68 U.S.P.Q.2d (BNA) at 1009 (“Thus, the process must be used directly in the manufacture of the product, and not merely as a predicate process to identify the product to be manufactured.”).

⁷⁵ Particularly problematic is the statement that “production of information is not covered.” *Bayer*, 340 F.3d at 1377, 68 U.S.P.Q.2d (BNA) at 1008.

⁷⁶ See, e.g., Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CALIF. L. REV. 1 (2001) (noting the collapse of these distinctions in the patentable subject matter context).

seek a reissue patent, bearing in mind that doing so may create intervening rights in competitors who adopted the technology before the reissue application itself issues.⁷⁷ One interesting question is whether reissuing a divided claim as a unitary claim constitutes a broadening reissue or not. While the actual scope of the patented elements will not change, the effective scope of the patent will of course be broader, since a divided infringement claim does not in fact cover any ground at all. Thus, while no court has considered the issue, it is likely that a change from divided to unitary claims is a broadening reissue that must be filed within two years after the original patent issued.⁷⁸ By contrast, a reissue that puts a claim in a form to apply Section 271(g) by adding a requirement that a process “produce an information product” may not be considered broadening, even though it triggers liability under a new section of the patent statute, since it adds a restriction not present in the original claim.

5. Consider Foreign Protection

Finally, as previously suggested, international filing of unitary claims may be desirable. The sheer number of jurisdictions in which any particular unitary claim may be practiced may limit the practicality of this approach, however. In some cases, patentees may be able to identify a limited number of countries with the economic infrastructure necessary to make infringement plausible. Filing unified patent claims in those countries may suffice to provide effective protection. If developing countries succeed in establishing “data havens,” however, this international filing strategy may prove ineffective. Further, even if effective, it is likely to be expensive, and patentees may reasonably question the viability of enforcement action in countries that have little to no history of enforcing patent rights. While worldwide patent protection may be impractical, patentees should at a minimum consider filing in England, where the standards appear to be somewhat broader than in the U.S., as we explain in Part IV.B.

B. Litigation Strategies

The issues presented by divided patent claims also suggest several litigation strategies for plaintiffs and defendants. Before filing suit, plaintiffs should carefully consider the risks of filing based solely on infringement of a divided patent claim. Because of the many problems inherent in proving infringement of such claims, every effort should be made to minimize reliance on them. As discussed above, success on such claims will require convincing a court to depart from traditional interpretations of the law regarding direct infringement and territorial limitations. Accordingly, counsel must advise clients carefully about these risks, while seeking to find other, non-divided claims on which to base a suit. If the client has no alternatives to a divided claim, particularly in the international context, plaintiffs should seek to employ Section 271(g), which may permit them to reach at least the downstream seller of a product made by a divided process. In the international context, counsel should also consider whether another forum, like the International Trade Commission (which can issue exclusion orders preventing importation of goods as well as cease and desist orders), might provide a better chance of relief than a federal district court. The Federal Circuit has held that the limits on Section 271(g) simply don’t apply in an ITC proceeding under Section 337.⁷⁹

Plaintiffs should also consider filing suit in the United Kingdom, if possible. The U.K. courts have held that a server in Antigua was “used” in the U.K. when bets were placed over a computer network from a U.K. client, even though the processing at the heart of the patented gaming system actually occurred in Antigua.⁸⁰ And the House of Lords has accepted a theory of joint infringement where acts were done “pursuant to a common design.”⁸¹ Thus, many of the problems with litigating divided infringement claims in the U.S. may simply not arise under U.K. law.

Plaintiffs and defendants alike should be alert to the importance of claim construction in addressing claims that are ambiguous but that may be construed as divided claims. Defendants

77 35 U.S.C. Section 252 (2000).

78 35 U.S.C. Section 251 (2000).

79 *Kinik Co. v. ITC*, 362 F.3d 1359, 1363, 70 U.S.P.Q.2d (BNA) 1300, 1303 (Fed. Cir. 2004) (holding that 35 U.S.C. Section 271(g) defenses are unavailable in ITC patent-infringement proceedings).

80 *Menasse Bus. Mercantile Ltd. v. William Hill Org. Ltd.*, [2003] R.P.C. 31.

81 *Sabaf SpA v. MFI Furniture Ctr. Ltd.*, [2004] U.K.H.L. 45, Paragraphs 39–40.

should be advocating a construction of such claims that requires the existence of multiple, independent actors to perform the claims (which could lead to a summary judgment motion). Plaintiffs, on the other hand, should seek to characterize the process as one that can be performed by a single user or a network of affiliated users.

Defendants should carefully consider pleading patent misuse as an affirmative defense to an infringement claim on a divided patent. If a plaintiff seeks to broaden the scope of its patent to include a staple article of commerce suitable for substantial non-infringing use with anti-competitive effect, such a defense could provide another opportunity to threaten the enforceability of the plaintiff's patent.

Defendants should also carefully consider seeking to resolve the case early, on a quick summary judgment motion or even a Rule 12(b)(6) motion. As noted in Part II, such cases as *Dynacore Holdings Corp. v. U.S. Philips Corp.*⁸² establish that courts need not even reach claims of contributory infringement or inducement if there is no entity directly infringing the claim. If the claim is drafted poorly enough, the requirement that multiple parties be involved may be apparent from the face of the claim itself.

It will probably be necessary, as a precursor to such a motion, for the defendant to take some basic discovery to determine whether or not the plaintiff has any basis to support the divided claim. For example, in multi-user claims, a defendant may need to take discovery to establish that the plaintiff has no basis for contending there is an agency relationship between the defendant and the third-party user. Absent a material dispute as to the existence of such an agency relationship, summary judgment may be appropriate.⁸³

With respect to discovery, plaintiffs should aggressively pursue, and defendants should be prepared to defend against, discovery seeking to establish agency in cases of multi-user claims. Relevant discovery requests would include those seeking internal communications, as well as communications between the third-party user and the defendant concerning what the defendant instructed the third party to do in regard to the relevant product. Such cases as *Shields v. Halliburton Co.*,⁸⁴ *Mobil Oil Corp. v. W. R. Grace & Co.*,⁸⁵ and *Crowell v. Baker Oil Tools, Inc.*,⁸⁶ discussed above, outline the factors and considerations that have led some courts to make a finding of agency sufficient to support an infringement claim. But we emphasize that proof of agency is something that requires control and direction, and not merely a customer relationship. As a result, it will not be appropriate in all or even most cases of divided infringement.

Finally, in cases where the infringed claims are multi-jurisdictional in nature, discovery should focus on the importance of the U.S. to the accused instrumentality. This will be extremely important after *NTP, Inc. v. Research in Motion, Ltd.*,⁸⁷ which revived the long-dormant "locus of infringement" test. Cases such as *Rosen v. NASA*⁸⁸ and *Decca Ltd. v. United States*⁸⁹ provide some of the relevant factors to be considered in this area. For example, expert discovery establishing the necessity of the U.S.-based server to a networking claim would be very useful to plaintiffs seeking to prevail on this kind of divided claim.

C. Policy Issues

Patent prosecutors can solve some but not all of the problems of distributed patent claims. Litigators and businesspeople can exploit the issue, or mitigate it, depending on their or their clients' interests. Is there a role for policymakers? Put another way, is the difficulty that patentees have in enforcing distributed patent claims a loophole that the law needs to close?

82 363 F.3d 1263 (Fed. Cir. 2004).

83 Certain claims drafted to avoid the divided infringement problem may raise other problems. For example, a method claim redrafted as an apparatus claim to avoid divided infringement triggers the marking requirement of 35 U.S.C. Section 287(a) (2000), and failure to mark the apparatus with the patent number will preclude damages before the date the defendant is notified of infringement.

84 493 F. Supp. 1376 (W.D. La. 1980).

85 367 F. Supp. 207 (D. Conn. 1973).

86 143 F.2d 1003 (9th Cir. 1944).

87 ___ F.3d ___ (Fed. Cir. Aug. 2, 2005).

88 152 U.S.P.Q. (BNA) 757 (Bd. Pat. Inter. 1966).

89 544 F.2d 1070 (Ct. Cl. 1976).

We think the answer differs for the two types of distributed claims we have discussed. The law should not enforce domestic distributed patent claims. First, because they can be avoided by proper patent drafting, there is little need to do so. Second, patent infringement is a strict-liability offense. Because virtually all modern patents are combinations of existing elements, permitting enforcement of distributed patent claims against anyone who produces or performs any single element, with or without an intent to infringe, would sweep a large number of innocent actors within the ambit of patent infringement. Those who contributed only staple items of commerce - computers, telecommunications networks, routers, and the like - would face liability whenever a patentee could point to others who used these staples for infringing purposes. The law quite reasonably limits liability to those who either actually infringe a patent in its entirety, or who orchestrate an effort by several people to infringe the patent collectively. For similar reasons, the law should maintain its narrow definition of agency and not expand networks of liability to encompass any business relationship.⁹⁰

Unlike the case of divided patent claims within the U.S., the international problem of distributed patent claims is more amenable to policy solution. As noted above, the problem cannot be solved by simply prosecuting patents in multiple countries. Further, in an ideal world patent law would be fully harmonized and indeed international, not territorial, in nature.⁹¹ The fact that particular inventions can be practiced internationally makes it more likely that they will fall through the cracks in our current, imperfect patent system. It also encourages competitors to game the system, by taking computer servers offshore to data havens. While the Federal Circuit has moved to minimize those risks with its recent decisions in *Eolas Techs., Inc. v. Microsoft Corp.*⁹² and *NTP*, the limited extraterritoriality that those decisions created can itself be gamed. We think the patent laws in the United States (and elsewhere) could profitably be modified to further reduce the risk of gaming by making it clear in Section 271(g) that the importation of data produced abroad by a patented process, like the importation of products produced by that process, violates the law.⁹³ This change would have the added benefit of technology-neutrality, since it does not distinguish between inventions implemented in hardware and those implemented in software.

Dan Burk warns that courts should be hesitant to extend U.S. patent rights to cover accessing foreign computer systems.⁹⁴ We agree that extending laws extraterritorially should be done with caution, lest firms be subject to the conflicting laws of many different countries. But where the opposite risk is possible - that no country's law would apply - the limited introduction of a right against importation seems reasonable to us.

V. CONCLUSION

Divided patent claims provide new challenges for the patent system, patent owners, and patent practitioners, whether those claims are divided because of the way they are drafted or because of the defendant's ability to implement the invention in multiple countries. Current law provides little solace for patent owners faced with distributed patent claims. If the distribution is the result of bad patent drafting, that is probably as it should be. But if the distribution is unavoidable - if it results from the inherently global nature of computer networks - the law should seek minimally intrusive solutions designed to prevent those inventions from losing all protection. In either event, patent owners and patent practitioners must be aware of the problem and take it into account in writing, valuing, enforcing, and defending against patents.

90 *Cf. Insiteform Techs. v. CAT Contracting*, 385 F.3d 1360, 1380-81, 72 U.S.P.Q.2d (BNA) 1870, 1886-87 (Fed. Cir. 2004) (refusing to pierce the corporate veil in order to treat one entity as the alter ego of another for inducement purposes).

91 See Paul Edward Geller, *An International Patent Utopia?*, 85 J. PAT. & TRADEMARK OFF. SOC'Y 582 (2003).

92 399 F.3d 1325 (Fed. Cir. 2005).

93 Doing so would change the result in *NTP v. RIM*. It would not necessarily follow, however, that the result in *Bayer AG v. Housey Pharms.*, 340 F.3d 1367 (Fed. Cir. 2003) would change. Because the patentee in *Bayer* asserted reach-through patent claims, it is quite possible that the accused infringer would import not simply data produced directly by the patented process, but information or products sufficiently transformed that they would fall outside the scope of 35 U.S.C. Section 271(g) (2001).

94 Burk, *supra* note 32, at 57.