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# CLOSING THE DIVIDED INFRINGEMENT GAP

By: David Leach

## I. INTRODUCTION

### A. THE ISSUE TO BE DISCUSSED

Divided infringement, also known as joint infringement, “is where a single act of patent direct infringement occurs through the combined action of two (or more) separate parties.”<sup>1</sup> The patent infringement statutes under 35 U.S.C. § 271 do not address this type of infringement; rather they impose liability only where a single entity performs each and every element of a patented claim.<sup>2</sup> When an act of divided infringement occurs, the performance of these claim elements is divided between multiple actors in many instances to avoid liability. Several theories addressing this gap in coverage have emerged from the courts.<sup>3</sup> Eventually the Federal Circuit took the reins and settled on a “direction or control” theory that finds a “mastermind” liable for direct infringement in instances where the mastermind can be charged with the actions of another.<sup>4</sup> This standard has been narrowed to find divided infringement only in instances where there is an agency relationship or some other contractual obligation.<sup>5</sup> However, this standard is too strict and leaves a large loophole for infringers to tacitly collude or enter into arm’s-length agreements to avoid liability.

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<sup>1</sup> RealSource, Inc. v. Best Buy Co., 514 F. Supp. 2d 951, 957-58 (W.D. Tex. 2007).

<sup>2</sup> See Warner-Jenkinson Co., Inc. v. Hilton David Chem. Co., 520 U.S. 17, 29 (1997).

<sup>3</sup> See, e.g., Mobil Oil Corp. v. W.R. Grace & Co., 367 F. Supp. 207, 253 (D. Conn. 1973) (expanding the agency doctrine); On Demand Mach. Corp. v. Ingram Indus., Inc., 442 F.3d 1331, 1233-45 (Fed. Cir. 2006) (defining “participation” and a “combination of actions”).

<sup>4</sup> See BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373 (Fed. Cir. 2007); MuniAuction, Inc. v. Thompson Corp., 532 F.3d 1318 (Fed. Cir. 2008), cert. denied, 129 S. Ct. 1585 (2009).

<sup>5</sup> See Akamai Technologies, Inc. v. Limelight Networks, Inc., 629 F.3d 1311 (2010).

## B. ORGANIZATION OF THE PAPER

This article explores the source of the statutory gap, the characteristics of direct and indirect infringement, and then proposes two separate rules based on these characteristics to close the gap. Part II examines the creation of the statutory gap fashioned by the intersection of direct and indirect infringement under 35 U.S.C. §§ 271(a)-(c). This gap is formed primarily by the all-elements rule, which requires a unitary actor to perform every element of a claim. Without satisfaction of this rule, there can be no direct or indirect infringement. This leads to a gap in the statutory framework, which allows actors to divide the performance of the claims to avoid liability.

In order to find a solution to the gap, a rule or rules should be developed to coincide with the underlying characteristics of the current infringement statute of 35 U.S.C. § 271. Part III examines the strict liability nature of direct infringement and the intent requirements under the indirect infringement provisions. Direct infringement is a strict liability provision because conduct that amounts to direct infringement hurts the patent owner regardless of the infringer's intent. Restricting this conduct entirely by imposing strict liability maximizes the incentive to create while keeping the costs to society low. This contrasts with the indirect infringement provisions, which require a showing of intent. The requirement of culpable intent is meant to filter legitimate conduct from culpable conduct because the potential social costs of imposing strict liability in regards to this type of conduct are large. A solution to the statutory gap should therefore keep these principles of strict liability and intent in mind so as to both maximize the incentive to create, while simultaneously allowing authorized or public domain activities to continue to operate unhindered.

The courts have developed several theories to address the statutory gap, however, the current standard is too narrow. Part IV provides an overview of the development of separate theories of liability meant to address the statutory gap. It begins in the pre-Federal Circuit era with the development of an agency standard and a “some connection” theory. The Federal Circuit then addresses the issue for the first time in dictum by suggesting a “participation and combined action” theory. However, the Federal Circuit subsequently found this suggestion to be too broad and settled on a “direction or control” standard, which has more recently been narrowly limited to an agency relationship or other contractual obligation. The current standard only addresses one of two possible divided infringement scenarios. Further, it fails to adequately address the scenario it is meant to solve.

In order to address the statutory gap while continuing to maintain the delicate balance of the infringement statutes, two separate rules should be enacted. Part V begins by suggesting that the “direction or control” foundation should be replaced with a broader instrumentalities approach. This approach would find an actor liable for using another as an instrumentality to complete the elements of a claim regardless of direction of control. This would capture the common scenario where an actor uses its relationship with customers to have the customer perform the remaining elements of a claim.

Part V will further show that the court’s belief that unitary claim drafting can solve divided infringement by way of arm’s-length agreement is improper. A rule based on the tort of civil conspiracy should be enacted to close the remaining portion of the statutory gap. Both of the rules proposed will have a mens rea requirement in order to address concerns of the court and coincide with the underlying fundamentals of 35 U.S.C. § 271.

## II. STATUTORY GAP

The intersection of direct and indirect infringement under 35 U.S.C. §§ 271(a)-(c) demonstrates a statutory gap whereby an actor or a series of actors can avoid liability while simultaneously interfering with a patent owner's exclusive right. The primary culprit for this statutory loophole is the all-elements rule, sometimes called the all-limitations rule, which requires, in order to assign liability, that a single entity had performed each and every element of a patented claim.<sup>6</sup> This rule derives primarily out of the language of the direct infringement statute, but is also a requirement under the indirect infringement schemes, which is how the statutory gap is formed.

It is best to understand how this rule is required to satisfy direct infringement under 35 U.S.C. § 271(a) and indirect infringement under 35 U.S.C. §§ 271(b) and (c) from a broad perspective before exploring the details of the all-elements rule. Courts have consistently held that direct infringement requires “a showing that a defendant has practiced each and every element of the claimed invention.”<sup>7</sup> This rule has its origins in the patent statute itself.<sup>8</sup> Thus, the all-elements rule is indispensable to proving a case for direct infringement.

Indirect infringement comprises two separate theories of liability, both of which require proof of direct infringement by a third party with the implication that the all-elements rule is also a requirement. The first theory of indirect infringement is induced infringement under 35 U.S.C. § 271(b). In order to prove inducement a plaintiff is required to show that a third party directly

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<sup>6</sup> *See, e.g., Warner-Jenkinson Co., Inc. v. Hilton David Chem. Co.*, 520 U.S. 17 (1997).

<sup>7</sup> *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007). *See also Warner-Jenkinson Co., Inc. v. Hilton David Chem. Co.*, 520 U.S. 17, 29 (1997) (setting forth the element-by-element analysis for doctrine of equivalents); *Builders Concrete, Inc. v. Bremerton Concrete Prod. Co.*, 757 F.2d 255, 257 (Fed. Cir. 1985) (“Literal infringement requires that the accused device embody every element of the claim.”).

<sup>8</sup> *See Warner-Jenkinson Co.*, 520 U.S. at 29.

infringed the patented invention, that the defendants committed an act which induced this infringement, and that the defendant had the affirmative intent to cause the direct infringement.<sup>9</sup> Thus, for a patent holder to show that the defendant induced infringement, the patent holder must prove the defendant's activity caused the acts that constitute the infringement.<sup>10</sup> Some such activities include instructing how to engage in an infringing use and providing a design for the infringing product.<sup>11</sup> However, these activities do not in and of themselves create liability without defendant performing these actions with a culpable state of mind and without the existence of a direct infringement.

Similarly, to prove contributory infringement, the plaintiff must show there was direct infringement by a third party; that the defendant sold or imported a component of a patented machine or apparatus for use in a patented process; that the sold or imported item is not a staple or commodity suitable for substantial non-infringing uses; and that the defendant knew the item was made or adapted for use in such infringement.<sup>12</sup> The activities that give rise to contributory liability are narrower than that of inducement. However, just as with induced infringement, the activities must be accompanied by a direct infringement and the defendant must have had a culpable state of mind.

The requirement of direct infringement by a third party derived from the common law to deal with blameworthy activities that fell outside of the direct infringement scheme.<sup>13</sup> Prior to the enactment of 35 U.S.C. § 271, the courts had developed a common law definition of contributory infringement borrowed from the law of joint tortfeasors, which imposes liability on

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<sup>9</sup> *Kyocera Wireless Corp. v. Int'l Trade Com'n*, 545 F.3d 1340, 1353-54 (Fed. Cir. 2008).

<sup>10</sup> *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006).

<sup>11</sup> *Metabolite Labs, Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1365 (Fed. Cir. 2004); *Water Tech. Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1998).

<sup>12</sup> 35 U.S.C. § 271(c) (2011).

<sup>13</sup> *See Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990).

“one who intentionally caused, or aided and abetted, the commission of a tort by another.”<sup>14</sup>

“The most common pre-1952 contributory infringement cases dealt with the situation where a seller would sell a component which was not itself technically covered by the claims of a product or process patent but which had no other use except with the claimed product or process.”<sup>15</sup>

When the 1952 Patent Act was enacted, it sought to capture this common conduct under 35 U.S.C. § 271(c) and prohibited all other types of culpable activity under 35 U.S.C. § 271(b) that existed at the time.<sup>16</sup> Implicit in this common law joint tort was a requirement for there to have been direct infringement by a third party because one cannot aid or abet the commission of a tort by another without the commission of a tort by another. In patent law the tort is direct infringement. Hence, the necessity for there to have been a direct infringement by a third party under the indirect infringement provisions.

The all-elements rule has two components, which are both material to contributing to the statutory gap. Direct infringement occurs when “whoever without authority makes, uses, offers to sell, or sells any patented invention within the United States or imports into the United States any patented invention during the term of the patent.”<sup>17</sup> The courts have interpreted 35 U.S.C. § 271(a) as having an implicit all-elements rule.<sup>18</sup> This rule has two components, the first of which will be called hereinafter the “entire claim component.” The second component will be called hereinafter the “unitary actor component.”

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<sup>14</sup> See *Thomson-Houston Elec. Co. v. Ohio Brass Co.*, 80 F. 712, 721 (6<sup>th</sup> Cir. 1897); *Tubular Rivet & Stud Co. v. O’Brien*, 93 F. 200, 202 (C.C.D. Mass. 1898).

<sup>15</sup> *Hewlett-Packard Co.*, 909 F.2d at 1469.

<sup>16</sup> *Hewlett-Packard Co.*, 909 F.2d at 1469.

<sup>17</sup> 35 U.S.C. § 271(a) (2011).

<sup>18</sup> See *Warner-Jenkinson Co., Inc. v. Hilton David Chem. Co.*, 520 U.S. 17, 29 (1997).

The “entire claim component” is material because it limits the conduct required for finding direct infringement. This component requires a showing that each and every element or step of a claim for the patented invention had been made, used, sold, offered to be sold, or imported; in other words, that all the elements of the claim had been performed.<sup>19</sup> This “entire claim component” derives directly from the language of 35 U.S.C. § 271(a). The idea is that in order for certain acts to be considered infringing, the object of those actions must be a “patented invention.”<sup>20</sup> However, a patented invention is defined by its claims.<sup>21</sup> Therefore, if all of the elements or steps of a claim are not performed, then something other than the “patented invention” has been implemented, and consequently there is no infringement. Thus, infringing conduct is limited to the entirety of a particular claim.

The “unitary actor component” also materially contributes to the statutory gap because it limits the performer of infringing conduct to a single entity. This component says that not only does every element or step of a particular claim have to be performed; it also requires that a single entity, and only a single entity, must have been the actor performing every element or step.<sup>22</sup> Thus, where one actor performs less than all of the elements of a claim and another actor performs the remaining elements, there is no direct infringement even though the entirety of the invention has been practiced. This is the statutory gap.

The source of the “unitary actor component” is less clear than that of the “entire claim component,” particularly because the word “whoever” within 35 U.S.C. § 271(a) can be

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<sup>19</sup> See *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007); *Warner-Jenkinson Co., Inc. v. Hilton David Chem. Co.*, 520 U.S. 17, 29 (1997).

<sup>20</sup> 35 U.S.C. § 271(a) (2011).

<sup>21</sup> See 35 U.S.C. § 112, ¶ 2 (2011); *Warner-Jenkinson Co., v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997).

<sup>22</sup> See *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007); *Warner-Jenkinson Co., Inc.*, 520 U.S. at 29.

interpreted in the singular or plural. When the courts reference the rationales underlying the all-elements rule, they typically treat the “unitary actor component” as a foregone conclusion and focus more on the “entire claim component.”<sup>23</sup> Although, the courts do not address the rationale behind this component directly, the Federal Circuit in *BMC Resources* addressed it indirectly. The *BMC Resources* court refused to expand direct infringement liability to reach the independent conduct of multiple actors for fear that it would “subvert the statutory scheme,” thus implying direct infringement requires the acts of one actor.<sup>24</sup> The idea is that such expansion would find those who practice less than all of the elements of a claim strictly liable, thereby punishing those who may be practicing elements that are authorized or in the public domain.<sup>25</sup> Further, the court had concerns that such strict liability would render the statutory provisions of indirect infringement under 35 U.S.C. §§ 271(b) and (c) superfluous precisely because it would eliminate the need to prove intent for the independent conduct of multiple actors.<sup>26</sup> Thus, the source of the “unitary actor” requirement comes out of viewing direct infringement and indirect infringement together.

The requirement that a unitary actor had to have performed every element of a claim creates the statutory gap, which is manifest in two discrete loopholes in which an entity or entities can capture the value of the invention from the patent owner without being held liable.<sup>27</sup> The first loophole, which will be called hereinafter the “mastermind loophole,” occurs where a single entity performs less than all of the elements of a claim and then uses another entity to

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<sup>23</sup> See, e.g., *Warner-Jenkinson Co.*, 520 U.S. at 29.

<sup>24</sup> See *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007).

<sup>25</sup> See *BMC Res., Inc.*, 498 F.3d at 1380; *Warner-Jenkinson Co., Inc.*, 520 U.S. at 29.

<sup>26</sup> See *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d at 1380; *Warner-Jenkinson Co.*, 520 U.S. at 29.

<sup>27</sup> See *BMC Res., Inc.*, 498 F.3d at 1381.

perform the remaining steps of the claim.<sup>28</sup> The second loophole, which will be called hereinafter the “conspiratory loophole,” occurs in circumstances where multiple parties enter into an arm’s-length agreement to avoid infringement by dividing the performance of the claim.<sup>29</sup> An arm’s length agreement is one “between two parties who are not related or not on close terms and who are presumed to have roughly equal bargaining power.”<sup>30</sup> This particular situation differs from the “mastermind situation” in that there is no mastermind, no controlling party.

These loopholes should be closed. Whenever someone other than the patent owner performs a patented invention, the patent owner is harmed. This is true regardless of whether one actor or multiple actors combined performs every element or step of a patented claim. When profits are realized from the performance of a patented invention, those are profits that likely would have gone to the patent owner. Further, the patent owner may be forced into price competition, which would undermine the purpose of the patent.

The problem of divided infringement has amplified as computer and telecommunications technology has increased because such technology many times comes in the form of methods or systems. Apparatus and article claims do not carry as much risk of divided infringement as system and method claims.<sup>31</sup> In order to capture the value of a physical object, that physical object typically needs to be sold, which will normally result in at least one direct infringer. “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.”<sup>32</sup> While it is possible

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<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> Black’s Law Dictionary 44 (3<sup>rd</sup> Pocket ed. 2006).

<sup>31</sup> See Mark A. Lemley et al., Divided Infringement Claims, 33 AIPLA Q.J. 255, 275 (2005).

<sup>32</sup> *Id.*

to draft apparatus claims that create divided infringement issues, the risk is much less than for inventions that can only be described as systems or methods.<sup>33</sup> Patent owners should not have to face such risk purely because they happen to own an invention that is particularly susceptible to divided infringement activities. Therefore, a rule or series of rules should be developed to mitigate this risk by closing the loopholes, while at the same time addressing potential social costs associated with such increase in protection.

### III. STRICT LIABILITY AND MENS REA AS GUIDES TO A SOLUTION

Intellectual property law generally attempts to balance the incentive to create with the social costs that result from such enticement. The incentive comes from an exclusive right that may result in recoument of costs and substantial profits for the patent owner that likely would not have been realized without this exclusive right. The social costs consist predominantly of reduced access to the creative work, increased consumer prices, and in some cases the restriction of public domain activities that may be mistakenly construed to interfere with the exclusive right. An increase in exclusive rights to intellectual property is justified only when the value of increased creative activity resulting from increased incentives is greater than the value of the benefits lost from reduced access. In patent law, this balance can be found in the strict liability nature of direct infringement and the mens rea requirements of contributory and induced infringement, which are both instructive in fashioning a remedy for divided infringement.

A patent owner's exclusive right is harmed whenever the patented invention is no longer exclusive. This is true regardless of whether the infringing activity occurred at the hand of one actor or the combined action of multiple actors because it is the end result of their actions that is of consequence. Further, this is true regardless of the infringing actors' state of mind.

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<sup>33</sup> *Id.*

“Logically, the patent owner's control over the invention has been harmed by the mere fact that the accused activity occurred: the harm does not require the accused to [sic] actor to have acted out of an intent to injure; nor is that harm mitigated if the accused acted innocently.”<sup>34</sup> While this harm is relatively constant, the social costs that are implicated in capturing culpable parties vary depending on the nature of the activity that transpired. The patent statutes assigning liability for direct and indirect infringement take these social costs into account, which is why the law does not provide blanket liability for every act that potentially interferes with the exclusivity of a patented invention.

Direct infringement is a strict liability offense meaning that the plaintiff is not required to prove the defendant had a culpable state of mind.<sup>35</sup> “Infringement may be entirely inadvertent and unintentional and without knowledge of the actual patent.”<sup>36</sup> Thus, “the unauthorized making, using, and selling of the invention reduces the private value of the invention to its owner, whether that value is captured by others deliberately, knowingly, negligently, or mistakenly.”<sup>37</sup> Therefore, a single entity that performs every element of a patented claim is strictly liable for the harm to the patent owner’s exclusive right that results from this sort of activity, most likely because such actions have no purpose other than to capture the value of a patented invention. Such a strong level of protection is justified because the value of the creative activity that results is greater than the value of benefits lost by totally restricting the actions that constitute direct infringement.

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<sup>34</sup> Carl Moy, 4 Moy's Walker on Patents § 14:14 (4th ed.).

<sup>35</sup> See *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (Fed. Cir. 2007).

<sup>36</sup> *Blair v. Westinghouse Elec. Corp.*, 291 F. Supp. 664, 670 (D.D.C. 1968).

<sup>37</sup> John W. Schlicher, 2 Patent Law, Legal and Economic Principles § 8:19 (2d ed.).

This is not the case for the activities defined under the indirect infringement provisions of 35 U.S.C. §§ 271(b) and (c). In this context a party is liable for activities that aid or abet the direct infringement of another. Whenever these actions do actually assist in an infringement, the patent owner is harmed. However, unlike the actions that constitute direct infringement, the activities of indirect infringement may have legitimate results where the value of those activities does not depend on the ultimate implementation of a patented invention.<sup>38</sup> “If imposing strict liability has the potential for prohibiting conduct whose value is not derived from use of the invention, the law may seek to avoid that result by imposing liability only where a person knew the value of his conduct depended on use of the patent.”<sup>39</sup>

Therefore, the indirect infringement scheme provides an intent requirement that is used as a screen to distinguish actors attempting to capture part of the value of the invention from those who are providing authorized or public domain goods or services.<sup>40</sup> Providing this screen shows recognition by the statute that assigning liability to conduct that does not constitute the making, selling, offering to sell, or importing of a patented invention may result in an overly broad exclusive right that reduces socially beneficial conduct, which violates the net benefits principle. The practice of every element of a claim is nothing less than the practice of the invention, but conduct constituting less than all of the elements can have legitimate purpose other than the capturing of the patent’s value. Therefore, something more must be shown to provide assurance that such legitimate conduct is not captured. That additional showing is the culpable intent required of contributory and induced infringement. Therefore, where conduct may derive value independent of the patented invention, a patent owner should be required to

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<sup>38</sup> John W. Schlicher, 2 Patent Law, Legal and Economic Principles § 8:22 (2d ed.).

<sup>39</sup> *Id.*

<sup>40</sup> *See Id.*

prove the actor acted with the purpose or with the knowledge that its actions would attach value from the patented invention.

#### IV. COURT DEVELOPED SOLUTIONS TO CLOSING THE STATUTORY GAP

Prior to the Federal Circuit's decision in *BMC Resources* setting out the current standard, two separate theories of liability for divided infringement had been developed primarily by the district courts and United States Court of Appeals for the Ninth Circuit. A third theory had also been suggested in dictum by the United States Court of Appeals for the Federal Circuit.

The first theory that arose out of the Ninth Circuit prior to the 1952 Patent Act was based on agency law. This theory says "one may infringe a patent if he employ[s] an agent for that purpose or [has] the offending articles manufactured for him by an independent contractor."<sup>41</sup> In one instance the court was persuaded to broaden this agency principle to a situation where the defendant performed all of the steps except for a heating step, which was intended to be completed by the customer.<sup>42</sup> In this situation the court held that while there was no actual agency relationship because there was no manifestation of intent that the agent act on behalf of the principal, the "defendant, in effect, made each of its customers its agent in completing the infringement step, knowing full well that the infringement step would in fact be promptly and fully completed by those customers."<sup>43</sup> The court's rationale for this expansion was that the defendant's activities constituted the substance of the claims and that these activities combined with the knowledge that the customer would conduct the remaining step was substantially equivalent to the performance of the entire claim of the patented invention.<sup>44</sup>

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<sup>41</sup> *Crowell v. Baker Oil Tools*, 143 F.2d 1003, 1004 (9th Cir. 1944).

<sup>42</sup> *See Mobil Oil Corp. v. W. R. Grace & Co.*, 367 F. Supp. 207 (D. Conn. 1973).

<sup>43</sup> *Id.* at 253.

<sup>44</sup> *See Id.* at 253.

After the development of the agency theory, the “some connection” theory emerged from the district courts. Under the “some connection” theory a defendant may be liable for direct infringement by performing less than all of the elements of a claim when the elements are wholly performed by combined action and the defendant had sufficient connection to, or control over, the entities performing the remaining elements.<sup>45</sup> This view established a lower threshold for finding direct infringement of a divided claim than what was established under the agency theory because a showing of “agency” or “working in concert” was not necessarily required in order to establish sufficient connection between the defendant and a third party, although such a showing was sufficient.

The Federal Circuit ultimately addressed the issues raised by divided infringement, recognized that liability may be found in this context, and suggested a very broad “participation and combined action” theory to remedy the statutory gap.<sup>46</sup> This broad theory suggested that “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.”<sup>47</sup> However, the Federal Circuit held in a subsequent case that this standard was dictum, that it “did not change [the] court’s precedent with regard to joint infringement.”<sup>48</sup> The *BMC Resources* court also noted that this standard would improperly expand direct infringement to capture the

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<sup>45</sup> See, e.g., *Marley Mouldings Ltd. v. Mikron Indus., Inc.*, No. 02C 2855, 2003 U.S. Dist. LEXIS 7211, at \*9-10 (N.D. Ill. Apr. 29, 2003) (denying motion for summary judgment of non-infringement where two entities collectively performed a patented process); *Shields v. Halliburton Co.*, 493 F. Supp. 1376, 1389 (W.D. La. 1980), *aff’d*, 667 F.2d 1232 (5th Cir. 1982) (finding defendants liable for infringement of a patent that claimed a method of preparing an offshore oil rig based on the combined actions of two entities who assisted one another at the same location to perform the method by adopting the “participation and combined action” standard).

<sup>46</sup> *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1334 (Fed. Cir. 2006).

<sup>47</sup> *Id.* at 1344-45.

<sup>48</sup> *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (2007).

independent conduct of multiple actors, thereby subverting the mens rea requirement of indirect infringement by means of this strict liability standard.<sup>49</sup>

The *BMC Resources* court then officially adopted a narrower standard of “direction or control.”<sup>50</sup> In doing so, it acknowledged that the “direction or control” standard only applies to the “mastermind loophole” where a party simply contracts out the elements of a patented invention to another entity.<sup>51</sup> The standard was purposely constructed to be inapplicable to the “conspiratory loophole” of arm’s-length agreements because the concerns of expanding direct infringement to multiple actors outweigh the benefits of capturing this group of tortfeasors.<sup>52</sup> The court also felt that not having a legal remedy for this situation was not a severe concern because “a patentee can usually structure a claim to capture infringement by a single party.”<sup>53</sup> Despite this conclusion, the court’s acknowledgement that the “conspiratory loophole” does not have a remedy under the “direction or control” standard demonstrates the Federal Circuit’s view that the arm’s length agreements to divide the performance of elements of a patented claim is an improper avoidance of infringement that has the potential to harm the patent owner. The opinion leaves open the possibility that where claim-drafting techniques are not sufficient, a rule that addresses the concerns of subversion of the indirect infringement scheme may be implemented.

The Federal Circuit in *BMC Resources* did not provide much instruction as to the type of relationship that would satisfy “direction or control.” All that was provided was a pronouncement that direction or control of other parties by a “mastermind” party is required and

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<sup>49</sup> *See Id.* at 1381 (2007).

<sup>50</sup> *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (2007).

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *BMC Resources, Inc.*, 498 F.3d at 1381 (*citing* Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272-75 (2005)).

a suggestion that the doctrine of vicarious liability is a theory dealing with masterminds.<sup>54</sup> Naturally the Federal Circuit took up another case to provide more clarity.<sup>55</sup> The court in *Muniauction*, solidified the “direction or control” standard and officially adopted a theory of vicariousness by stating that the “direction or control” standard is fulfilled “where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete the performance of a claimed method.”<sup>56</sup> This holding quietly adopted the agency theory proposed much earlier by the Ninth Circuit, and precluded the expansive agency theory and the “some connection” theory.

A few years later, the Federal Circuit expressly adopted the agency theory in its attempt to add to the incomplete instructions of *Muniauction*.<sup>57</sup> The *Akamai* court also adopted a contractual obligation theory as another way to satisfy the “direction or control” foundation by stating, “a joint infringement occurs when a party is contractually obligated to the accused infringer to perform a method step.”<sup>58</sup> Thus, “direction or control” is satisfied when there is an agency relationship or other contractual obligation between the parties who perform all of the elements of a claim.<sup>59</sup>

As of the writing of this article, the Federal Circuit has vacated this judgment and is in the process of issuing an en banc decision on the issue: “if separate entities each perform separate steps of a method claim, under what circumstances would that claim be directly

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<sup>54</sup> *BMC Resources, Inc.*, 498 F.3d at 1381.

<sup>55</sup> *See Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1330 (2008).

<sup>56</sup> *Id.*

<sup>57</sup> *See Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 629 F.3d 1311, 1319 (2010).

<sup>58</sup> *Id.*

<sup>59</sup> *See Id.* at 1320.

infringed and to what extent would each of the parties be liable?”<sup>60</sup> The remainder of this article provides insight into answering this question.

## V. SOLUTIONS

### A. INTRODUCTION

The courts have shown a trend of strengthening patent owners’ rights from the common law doctrine of contributory liability to the creation of the doctrine of equivalents and the broadening of the obviousness standard.<sup>61</sup> The courts should follow this trend by strengthening patent owners’ rights against divided infringers. The current standard of “direction and control” dealing with the “mastermind loophole” is too narrow. Only an agency relationship or other contractual obligation can satisfy this standard, which reduces the flexibility of the courts to expand liability to conduct that captures the patent’s value that falls outside of these rigid definitions. Further, the Federal Circuit has mistakenly relied on claim drafting techniques to protect patent owners against those that would exploit the statutory gap by entering into arm’s-length agreements. While claim-drafting techniques are a strong tool for the patent practitioner, the court should not mandate the use of these techniques, but rather should leave it to the practitioner’s discretion. Finally a rule based on the tort of civil conspiracy should be adopted to fill the “conspiratorial loophole.”

### B. CLOSING THE “MASTERMIND LOOPHOLE”

In closing the “mastermind loophole” the courts should abandon the “direction or control” foundation for a broader, more flexible instrumentality standard. Currently a

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<sup>60</sup> Akamai Technologies, Inc. v. MIT, 419 F. App’x 989 (Fed. Cir. 2011).

<sup>61</sup> See, e.g., Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469 (Fed. Cir. 1990); Warner-Jenkinson Co., Inc. v. Hilton David Chem. Co., 520 U.S. 17, 29 (1997); KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398 (2007).

mastermind is liable only where the mastermind has “direction or control” over another party such that the other party’s actions would be legally considered the actions of the mastermind. Under an instrumentality approach, a mastermind would be considered liable where the mastermind uses another party as an instrumentality to complete a patented invention. While direction or control of the other party would be sufficient, it would not be necessary. A mastermind could fabricate a situation where it performs most of the elements of a patented claim and leave the remaining elements to be performed by another, knowing with near certainty that the other party will complete those elements. This situation would be devoid of direction or control as it is currently defined. However, the patented invention would be completed causing harm to the patent owner.

One of the more common and specific scenarios lacking direction or control is where a mastermind utilizes its relationship with customers to have the customers complete the final elements of a claim after the mastermind had completed the most essential elements.<sup>62</sup> In *Mobil Oil Corp.*, the defendant had essentially used the plaintiff’s patent to build catalysts utilized in the oil to gas cracking process. However, in the process for making the catalysts, the defendant failed to perform the final step, which required the application of heat. The defendant knew at the time it sold each of its accused catalysts that its customers would place the them into their catalytic cracking units, that in doing so they would be subjected to the heating conditions specified in the patent, and that consequently all of the effects of heating would be achieved by the customer, thereby completing the patented invention.<sup>63</sup>

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<sup>62</sup> See, e.g., *Mobil Oil Corp. v. W. R. Grace & Co.*, 367 F. Supp. 207 (D. Conn. 1973); *Centillion Data Sys., LLC v. Qwest Comm'cns Int'l*, 631 F.3d 1279 (Fed. Cir. 2011).

<sup>63</sup> *Mobil Oil Corp.*, 367 F. Supp. at 253.

A more recent case decided by the Federal Circuit under the current “control or direction” standard demonstrates the flaccidity of this approach. In *Centillion*, the patent at issue was directed to a system for collecting, processing and delivering billing information so that the customer can further process, display, and analyze the data on a personal computer. The system comprised a back-end consisting of a storage means, a data processing means, a transferring means, and a front-end consisting of a personal computer data processing means. The defendants created and implemented the back-end. However, the defendants merely provided software to the customer to be installed at their discretion to implement the personal computer data processing means. The court held that the accused was not vicariously liable for the actions of its customers because they “in no way direct its customers to perform nor do its customers act as its agents.”<sup>64</sup> The court noted that while the accused provides software and technical assistance, this is not use particularly because it is entirely the decision of the customer to install and operate the software on the “personal computer data processing means.”<sup>65</sup> Finally, the court held that the accused did not “make” the system under § 271(a) because it did not combine all of the claim elements: “the customer, not the accused, completes the system by providing the ‘personal computer data processing means’ and installing the client software.”<sup>66</sup>

Despite the court’s holding that the accused was not liable for direct infringement or divided infringement, there is still harm to the patent owner’s exclusive right because the patent owner’s system is no longer exclusive. Under this scenario it is reasonable to believe that the accused could have utilized the back-end system to process billing data but deliver it in a fashion that did not require the personal computer processing means. However, when the accused

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<sup>64</sup> *Centillion Data Sys., LLC v. Qwest Comm'cns Int'l*, 631 F.3d 1279, 1286 (Fed. Cir. 2011).

<sup>65</sup> *Id.*

<sup>66</sup> *Id.* at 1288

provided the software that was compatible with the back-end system, it is also reasonable to believe that the accused knew with relative certainty that the customer would complete the patented system by installing and utilizing this software. Due to the possibility that the back-end system could be used for legitimate non-infringing uses that would allow the accused to derive value independent of the patented invention, there should be a rule that screens such legitimate use from liability. Thus, under the instrumentality approach a rule with an intent requirement can be developed that coincides with the principles of 35 U.S.C. § 271 to capture this sort of conduct without being overbroad.

Under an instrumentality foundation, a rule similar to the broad agency theory seen in *Mobil Oil Corp.* prior to *BMC Resources* could be adopted to capture these types of actions. Such a test would require that the accused completed the essence of the claim; the customer performed an element or series of elements completing the claim; and the alleged infringer knew that the customer would perform the final elements or knew that the completion of the final elements would be the natural result. The mens rea requirement of knowledge addresses the possible social costs associated with extending liability to those who do not actually or vicariously perform every element of a claim. This requirement also provides assurance that only those with a culpable state of mind are liable and also delivers significant circumstantial evidence that the elements performed by the accused are capturing the value of the patented invention, rather than receiving value independent of the patent.

### C. REBUTTING THE CLAIM DRAFTING SOLUTION

Claim drafting techniques may be utilized to mitigate the dangers associated with divided infringement, however, these techniques should not be the only solution and should not be imposed on practitioners by the courts. In *BMC Resources*, the court refused to fashion a

solution to the “conspiratory loophole” partly because it considers this loophole not much of a concern since a claim drafter can “usually structure a claim to capture infringement by a single party.”<sup>67</sup> This claim structure referenced in *BMC Resources* is called unitary claim form.<sup>68</sup>

Unitary claim form focuses on one entity and whether it supplies or receives any given element.<sup>69</sup> The idea is to write the claim from the perspective of one actor, so that even if other actors perform the action of the claim element, it will be performed from the viewpoint of the single actor. An example would be a method, which requires information to be generated at a server, which is then transferred to a client. The client then performs an action based on the information received from the server. The non-unitary claim would look something like this:

A method for communicating information comprising:  
generating a signal encoding information at A;  
transmitting the signal from A to B; and  
performing an action at B in response to the signal.

Under this claim, no single entity can perform every step of the claim. Thus, the claim must be written in unitary form, which can be done from two directions:

A method for communicating information comprising:  
generating a signal encoding information at A; and  
transmitting the signal from A to B, wherein B is adapted to perform an action in response to the signal.

-or-

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<sup>67</sup> *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (2007) (*citing* Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272-75 (2005)).

<sup>68</sup> *See* Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272 (2005).

<sup>69</sup> *See* Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272 (2005)

A method for communicating information comprising:  
receiving a signal encoding information at B, the signal being produced at A; and  
performing an action at B in response to the signal.

The first of these unitary claims is written from the perspective of A and the second is from the perspective of B. If both A and B perform their roles, there will be direct infringement according to these claims. While the solution is powerful and preferable, there are many problems associated with this type of claim drafting. Some of these problems include the claims being invalid under 35 U.S.C. § 112, ¶ 2 as indefinite and the impossibility of drafting certain types of claims. Further, the court provides weak basis for concluding unitary claim drafting is the only solution.

Converting a claim to unitary claim form increases the risk that a claim will be held to violate 35 U.S.C. § 112, ¶ 2 for indefiniteness. One of the requirements under 35 U.S.C. § 112, ¶ 2 is that the claims must particularly point out and distinctly define the metes and bounds of the claimed subject matter.<sup>70</sup> This is an objective requirement evaluated in the context of whether the claim is definite—whether the scope of the claim is clear to a person having ordinary skill in the art.<sup>71</sup> A claim that is indefinite does not sufficiently delineate the legal boundaries of the invention, thus such a claim would be invalid under 35 U.S.C. § 112, ¶ 2. Functional language is typically considered indefinite unless the language meets the precise standards of mean plus function claiming under 35 U.S.C. § 112, ¶ 6 or is combined with sufficient structure as to describe the invention’s outer boundaries. Functional language attempts to define something by what it does, rather than what it is.<sup>72</sup> In the examples above, the phrases “being produced at” and “adapted to” is functional language, which did not exist prior to the conversion to the unitary

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<sup>70</sup> See MPEP 2173 (2010).

<sup>71</sup> See *Id.*

<sup>72</sup> See MPEP 2173.05(g) (2010).

claim form. Consequently, utilizing unitary claim form increases the risk that the claim will violate 35 U.S.C § 112, ¶ 2. Such risk should not be imposed on a patent owner by the court simply because the patent owner has rights to an invention that is susceptible to divided infringement conduct.

Another problem with unitary claim drafting is that it contemplates that every element requires some interaction with the unitary actor. Unitary claim form focuses on one entity and whether it supplies or receives any given element.<sup>73</sup> Thus, where a system or a process is more complex requiring multiple parties, there is an increased possibility that actions required by the claim will be performed by actors far afield of the unitary actor, thus making it virtually impossible to draft a claim from the perspective of that unitary actor. An example would be if the sample claims shown above had an additional step of transmitting the output response of B to another entity C. In this case it would be impossible to write the claims from the perspective of A because C does not directly interact with A.

According to the *BMC Resources* court, “the concerns over a party avoiding infringement by arm’s-length cooperation can usually be offset by proper claim drafting” because “a patentee can usually structure a claim to capture infringement by a single party.”<sup>74</sup> However, the foundation that instructs the court’s conclusion is weak. The court relies on Mark Lemley’s article, but this article is meant more as a guide to practitioners for dealing with the statutory gap than an article arguing change in policy. The court relies primarily on his statements that “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

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<sup>73</sup> See Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272 (2005).

<sup>74</sup> *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (2007) (citing Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272-75 (2005)).

element.”<sup>75</sup> However, this statement is conclusory and does not provide any empirical data to support this claim. Thus, the court’s reliance on this conclusion is unfounded.

Providing a remedy for divided infringement would provide an additional tool to the patent practitioner to assure the client that at least some protection may be available. If only unitary claim form is considered suitable for imposing liability on an infringer, then the patent owner runs the risk that there would be no protection at all in the event that the claims fail due to indefiniteness or that unitary claims are impossible to draft. On the other hand, if some protection is allowed for divided claims by providing an intent limited rule, then a practitioner can draft a divided claim and a series of unitary claims. In the event that the unitary claims fail to capture a single actor, there would still be an opportunity for the divided claim to succeed because it is more likely to avoid an indefinite rejection. Consequently, the courts should not impose unitary claim drafting as the only solution to the “conspiratory situation” because it is court imposed risk.

#### D. CLOSING THE “CONSPIRATORY LOOPHOLE”

The “direction or control” standard, which is satisfied by an agency relationship or other contractual obligation, is an expansion of direct infringement through vicarious liability because the acts of the agent are charged to the principal, thus the principal is considered to have performed every element of the patented claim. Indirect infringement is a form of accomplice liability whereby the tortfeasor is guilty for their assistance to the direct infringer. Thus, it stands to reason that an agreement (express or implied) between two or more persons to commit an unlawful act should be met with a form of conspiracy liability. Under the “conspiratory

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<sup>75</sup> Mark A. Lemley et al., *Divided Infringement Claims*, 33 *AIPLA Q.J.* 255, 272 (2005).

loophole,” the unlawful act is the capturing of the value of an invention from the patent owner by an agreement between two or more parties to divide the performance of a patented claim.

Just as the courts turned to tort law to fashion a solution to those that assisted in the commission of a direct infringement, the courts should turn to tort law to devise a rule to close the “conspiratory loophole.” The court in *BMC Resources* recognized the conspiratory loophole, but dismissed addressing it out of fear of subverting the intent requirement of indirect infringement by expanding the rules governing direct infringement to reach the independent conduct of multiple actors.<sup>76</sup> The court’s concern is certainly legitimate, however, it can be addressed by a rule that closely follows the provisions of indirect infringement by requiring the proof of a culpable state of mind. Thus, the tort of civil conspiracy should be utilized to address those concerns while closing the “conspiratory loophole.”<sup>77</sup>

To establish a civil conspiracy, the plaintiff must prove: (1) an association of two or more persons; (2) an unlawful objective; (3) an agreement, understanding, or “meeting of the minds” regarding the objective and the means of pursuing it; (4) a commission of an unlawful act in furtherance of the agreement; and (5) injury resulting from the conspiracy.<sup>78</sup> The modified patent law version of conspiratorial infringement would require (1) an association of two or more parties; (2) the purpose or knowledge that combined action would result in the performance of another’s patented invention; (3) an agreement, understanding, or “meeting of the minds” regarding circumvention of the patent and the means of pursuing it; and (4) performance of all

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<sup>76</sup> *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1381 (2007).

<sup>77</sup> See Long Truong, *After Bmc Resources, Inc. v. Paymentech, L.P.: Conspiratorial Infringement As A Means of Holding Joint Infringers Liable*, 103 Nw. U. L. Rev. 1897, 1922 (2009).

<sup>78</sup> See James Lockhart, *Cause of Action for Civil Conspiracy*, 4 Causes of Action 2d 517 (2007).

the elements of the claim by the parties through the agreement.<sup>79</sup>

The court in *BMC Resources* was concerned with expanding direct infringement beyond the all-elements rule to capture conduct of actors that independently constitute less than all of the claim elements. This is a substantial concern because more often than not individual claim elements are in the public domain. It is usually the combination of the whole that makes the invention novel. Therefore, imposing strict liability for this sort of conduct would have significant social costs by limiting the public's access to public domain technology. Such social costs likely outweigh the benefits associated with an increase in protection.

However, the conspiratory loophole is limited in several ways to address the court's concerns and to find the appropriate balance between incentive and costs. The first limitation is the requirement of purpose or knowledge. "For a civil conspiracy, the conspiring defendants must have actual knowledge that a tort is planned and must concur in the tortious scheme with knowledge of its unlawful purpose and an intent to aid in its commission."<sup>80</sup> This limitation eliminates the possibility that an entity will inadvertently become a party to conspiratory infringement.<sup>81</sup> This is important because it eliminates the additional cost of an entity having to scrutinize each relationship it becomes involved in for the possibility it may become liable simply for conducting normal and legitimate business operations. It also ensures that there is a meeting of the minds as to an unlawful purpose and once again provides circumstantial evidence that the end result of the conspiracy is to attach the value of the patented invention to the conduct sought to be restricted and that such intention will be realized.

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<sup>79</sup> See James L. Buchwalter & Lonnie E. Griffith, Jr., 15A C.J.S. Conspiracy § 18; Long Truong, *After BMC Resources, Inc. v. Paymentech, L.P.: Conspiratorial Infringement As A Means of Holding Joint Infringers Liable*, 103 Nw. U. L. Rev. 1897, 1922 (2009).

<sup>80</sup> James L. Buchwalter & Lonnie E. Griffith, Jr., 15A C.J.S. Conspiracy § 18.

<sup>81</sup> See *Id.*

Another limitation of conspiratory infringement goes slightly beyond that of civil conspiracy. Under civil conspiracy it is possible to find a conspiracy to reach an illegal end where the illegal end has not yet been achieved.<sup>82</sup> “If the plaintiff can show not the completed conspiracy but an overt act in furtherance of that conspiracy, liability may still attach if that overt act has caused actual damage to the plaintiff.”<sup>83</sup> Under the conspiratory infringement theory, the conspiracy by definition must be complete because the damage to the patent owner only occurs when the combined action under the agreement results in the performance of all of the claim elements. Thus, the requirement that all of the elements of a claim must have been performed ensures that only conduct related to the appropriating of the value of the patent is condemned.

An example of a scenario where the court could not find liability under the current standard of direction or control, but could find liability under conspiratory infringement is that of *Golden Hour Data Sys. v. emsCharts, Inc.*<sup>84</sup> In *Golden Hour Data Systems*, the plaintiff had a patent to an integrated emergency medical transportation database system. The system provides for the integration of dispatch, clinical services, and billing data. The patent discloses a dispatch module, a clinical module, an administrative module, and a billing module. The basic concept of the invention is a comprehensive system that includes modules for dispatching emergency medical teams, tracking their movement to and from the accident scene, managing a clinical diagnosis and treatment, and accurately billing the patient for the services rendered. Prior to this invention, no fully integrated medical systems had been developed.

The accused infringers were emsCharts (“D1”) and Softtech (“D2”). D1 produced a web-based medical charting program called emsCharts. The emsCharts program charts patient

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<sup>82</sup> *Shook v. St. Bede Sch.*, 74 F. Supp. 2d 1172, 1181 (M.D. Ala. 1999).

<sup>83</sup> *Id.*

<sup>84</sup> 614 F.3d 1367, 1371 (Fed. Cir. 2010).

information and provides integrated billing. D2 produces computer-aided flight dispatch software called Flight Vector, which coordinates flight information, such as patient pickup and delivery, and flight tracking. The two companies formed a strategic partnership, enabled their two programs to work together, and collaborated to sell the two programs as a unit.<sup>85</sup> While the combination of the systems constituted the plaintiff's system, the court held that the evidence presented was not sufficient to prove "direction" or "control" by D1 over D2 or vice versa.<sup>86</sup>

The evidence presented by the plaintiff as to "direction or control" was a non-exclusive distributorship agreement; evidence in the record showing D1 had been paid directly by a customer for D2's software; a joint submission to bid for a contract; communications from D1 urging D2 to stay diligent in closing sales; joint sales information sessions; and joint price quotes. None of these forms of evidence were legally sufficient because "making information available to the other party, prompting the other party, instructing the other party, or facilitating or arranging for the other party's involvement in the alleged infringement is not sufficient to find control or direction."<sup>87</sup> Further, the agreement expressly stated that D1 had no rights to D2 other than to promote its product.<sup>88</sup> Thus, D2 was an independent contractor that was not under sufficient "direction" or "control" to find D1 vicariously liable.<sup>89</sup>

Under the scenario presented by *Golden Hour Data Systems* each defendant could avoid direct infringement liability by maintaining control over their own product when it is sold or offered to be sold to the customer. Thus, there would be no single entity selling the entire

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<sup>85</sup> *Golden Hour Data Sys. v. emsCharts, Inc.*, 614 F.3d 1367, 1371 (Fed. Cir. 2010)

<sup>86</sup> *Golden Hour Data Sys., Inc. v. emsCharts Inc.*, No. 06-381, 2009 U.S. Dist. LEXIS 30108, at \*13-14 (E.D. Tex. Apr. 3, 2009), *aff'd*, 614 F.3d 1367 (Fed. Cir. 2010).

<sup>87</sup> *Id.* at \*11-12.

<sup>88</sup> *Id.* at \*7.

<sup>89</sup> *Id.* at \*8.

infringing system to the customer. However, evidence suggests that the defendants created a partnership with the purpose that the customer would combine the systems, and promoted such combination. Thus, there appears to be joint sales that occurred, which ultimately consisted of the patented invention. Of course this scenario demonstrates how the limiting principles of the conspiratory rule are beneficial. Evidence of knowledge that this combined action would result in the completion of plaintiff's invention would prevent the imposition of liability on defendants that merely sell systems that are in the public domain and just happen to be combined by the customer.

## VI. CONCLUSION

The ultimate goal of patent law is to incentivize creation of new and useful inventions while simultaneously keeping the costs of such incentives smaller than the benefits of the resulting creative activity. This balance is seen in the strict liability nature of the direct infringement statutory scheme and the intent requirements of indirect infringement. These characteristics instruct that where an actor's conduct is capable of deriving value independent of the patented invention, limitations should be imposed to ensure such authorized and public domain activities are not restricted.

The courts have expressed concern and restraint on imposing liability for divided infringement conduct particularly because they fear the incentive-cost balance will be disrupted. However, such restraint has the cost of reduced incentive for inventions that are particularly susceptible to divided infringement conduct. Thus, the solution is to provide patent owners with assurance that there will be some level of protection while concurrently addressing the potential social costs. This requires a two-pronged approach characterized by intent-limited rules.

The first prong closes the “mastermind loophole” by abandoning the rigid “direction or control” standard for a broader more flexible instrumentalities standard. The instrumentalities standard allows the court to go beyond the rigid boundaries of the agency relationship or other contractual obligation. Under this approach an actor that uses another as an instrumentality to complete the elements of a claim may be found liable. This provides flexibility to address ever-arising scenarios of divided infringement such as the common scenario of the mastermind utilizing its natural relationship with its customers to complete the elements of a claim. Thus, the instrumentalities approach would find liability under this scenario by incorporating the fundamentals of the current infringement statutes by requiring the patent owner to show the mastermind knew that the customer would perform the final elements or knew that the completion of the final elements would be the natural result. Thus, the proper balance is struck by ensuring that only those that seek to capture the patent’s value are liable.

The second prong closes the “conspiratory loophole” by first recognizing that claim-drafting techniques are a useful tool for this goal but not nearly sufficient. Once again the proper balance of incentive and cost is struck by providing limiting principles that ensure liability will be imposed only on those that misappropriate the patent’s value. Thus, multiple actors that conspire to divide the performance of a patented claim would be met with a patent law form of civil conspiracy that requires a showing of purpose or knowledge that such combined action would result in the performance of another’s invention. This provides a remedy for the patent owner, which signals potential inventors their inventive activity has protection, thereby incentivizing creation. Further, authorized and public domain activities will not be restrained to the detriment of society because only those that act with the purpose or knowledge of seizing the patent’s value will be stopped.