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RAMIFICATIONS OF JOINT INFRINGEMENT THEORY ON EMERGING TECHNOLOGY PATENTS

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*336 I. Introduction

Wireless technology was introduced in the 1980s and has rapidly evolved in the last thirty years.[1] Since wireless applications use free space as the medium to transmit information, the application of wireless technology is far-reaching.[2] It can involve "voice, data, video and multimedia applications and services."[3] For example, wireless technology can be used in microwave TV transmissions, cellular telephone services, HDTV, Digital Audio Broadcasting (DAB), and a host of other technologies.[4]

In the near future, wireless technologies will facilitate even greater social network participation between people and devices.[5] Users will be able to wirelessly build their own computer system on the fly and seamlessly share data from one device to another.[6] For instance, you will be able to wirelessly edit videos stored in your camcorder using your laptop and then show the videos on a friend's TV.[7] One developing technology that will make this possible is Dynamic Composable Computing (DCC).[8] DCC allows Mobile Internet Devices (MIDs) to connect wirelessly to nearby monitors, speakers, keyboards and other components.[9] This ***337** wireless connection compensates for the drawbacks of mobile devices such as small screens, small keyboards, or poor speakers by allowing a mobile device access to better hardware.[10]

DCC could be commercially available in five years,[11] and its development relies on advances in several areas with significant patent activity.[12] For example, new consumer electronics that exploit DCC will be created.[13] The component needed to implement DCC will either be built into every device or made available as a software download.[14] Improvement in processor technology will allow greater interoperability between MIDs, desktops, and other devices.[15] At the same time, advanced wireless communication standards will wirelessly connect major system components of a computer architecture.[16] Finally, technologists will have to develop new security or implement existing technology to prevent unauthorized access to data in these complex systems.[17] A theme that is consistent across all these technologies is that these advances facilitate interaction between multiple components and multiple parties.

Recent developments in patent law will affect how patents directed to wireless technologies such as DCC are written and enforced.[18] For example, to succeed in an action for infringement, a patent holder must present evidence that a single ***338** infringer manufactured, used, or performed all the elements in a claim.[19] What happens when a patentee presents a court with asserted method claims that require performance by multiple parties?[20] One theory that the patentee may assert is that the claims are infringed under a theory of joint infringement.[21]

Two cases decided by the U.S. Court of Appeals for the Federal Circuit articulate the standards for joint infringement. In BMC Resources, Inc. v. Paymentech, L.P., the court ruled that to find liability in situations where steps of a method claim are performed by multiple parties, the entire method must be performed at the control or direction of the alleged direct infringer--the mastermind.[22] Approximately one year later, in Muniauction, Inc. v. Thomson Corp., the Federal Circuit clarified that "the control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method."[23]

District courts have attempted to apply the holdings of BMC Resources and Muniauction in the two years following the Federal Circuit's decisions. In deciding their cases, district courts have focused on how the asserted claims are drafted and the relationships between the accused infringer and third parties.[24] Absent significant evidence of how an accused infringer controlled third parties, patent holders have found it difficult to support claims of infringement under a joint infringement theory.[25] Further, courts have suggested that carefully drafted claims directed to a ***339** single actor would eliminate the need for patent holders to rely solely on joint infringement theory.[26]

Section II of this article discusses the Federal Circuit's view of joint infringement theory as articulated in its two most recent opinions. Section III analyzes how district courts have applied the Federal Circuit's holdings in BMC Resources and Muniauction. In addition, it highlights evidence that may be favorable to a successful assertion of infringement under a theory of joint infringement. Finally, Section IV examines how claims can be drafted to avoid reliance on joint infringement theory during litigation.

II. Background

A. BMC Resources: Clarification of the Joint Infringement Standard

In BMC Resources, the Federal Circuit determined the proper standard for joint infringement liability by multiple parties of a

single claim.[27] Specifically, the court "clarified the proper standard for whether a method claim is directly infringed by the combined actions of multiple parties."[28]

The plaintiff, BMC Resources, Inc. (BMC), was the assignee of U.S. Patent Nos. 5,715,298 (the '298 patent) and 5,870,456 (the '456 patent).[29] Collectively, BMC's patents disclosed a method requiring the combined action of several participants.[30] The Federal Circuit summarized BMC's system as follows:

> These patents claim a method for processing debit transactions without a personal identification number (PIN). The patented invention provides an interface between a standard touch-tone telephone and a debit card network. On this interface, a customer may perform real-time bill payment transactions with only a telephone keypad. The invention includes an interactive voice response unit (IVR) that prompts the caller to enter an access code, account number, debit card number, and payment amount. This information, in turn, passes to a debit network ***340** and on to a banking or financial institution. Each of these entities participates in approving and carrying out the transaction.[31]

The defendant, Paymentech L.P. (Paymentech), provided financial transaction processing.[32] Paymentech received payment information from its clients--merchants who collected the payment information from its customers.[33] Paymentech routed the information to a participating debit network that then forwarded the information to an affiliated financial institution.[34] The financial institution was tasked with authorizing or declining the transaction and sending status information back to Paymentech via the debit network.[35]

BMC demanded that Paymentech obtain a license to use its patented technology upon learning that BMC planned to provide its financial processing services to BMC's clients.[36] In response, Paymentech refused and subsequently filed suit in federal district court seeking a declaration of non-infringement of the BMC patents.[37] BMC counterclaimed and alleged that Paymentech directly infringed claim 7 of the '456 patent and claim 2 of the '298 patent.[38] Both parties filed summary judgment motions relating to the infringement.[39]

Both of the claims asserted by BMC are method claims.[40] Claim 7 of the '456 patent depends on claim 6.[41] Claims 6 and 7 are reproduced below:

6. A method of paying bills using a telecommunications network line connectable to at least one remote payment card network via a payee's agent's system wherein a caller begins session using a telecommunications network line to initiate ***341** a spontaneous payment transaction to payee, the method comprising the steps of:

prompting the caller to enter a payment number from one or more choices of credit or debit forms of payment;

prompting the caller to enter a payment amount for the payment transaction;

accessing a remote payment network associated with the entered payment number, the accessed remote payment network determining, during the session, whether sufficient available credit or funds exist in an account associated with the payment number to complete the payment transaction, and upon a determination that sufficient available credit or funds exist in the associated account, charging the entered payment amount against the account with the entered payment number, adding the entered payment amount to an account associated with the entered account number, and storing the account number, payment number and payment amount in a transaction file of the system.

7. The method of claim 6 wherein said payment is a PIN-less credit or debit card number.[42]

Claim 2 of the '298 patent depends on claim 1.[43] Both claims 1 and 2 are reproduced below:

1. A method of paying bills using a telephone connectable to at least one remote payment card network via a payee's agent's system, wherein a caller places a call using said telephone to initiate a spontaneous payment transaction that does not require pre-registration, to a payee, the method comprising the steps of:

prompting the caller to enter an account number using the telephone, the account number identifying an account of a payor with the payee in connection with the payment transaction;

responsive to entry of an account number, determining whether the entered account number is valid;

prompting the caller to enter a payment number using the telephone, the payment number being selected at the discretion of the caller from any one of a number of credit or debit forms of payment;

responsive to entry of the payment, determining whether the entered payment number is valid;

prompting the caller to enter a payment amount for the payment transaction using the telephone;

***342** responsive to a determination that a payment amount has been entered and further responsive to a determination that the entered account number and payment number are valid, and during the call;

accessing a remote payment network associated with the entered payment number, the accessed remote payment network determining, during the call, the account associated with the entered payment number to complete the payment transaction; accessing a remote payment network associated with the entered payment number, the accessed remote payment network determining, during the call, whether sufficient available credit or funds exist in an account associated with the entered payment number to complete the payment transaction;

responsive to a determination that sufficient available credit or funds exist in the associated account, charging the entered payment amount against the account associated with the entered payment number, adding the entered payment amount to an account associated with the entered account number, informing the caller that the payment transaction has been authorized, and storing the account number, payment number and payment amount in a transaction log file of the system during the call; and

responsive to determination that sufficient available credit or funds do not exist in the associated account, informing the caller during the call that the current payment transaction has been declined and terminating the current payment transaction.

2. The method of claim 1 wherein said payment number is a debit card number.[44]

Paymentech asserted that it did not infringe the claims because "it did not perform all of the steps of the patented method by itself or in coordination with its customers and financial institutions."[45] In response, BMC argued that the Federal Circuit's decision in On Demand Machine Corp. v. Ingram Industries, Inc. modified the adequate standards controlling joint infringement by multiple parties.[46] Specifically, BMC argued that under On Demand, a plaintiff must meet a "participation and combined action" standard to establish the connection required to prove joint infringement.[47] BMC concluded that Paymentech infringed the asserted claims under this standard.[48]

***343** The U.S. District Court for the Northern District of Texas disagreed with BMC that On Demand controlled, stating that BMC relied on language that was dicta.[49] After reviewing other district court decisions and finding no law on point from the Federal Circuit, the district court concluded that Paymentech would infringe the claims only "if the record showed that it directed or controlled the behavior of the financial institutions that performed those claimed method steps that Paymentech [itself] did not perform."[50] In addition, the magistrate judge recommended summary judgment after determining that Paymentech did not infringe, either by itself or in connection with other entities, BMC's patents.[51] Accordingly, having determined that the record did not contain any evidence of direction or control, the district court granted Paymentech's motion for summary judgment.[52]

BMC appealed the district court's decision to the Federal Circuit.[53] The Federal Circuit also rejected BMC's argument that On Demand changed precedent regarding joint infringement.[54] In On Demand, the Federal Circuit stated that it found no flaw with the district court's jury instructions as a statement of law.[55] The jury instruction was as follows:

> It is not necessary for the acts that constitute infringement to be performed by one person or entity. When infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement. Infringement of a patented process or method cannot be avoided by having another perform one step of the process or method. Where the infringement is the result of the participation and combined action(s) of one or more persons or entities, they are joint infringers and are jointly liable for the infringement.[56]

Based on its interpretation of the jury instruction and the subsequent Federal Circuit's conclusion that it had no flaw, BMC argued that the Federal Circuit ***344** adopted a "'participation and combined action' standard as the type of 'connection' a plaintiff must show to prove joint infringement."[57] However, the Federal Circuit noted that its opinion in On Demand did not analyze the issues related to joint infringement.[58] Thus, the Federal Circuit concluded that On Demand did not change Federal Circuit precedent regarding joint infringement and that BMC's interpretation went beyond settled law.[59]

Having rebutted BMC's argument, the Federal Circuit began its analysis by stating the traditional rule that to prevail under direct infringement, the plaintiff must prove that a single party performed or used each element or step of the patented invention.[60] Thus, liability for infringement exists when a party "make[s], use, sell, or offer to sell the entire patented invention."[61] The court pointed out that indirect liability is the normal recourse under the law when a defendant, who is not a direct infringer, encourages or is a participant in infringement.[62] However, even liability under indirect infringement requires an initial finding that at least one party among all the accused actors has committed direct infringement.[63]

The Federal Circuit also noted that other courts that dealt with joint infringement refused to find liability against a party that did not direct or control every step of the patented process.[64] Further, the court addressed the appearance of a loophole to escape liability if one party had a third party carry out one or more steps of a claim.[65] The court explained that in such circumstances, "the law imposes vicarious liability on a party for the acts of another in circumstances showing that the liable ***345** party controlled the conduct of the acting party."[66] Accordingly, a defendant in a patent infringement claim could not escape liability merely by having another party carry out a step or a series of steps on its behalf.[67] In such instances, the party in control would be held liable[68] "It would be unfair indeed for the mastermind in such situations to escape liability," the court stated.[69]

Applying the control or direction standard to the facts, the court concluded that Paymentech did not infringe BMC's patents.[70] BMC's evidence that Paymentech provided data to debit networks, absent evidence that Paymentech also provided instructions or directions for the use of the data, was inadequate to create a genuine issue of material fact whether Paymentech controlled or directed the activity of the debit networks.[71] Moreover, the court found that evidence of direction or control between Paymentech and the financial institutions are scarcer since the lower court did not even find evidence of a contractual relationship.[72] Thus, without sufficient evidence that Paymentech either directed or controlled both the financial institutions and the debit networks, the Federal Circuit concluded that "Paymentech did not perform or cause to be performed each and every element of the claims."[73]

The Federal Circuit acknowledged that in some circumstances, parties may avoid infringement under the control or direction standard by entering into arms-length transactions.[74] However, it warned that expanding the rules governing direct infringement to cover the independent conduct of multiple actors would defeat the ***346** statutory scheme underlying indirect infringement.[75] It also added that these concerns could be addressed by proper claim drafting.[76]

The Federal Circuit observed that BMC's claims had a defect by having four different parties perform different acts within one claim.[77] Acknowledging BMC's own difficulty with this claim format, the court nevertheless refused to "unilaterally restructure the claim or the standards for joint infringement to remedy [BMC's] ill-conceived claims."[78]

B. Muniauction: The Multi-Party Spectrum Defined

Approximately one year later in Muniauction, the Federal Circuit was presented with another case in which a patentee, Muniauction, Inc., claimed that the defendant, Thomson, infringed the patentee's patents under the joint infringement theory.[79] The patent at issue in Muniauction, U.S. Patent No. 6,161,099, was directed to conducting an auction of financial instruments over a network (e.g., the internet) using a web browser.[80] The system described in the patent allowed bidders to submit bids using a conventional web browser.[81] The accused process, owned by Thomson, allowed users to issue bids over the Internet using a web browser.[82]

***347** Thomson moved for a judgment as a matter of law after a jury found that it willfully infringed the claims of the asserted patent.[83] The district court denied the motion, and Thomson appealed to the Federal Circuit.[84] On appeal, Muniauction continued to argue that Thomson infringed the claims based solely on a theory of joint infringement.[85] Since both parties agreed that no single party performed every step of the asserted claims, the issue before the Federal Circuit was whether the action of the bidder and auctioneer could be combined to give rise to a finding of direct infringement by the auctioneer.[86]

The Federal Circuit's decision in BMC Resources was rendered while Muniauction was on appeal.[87] Summarizing BMC Resources, the Muniauction court described a multiparty spectrum for direct infringement.[88] At one end of the spectrum, "where the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, i.e., the 'mastermind.'"[89] At the other end of the spectrum, the Federal Circuit stated, "mere 'arms-length cooperation' would not give rise to direct infringement by any party."[90] Given this spectrum, the Muniauction court concluded that one situation in which the control or direction standard would be satisfied is where the accused infringer is held vicariously liable for the acts of another party.[91]

Thus, in applying the BMC Resources standard, the Federal Circuit examined the facts to determine whether Thomson sufficiently controlled or directed other ***348** parties such that it could be said that Thomson performed every step of the asserted claims.[92] The court found the fact that Thomson controlled access to its system and instructed bidders on its use was insufficient to incur liability for direct infringement.[93] Thus, Thomson did not perform every step of the method claims, nor did it have another party perform the steps on its behalf.[94] Accordingly, the court concluded that Thomson did not infringe the asserted claims.[95]

C. Summary

In sum, the decisions in BMC Resources and Muniauction articulated a standard for finding joint infringement of a single method by multiple parties. BMC Resources held that in situations where steps of a method claim are performed by multiple parties, the entire method must be performed at the control or direction of the alleged direct infringer.[96] The Muniauction decision reinforced that "the control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method."[97]

Two years later, district courts have faced several challenges in applying the framework set forth in BMC Resources and Muniauction.. For example, even after Muniauction, one court remarked that the "Federal Circuit did not explain with any specificity what it meant by 'direction or control.'"[98]

III. Guideposts along the multi-party spectrum: How courts have applied BMC Resources and Muniauction

The primary challenge courts have encountered is evaluating the relationships between alleged joint infringers. The Muniauction court explained the existence of ***349** a spectrum of multiparty relationships.[99] However, placing parties in the spectrum, by looking at their relationship with each other, proved to be challenging.

In addition, the technology involved in subsequent joint infringement cases ranged from wireless applications to distributed software systems.[100] Thus, courts have had to apply the holdings of BMC Resources and Muniauction to various factual scenarios involving both method and apparatus claims.[101] Guidance can be obtained, however, by examining district courts' analysis as to where certain fact patterns lie along the multiparty spectrum between arms-length negotiation and vicarious liability.

A. Evidence of Mere Guidance or Instruction is Insufficient Evidence of Direction or Control

The results in BMC Resources and Muniauction indicate that providing data to another party or controlling access to a system and providing instructions for using that system do not support an inference adequate to show direction or control.[102] In Global Patent Holdings, after summarizing BMC Resources and Muniauction, the U.S. District Court for the Southern District of Florida concluded that the Federal Circuit did not intend for evidence of "mere guidance or instruction in how to conduct some of the steps of a method patent" to satisfy the direction or control standard.[103] Instead, the district court reiterated that a finding of joint infringement is warranted under this standard if a third party performs "the steps of the patented process by virtue of a contractual obligation or other relationship that gives rise to vicarious liability."[104]

***350** The patent at issue concerned a method for downloading data from a remote server.[105] The plaintiff, Global Patent Holdings (Global), alleged that the defendant, Panthers BRHC (Panthers), infringed Global's patent through the joint action of Panthers and home users of Panthers' website (i.e., the Boca Resort website).[106] The Boca Resort website supplied

computer programs that were executed on the users' computers.[107] Global asserted that the website controlled and directed the operation of the programs on the users' computers.[108] Specifically, Global argued that the asserted claim's method step of "identifying a query via a data input means and inputting said query to remote query and data retrieval means" was controlled by the defendant's website even though it was executed on a user's computer.[109] Panthers responded that under the standard set forth in BMC Resources, Global had not alleged that Panthers exercised sufficient direction or control of the third party infringers.[110]

After briefly examining the holdings in BMC Resources and Muniauction, the district court explained that a finding of joint infringement under BMC Resources is unwarranted absent evidence that the third party is required to perform steps of the patented process through a contractual obligation or some other relationship establishing vicarious liability.[111] With this understanding, the court noted that there were no facts presented that a remote user was contractually obligated to visit the defendant's website or that the remote users were Global's agents and visited the website in the scope of their agency.[112] Observing that the claimed method did not begin until a remote user visited the defendant's website and absent a showing that the users were somehow required to visit the website, the district court found that ***351** the defendant's conduct was not sufficient to establish direction or control.[113] The district court also concluded that the defendant did not exercise sufficient control by putting software on user computers to allow users to begin the process.[114]

Thus, the Global Patent Holdings court made clear that evidence that a defendant provided guidance or instruction to a third party is probably not sufficient to support a claim of joint infringement.[115] One court has applied Global Patent Holdings by finding that "[g]iving instructions or prompts to the third party in its performance of the steps necessary to complete infringement, or facilitating or arranging for the third-party's involvement in the alleged infringement, are not sufficient" evidence of direction or control.[116]

Another important aspect of Global Patent Holdings is the court's indication that evidence of a contractual obligation between a defendant and third party could lead to a finding of joint infringement.[117] The court did not elaborate on the type of contractual obligation that would be sufficient.[118] However, another recent district court decision has specifically examined whether a contractual obligation was sufficient to support a finding of joint infringement.[119]

B. Evidence of a Contract Between Two Parties, by Itself, is Insufficient for a Finding of Direction or Control

BMC Resources suggested that the existence of a contractual relationship between the accused infringer and the third party performing other steps of a patented method was a significant consideration in determining whether the accused infringer exercised direction or control.[120] The decision in Akamai Techs, Inc. v. ***352** Limelight Networks, Inc., elaborated on this issue by examining whether a contract between a customer and content provider was sufficient to support a finding of joint infringement.[121]

In Akamai, the U.S. District Court for the District of Massachusetts first addressed whether a finding of vicarious liability was necessary to fulfill BMC Resources' control or direction standard.[122] The court found that if evidence of vicarious liability were required for a finding of joint infringement, then an entity could escape liability just by hiring an independent contractor to execute one or more steps of a patented method.[123] Acknowledging that BMC Resources stated that one could not avoid liability simply by contracting out steps of a claimed process to another party, the court concluded that lack of evidence of vicarious liability would not preclude joint infringement.[124] Although a finding of vicarious liability is not necessary, the court explained that Muniauction required more than evidence of a mere "contractual agreement to pay for a defendant's services and instructions or directions on how to use those services" to satisfy the direction or control standard.[125]

Turning to Akamai's facts, the court observed that the defendant, Limelight Networks, Inc. (Limelight), had an agreement with its customers to provide a service (page objects from its network) in exchange for financial consideration.[126] However, the customer had to perform a step of the asserted method claim in order to obtain the services Limelight offered.[127] The court further noted that the customer's performance of this step is not a contractual obligation and may be performed whether they subscribed to Limelight's services or not.[128] Accordingly, the court found that the elements of direct infringement were not met since the type of ***353** contract for services between Akamai and its customers did not establish direction or control.[129]

In Gammino v. Cellco Partnership, the U.S. District Court for the Eastern District of Pennsylvania reached a similar result.[130] There was evidence of a contract between the defendants and service providers.[131] However, evidence of a contract by itself was not enough for the court to find that the defendants directed or controlled the actions of the service providers.[132]

In addition to the findings in Akamai and Gammino, one commentator has noted that it is unlikely that courts will find evidence of direction or control between a company and its customers in most circumstances.[133] Thus, under BMC Resources, a "contract for services [alone probably] does not give rise to direction or control, even if the customer must perform one or more steps of the patented process in order to receive the benefits of those services."[134] Instead, even where a contract exists, courts have indicated that evidence that the accused party (i.e., the mastermind) directed or controlled how a third party performed the steps of a method claim is required.[135]

C. Evidence of "Continuing Control" May be Sufficient to Support an Infringement Claim

The control or direction standard may be satisfied in cases where there exists a "contractual agency relationship between the 'mastermind' and the third party ***354** performing some of the steps necessary to show infringement."[136] In a recent decision, the court in American Patent Development found that evidence of software running on a third-party system being continuously controlled by an accused infringer may be sufficient to support a claim for infringement under a joint infringement theory.[137]

American Patent Development Corporation (APDC) asserted that Movielink infringed claims 1 and 2 of U.S. Patent No. 5,400,402 ('402 patent).[138] The '402 patent pertained to systems for controlling the use of video-on-demand programming.[139] Specifically, it "relates to a system for limiting the use of a downloaded video program purchased by a customer [where] a 'central station' transmits a 'video product' to a customer at a 'user site.'"[140] The claims at issue were directed to methods that would restrict the customer's access to video programming once particular viewing limits were reached.[141] Claim 1 of the '402 patent reads:

1. A method for providing a video product from a central station to a user site, comprising the steps of:

transmitting from said central station to said user site a digital data stream comprising said video product, and data establishing a limit for authorized viewing of said video product;

storing said video product at said user site;

decoding said data establishing a limit for authorized viewing of said video product;

storing a result of said decoding step;

blocking access to said video product stored at said user site if said limit for authorized viewing is exceeded.[142]

APDC alleged that the Movielink Manager software performed the steps of "decoding," "storing" and "blocking access" recited in the asserted claims.[143] APDC explained ***355** that to use Movielink's service, a customer must have the Movielink Manager software installed on her computer.[144] The customer then uses the software to download a requested video from servers controlled by Movielink.[145] The software then works with Microsoft Digital Rights Management application to determine whether the user has permission to view the downloaded video.[146] If it determines that the user did not have permission then the video product is deleted and the memory, where the video was previously stored, is wiped.[147]

The court articulated that the central issue was whether "the Movielink Manager software running on customers' computers can be, as APDC contends, considered part of a 'unitary' Movielink system that is controlled or directed by a Movielink 'mastermind.'"[148] APDC pointed to evidence that Movielink retained control over the Movielink Manager software that ran on user computers.[149] For instance, Movielink's documentation indicated that the Movielink Manager software was integrated with its server software referred to as the Web Commerce Application.[150] Further, APDC noted that Movielink, through its software, had the capacity to revoke customer licenses.[151]

Movielink, relying on the decision in Global Patent Holdings, argued that it is not liable under a joint infringement theory because it did not perform all the steps recited in claim 1.[152] Specifically, Movielink asserted that some steps of claim 1 ***356** were performed by a user on the user's computer.[153] Movielink added that it did not control the user computer or the software running on the user's computer.[154]

The court distinguished these facts from those in Global Patent Holdings, where the first step of a claim being asserted required the specific action of a remote computer user.[155] Examining the claims at issue, the court observed that unlike the asserted claims in Global Patent Holdings, none of the steps in claim 1 must be performed by a "remote computer user."[156] Instead, the court characterized the asserted claim 1 as merely requiring the operation of components at a "central station" and a "user site."[157]

Further, the court found that the evidence presented by APDC that Movielink maintained control over the Movielink Manager software was sufficient to survive summary judgment.[158] Although part of the Movielink software ran on a customer computer, the court concluded that there was a genuine issue of material fact as to whether Movielink exercised continuing control over the software.[159] Similarly, as discussed below, courts have found that a fact issue exists concerning joint infringement when presented with evidence that the alleged infringer exercised specific control over the actions of third parties.

D. Evidence that an Alleged Infringer Caused Third Parties to Perform in Accordance with Specific Instructions and Requirements May Be Sufficient to Support a Joint Infringement Claim

In Emtel, Inc. v. LipidLabs Inc., the U.S. District Court for the Southern District of Texas concluded, after a lengthy analysis of other district court decisions analyzing BMC Resources and Muniauction, that "to raise a fact issue as to direct ***357** infringement under the direction-or-control standard, the alleged infringer must cause third parties to perform steps of the claimed method in accordance with specific instructions and requirements."[160] In reaching this conclusion, the district court relied in part on the facts presented in Rowe International Corp. v. Ecast, Inc.[161]

In Rowe, the U.S. District Court for the Northern District of Illinois held that there was sufficient evidence for a reasonable jury to conclude that third-party defendants were under the direction and control of Ecast, Inc. in the manufacturing of jukebox hardware.[162] The plaintiffs, Rowe International Corp. and Arachnid, Inc., claimed that Ecast, Rock-Ola Manufacturing Corp., and View Interactive Entertainment Corp. infringed six patents owned by Arachnid and licensed to Rowe.[163] Each of the asserted patents was directed to computer jukeboxes and computer jukebox networks.[164] Unlike BMC Resources and Muniauction, the claims at issue in Rowe involved apparatus claims.[165] For example, among other claims Rowe asserted, claim 1 of U.S. Patent No. 6,397,189 is a patent for an improved computer jukebox comprising a communication interface, a data storage unit, a display, selection keys, and several other component parts.[166]

The plaintiffs moved for summary judgment on the infringement claims.[167] In response, defendants argued that none of them directly infringed the patents.[168] Specifically, the defendants asserted that because Rock-Ola and View Interactive made only the jukebox components and Ecast provided only the memory component and the network, while the operators of the jukeboxes put the system together, ***358** none of them alone directly infringed the asserted claims.[169] In Ecast's view, Ecast, Rock-Ola and View Interactive were partners.[170]

The district court, however, found that "[d]efendants [were] not entitled to denial of plaintiffs' summary judgment motion on the ground that no one of them directly infringe[d] the asserted patents."[171] In reaching this conclusion, the court pointed to several indications of direction and control that Ecast exercised over Rock-Ola and View Interactive.[172] For instance, the court found that Rock-Ola and View Interactive had manufacturing and distribution contracts with Ecast.[173] Pursuant to these contracts, Rock-Ola and View Interactive specifically manufactured jukeboxes made for the Ecast network service.[174] Ecast's own promotional materials reflected a system that included a wide area network consisting of consumer entertainment jukebox units (supplied by Rock-Ola and View Interactive) and a data center (operated by Ecast).[175]

Moreover, Ecast provided Rock-Ola and View Interactive with designs related to the jukebox that would make Ecast's software network more successful.[176] In one example of this reference designs, Ecast informed Rock-Ola and View Interactive that its software was written to communicate with a specific type of hardware device (an Elo Intellitouch Serial Controller) and that Ecast would need to approve any changes from this specification.[177]

The court also observed that there was no suggestion that Rock-Ola or View Interactive independently manufactured jukeboxes for the Ecast system.[178] Further, the court noted that View Interactive was required to obtain permission to manufacture ***359** jukeboxes for the Ecast network pursuant to its contract.[179] In sum, the court concluded that Ecast contracted out to Rock-Ola and View Interactive the manufacture of the jukebox hardware, an element in the asserted apparatus claims.[180] Accordingly, because the court found that there was evidence that Ecast caused Rock-Ola and View

Interactive to manufacture a computer jukebox in accordance with specific instructions and requirements, Ecast's denial of plaintiff's summary judgment for lack of direct infringement failed.[181]

Similarly, in TGIP, Inc. v. AT&T Corp., the U.S. District Court for the Eastern District of Texas held that there was sufficient evidence that the accused infringer controlled or directed the work of third parties to preclude judgment as a matter of law.[182] In that case, TGIP, Inc. claimed that AT&T infringed two patents related to prepaid calling cards.[183] AT&T renewed motions for judgment as a matter of law based on several grounds after the jury found for TGIP.[184] Among others, AT&T asserted that the record could not sustain TGIP's claim for infringement under a joint infringement theory.[185]

The first patent at issue, U.S. Patent No. 5,511,114 ('114 Patent), related to a "prepaid calling card system having a remote terminal to provide on-site activation and re-charging of calling cards."[186] The four components of the system included a plurality of calling cards, a host computer, a plurality of on-site activation terminals, and a call processor.[187] The "data terminals were remote from the host computer . . . [while the] call processor was controlled by the host computer for connecting one or more customers to the telephone network using the authorized calling cards."[188] The second patent, U.S. Patent No. 5,721,768 ('768 Patent), was directed to an alternative embodiment that allowed a user to activate or recharge a ***360** prepaid card account at a user activation terminal.[189] "The activation terminals [were] connected to a main processor, which include[d] a host computer responsible for management and processing of the system through a purchasing network."[190]

Claim 1 of the '114 patent is representative of the asserted claims:
1. A pre-paid calling card system to enable customers to purchase calling cards at predetermined locations and to use such calling cards to access a telephone network having at least one telephone, comprising:

a plurality of calling cards, each of said calling cards having a security number associated therewith that must be entered at a telephone to obtain access to the telephone network;

a host computer including at least one input port and a database for storing security numbers;

at least one data terminal located at a predetermined location remote from the host computer and connectable to the input port for associating, at the host computer, an amount of call authorization to a security number of a ceiling card using data transmitted between the data terminal and the host computer during one or more charging transactions, the means for associating of the data terminal including:

means for entering the security number;

means, operative during any initial transaction and any recharge transaction, for entering any monetary amount corresponding to the amount of call authorization;

means for connecting to the host computer to transfer the security number and the call authorization amount; and

means responsive to the transfer for receiving a verification message from the host computer authorizing receipt of the monetary amount to thereby associate at the host computer the call authorization amount to the security number, wherein the calling card does not store the call authorization amount; and

wherein the database includes a record for each calling card security number having a call authorization amount associated therewith, the record including a balance; and

a call processor running on the host computer and responsive to entry of the security number for enabling the customer to access the telephone network using the telephone, the call processor using the balance in the record associated with the ***361** security number for monitoring call progress and terminating the customer's access to the telephone network when the balance is exhausted.[191]
TGIP's witnesses stated that AT&T's system operated with three components: calling cards, data terminals, and a host computer.[192] The calling card is swiped through a magnetic card reader or data terminal.[193] The data terminal receives information from the card and sends a request to the host computer.[194] Upon receipt of the request, the host computer checks to see "whether the card control number is allowable, whether the card has not expired, and whether the card is eligible for activation."[195]

AT&T contended that third-party systems that were not under its direction or control performed essential steps necessary for joint infringement.[196] It pointed to activation platforms provided by West Interactive and A.P.T. and data terminals provided by retailers.[197] AT&T moved for judgment as a matter of law on the ground that there was no evidence of infringement.[198] Applying BMC Resources, the court denied the motion.[199] Specifically, the court pointed to testimony by AT&T's corporate representative that West Interactive acted on its behalf.[200] Further, there was evidence that AT&T provided specifications to retailers for sending activation messages in a certain format defined by requirements in AT&T's technical plan.[201] Accordingly, the district court found sufficient evidence that AT&T controlled or directed the work of third parties, which supported its denial of AT&T's motion for judgment as a matter of law.[202]

***362 E. Summary**

Based on the cases decided since BMC Resources and Muniauction, parties asserting infringement under a theory of joint infringement will not succeed by relying solely on evidence indicating that multiple alleged infringers took part in some form of arms-length cooperation.[203] At least one court has found that evidence of mere guidance or instruction by an accused infringer is not sufficient for a finding of direction or control under BMC Resources.[204] Further, evidence of a contract between two parties (a company and its customer) is, by itself, not sufficient for a finding of direction or control.[205]

A finding of vicarious liability lies on the opposite side of the multiparty spectrum.[206] However, courts have observed that lack of evidence of vicarious liability does not end the inquiry whether there may be joint infringement.[207] For example, evidence that an alleged infringer exercised continuing control in a distributed system may be sufficient to support a claim for infringement based on a joint infringement theory.[208] Further, evidence that an alleged infringer caused third parties to perform in accordance with specific instructions and requirements may be sufficient to support a claim under a joint infringement theory.[209]

Identifying successful joint infringement fact patterns can be useful. However, courts have identified claim-drafting issues that, if remedied, would have prevented a patentee from relying solely on a joint infringement theory.[210] Thus, while the claim-drafting principles endorsed in BMC Resources may be well known, it is ***363** important to examine how courts have interpreted claim language in a joint infringement context in order to determine the proper way to structure a claim.[211]

IV. The Impact of Joint Infringement Theory on Claim Drafting

In BMC Resources, the Federal Circuit stated that "concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting."[212] The Federal Circuit also said that it "will not unilaterally restructure claim[s] or the standards for joint infringement to remedy ill-conceived claims."[213] Accordingly, it is imperative that a patent holder draft and assert well-crafted claims sufficient to support a finding of infringement against a single party.

Patent holders have struggled with proving infringement of a method claim having multiple parties that perform different acts.[214] However, a patent holder can avoid having to rely solely on a joint infringement theory by carefully drafting and asserting claims "to capture infringement by a single party."[215] The Federal Circuit has observed that this can be done in most cases simply by asserting claims that feature "references to a single party's supplying or receiving each element of the claimed process."[216]

A. Claims Requiring a User to Interact with Another Entity Have Been Problematic for Patent Holders

In cases where joint infringement is asserted, claims that require the action of third parties triggers a detailed inquiry into the relationship between the accused infringer and the third party.[217] For example, in Global Patent Holdings, Global conceded that the initial step of the asserted patent claim called for action by a remote ***364** computer user.[218] A website server was also required to complete the claimed method.[219] The court assessed the relationship between the remote computer user and the website server to determine whether the defendant's website exercised direction or control over the remote computer user.[220]

Global did not allege that the remote computer users were contractually bound to visit the defendant's website.[221] Nor did

Global allege that the remote computer users were the defendant's agents visiting the website within the scope of their agency.[222] Thus, the court concluded that the remote computer users were not under the direction or control of the defendant's website.[223] Accordingly, the remote computer users and the defendant's website were not joint infringers.[224]

Similarly, the asserted method claims in Emtel required a physician to diagnose a medical condition or aid in treating a medical condition.[225] Emtel's method claims were directed to providing medical care to patients in remote locations through the use of videoconferencing equipment.[226] The medical activities of a physician made up only a few steps in the method claims.[227] Claim 1 of the asserted U.S. Patent No. 7,129,970 reads:

1. A business method for delivery of medical services utilizing a system including a plurality of satellite medical care facilities, at least one physician disposed at a central medical video-conferencing station, and a first patient and a first ***365** medical care giver disposed in a first of said plurality of satellite medical care facilities, the method comprising the steps of:

(a) establishing a video-conferencing communications system among said medical video-conferencing station and said plurality of satellite medical care facilities;

(b) selecting said first of said plurality of satellite medical care facilities to actively receive video and audio communication from said physician;

(c) controlling a video-conferencing system of said first of said plurality of satellite medical care facilities to control a video image received at said central medical video-conferencing station from said first of said plurality of satellite medical care facilities;

(d) diagnosing a medical condition of said first patient at said first of said plurality of satellite medical care facilities by said physician from said central medical video-conferencing station;

(e) providing instructions via said video-conferencing system to said first medical caregiver by said physician to treat said first patient at said first of said plurality of satellite medical facilities;

(f) selecting a second of said plurality of satellite medical care facilities to actively receive video and audio communication from said physician;

(g) displaying an image of a second patient disposed at said second of said plurality of satellite emergency care facilities at said central medical video-conferencing station;

(h) controlling a video-conferencing system of said second of said plurality of satellite medical care facilities to control said image received at said central medical video-conferencing station from said second of said plurality of satellite medical care facilities;

(i) diagnosing a medical condition of said second patient by said physician from said central medical videoconferencing station; and

(j) providing instructions via said video-conferencing system to a second medical caregiver disposed at said second of said plurality of satellite medical care facilities by said physician to treat said second patient generally contemporaneously with said steps of diagnosing said medical condition of said first patient and providing instructions to said first medical caregiver.[228]

The defendants provided "telemedicine support services."[229] Specifically, they entered into contracts with physicians or physician groups and remote medical care ***366** facilities to provide outsourced videoconferencing services.[230] Under these contracts, the physicians agreed to work as independent contractors to provide diagnostic and treatment services.[231] The defendant's videoconferencing equipment provided the remote medical care facilities access to the physicians.[232] This allowed the physicians to respond to requests from the remote medical care facilities.[233]

The court analyzed whether, under these contracts, the defendants exercised control or direction over the physicians in performing the required medical steps of the claimed method.[234] In examining this issue, the court focused on whether the defendants would be vicariously liable for the physician's actions.[235] The court explained that "a contracting party is not

vicariously liable for the actions of an independent contractor unless that party controls the details of the independent contractor's work to such an extent that the contractor cannot perform the work as he chooses."[236]

While acknowledging that the relationship between the accused infringer and physicians was stronger than the relationships at issue in BMC Resources and Muniauction, the court did not find vicarious liability.[237] Instead, the court characterized their contractual relationship as "set[ting] some basic parameters for the physicians."[238] The defendants were not involved in how the physicians performed the required diagnoses and treatment, which were required steps of the claimed method.[239] Accordingly, the court determined that there was insufficient evidence ***367** to establish that the defendants directed or controlled the physicians in their performance of the claimed method steps.[240]

In its opinion, the court explained how the asserted claims could have been rewritten to capture infringement of a single party.[241] The claims could have been rewritten to focus on the videoconferencing system provider "'supplying or receiving each element of the claimed process' rather than referring to different parties performing different acts within one claim."[242] The court stated that such changes would have avoided divided infringement while preserving the method being claimed.[243] While patent holders are encouraged to focus their claims on a single party, one decision, discussed below, has indicated that focus on a single entity is not compromised by referring to third parties in the claims.

B. Claims that Assume the Existence of Third Parties May Capture Infringement by a Single Actor

Claims that assume the existence of external elements have been found to capture infringement by a single party.[244] In Level 3 Communications, LLC v. Limelight Networks, Inc., the U.S. District Court for the Eastern District of Virginia found that an asserted claim was written to capture single-party infringement.[245] Claim 8 of U.S. Patent No. 6,654,807 recited:

8. A method, in a system which includes (a) a repeater server network including a plurality of repeater servers, (b) a plurality of subscribers to the repeater server network, the plurality of subscribers being entities that publish information via one or more origin servers, and in which the origin servers are distinct from the plurality of repeater servers, and in which at least some of the plurality of repeater ***368** servers replicate some or all of the information available on at least some of the origin servers, (c) a repeater selector mechanism constructed and adapted to identify, for a particular client request, an appropriate repeater server from the plurality of repeater servers, and (d) a subscriber verifying mechanism constructed and adapted to verify whether an entity is any one of the plurality of subscribers to the repeater server network, method comprising:

obtaining a client request for information by a repeater server of the plurality of repeater servers forming the repeater server network, the repeater server being identified by the repeater selector mechanism, wherein the client request is for a resource which is embedded in another document; determining, using at least the subscriber verifying mechanism and based, at least in part, on a name by which the repeater server was addressed, whether the requested information is from any one of the plurality of entities that publish information to the repeater server network; and when the client request is determined to be for information from one of the plurality of entities that publish information to the repeater server network, serving the requested information from the repeater sewer as identified by the repeater selector mechanism.[246]

Although the preamble of claim 8 "assumes the existence of external elements such as origin servers, clients, client requests, and subscriber content," the court noted that the steps of the method claim did not appear to involve actions by multiple parties.[247] The court reached this conclusion by emphasizing that these elements did not play any role in any particular steps in any of the methods.[248] Accordingly, the court found that infringement of the claim entailed the steps of a single party.[249]

C. Claim Amendments May Shift Focus from a Single Actor

In FotoMedia Technologies, LLC v. AOL, LLC, the U.S. District Court for the Eastern District of Texas evaluated whether a claim amendment changed a claim that required a step to be performed by a server to a claim that required a user to perform the step.[250] During patent prosecution, the asserted claim was amended to ***369** distinguish it from a reference cited by the examiner.[251] The limitation "receiving image data" was amended to read:

> [R]eceiving image data embodying an electronic image, the image data transferred under control of the user at the sending computer, the image data residing in the sending computer or an image source separate from and in communication with the sending computer.[252]

The examiner's explanation in the Notice of Allowability stated that "'[n]one of the prior art of record [taught] the image data

residing in the sending and transferred under control of the user at the sending computer.'"[253] Accordingly, the defendants argued that the amended "receiving" limitation must be read as requiring that a user issue a command to send the image data.[254] FotoMedia responded that the claims were not amended to require a transfer step performed by a user.[255]

Citing BMC Resources, the court acknowledged that claim drafting allows a patentee to structure a claim to capture infringement by a single party or multiple parties.[256] The court initially observed that the amended claim was drafted from the server's perspective, not the sender's.[257] Therefore, it construed the claim limitation "receiving image data" as "receiving by the server, image data."[258] Accordingly, the court agreed with the plaintiff that the amendment did not require a user to perform a step of the claimed method.[259] While this finding was favorable to the patentee, it illustrates the importance of proper claim drafting at the patent prosecution stage. Care must be taken when amending claims during prosecution to ensure that claims originally structured to capture a single party are not amended to require multiple parties.

*370 V. Conclusion

Advancements in technology are ushering in a new era where previously incompatible devices and components will interact with each other to form complex systems.[260] Innovators are racing to patent such technologies and enforce them in the marketplace. However, patent holders must understand that direct infringement requires a single party "to perform or use each and every step or element of a claimed method or product."[261] Where an asserted claim requires multiple actors, the theory of joint infringement provides an avenue for enforcement.[262] However, absent significant evidence concerning the relationship between multiple actors, patent holders have found it difficult to support claims of infringement under a joint infringement theory.

In brief, very specific evidence of the accused party exercising direction or control over a third party must be present for a claim of joint infringement to survive summary judgment. Evidence of a contract between two parties (e.g., a company and its customer) is probably not sufficient.[263] However, evidence that the alleged infringer exercised continuing control over third party components in a distributed system may be sufficient.[264] In addition, evidence that an alleged infringer caused third parties to perform steps of a claimed method in accordance with specific instructions and requirements may also be sufficient.[265] Accordingly, patentees should give careful thought to whether sufficient evidence exists prior to asserting joint infringement.

A patentee can avoid relying solely on a claim of joint infringement by drafting and asserting claims directed toward a single entity.[266] Claims in which a user is required to interact with another system or component have been problematic for patent holders.[267] However, at least one court has observed that even claims that ***371** assume the existence of other entities may still cover just a single actor.[268] Finally, patentees must be cautious when amending claims during prosecution to keep the focus of the claims on a single actor.[269]

Footnotes

a1 Mr. Robinson is an associate with Foley & Lardner, L.L.P.

1 See Dazheng Wang, Patent Pool: A Solution to the Problem of TD-SCDMA's Commercialization, 2008 Int'l Seminar on Future BioMed. Info. Eng'g 304, 304 (discussing the evolution of wireless telephone technology).

2 See Liliana Díaz Olavarrieta & Alfredo Aparicio Nava, Wireless Communications: A Bird's Eye View of an Emerging Technology, 2004 Int'l Symposium on Comms. & Info. Techs. 541, 541.

3 Id.

4 Id.

[5] See id. (noting a set of user-centered services that are desired for the future).

[6] See Anna Bogdanowicz, Dynamic Sharing, 33 The Institute 9 (2009), available at http://www.ieee.org/portal/cms_docs_tionline/tionline/tisep09.pdf (last visited Feb. 17, 2010).

[7] Id.

[8] See id. (stating that DCC will work like Bluetooth technology, which queries devices in nearby areas to connect to).

[9] Id.

[10] Id.

[11] Id. (noting that Intel, which already has a prototype, indicated that DCC could be commercially available in approximately five years).

[12] See Wang, supra note 1, at 304 ("Patents are becoming so important that almost all companies want to obtain their competitive advantages by implementing their patent strategies in the wireless telecoms industry.").

[13] See Bogdanowicz, supra note 6, at 9.

[14] See Bogdanowicz, supra note 6, at 9.

[15] See Bogdanowicz, supra note 6, at 9.

[16] See Bogdanowicz, supra note 6, at 9.

[17] Bogdanowicz, supra note 6, at 9 (emphasizing the approaches that Intel's developers may take in ensuring that connections into the component devices is secure such as password-enabled access and near-field communications).

[18] See Joshua P. Larsen, Liability for Divided Performance of Process Claims After BMC Resources, Inc. v. Paymentech, L.P., 19 DePaul J. Art, Tech. & Intell. Prop. L. 41, 43 (2008) (noting that the Federal Circuit's recent interpretation of Section 271 may restrict liability for direct infringement "to situations where one 'mastermind' entity exercises 'control or direction' over the infringement").

[19] See BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1380 (Fed. Cir. 2007) ("Infringement requires, as it always has, a showing that a defendant has practiced each and every element of the claimed invention." (citing Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40 (2007))).

[20] Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 828 (S.D. Tex. 2008) ("In BMC Resources, decided in 2007, and Muniauction, decided in 2008, the Federal Circuit put to rest the suggestion in some prior cases that multiple parties acting independently to perform all the claimed steps of a method patent could directly infringe that patent.").

[21] Courts sometimes refer to joint infringement as "divided infringement." See BMC Res., 498 F.3d at 1380.

[22] See BMC Res., 498 F.3d at 1380-81 (explaining that "it would be unfair indeed for the mastermind in such situations to escape liability").

[23] Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1330 (Fed. Cir. 2008) (citing BMC Res., 498 F.3d at 1379), cert. denied, 129 S. Ct. 1585 (2009).

[24] See discussion infra Parts III, IV.

[25] See discussion infra Part III.A-B.

[26] See discussion infra Part IV.B.

[27] BMC Res., 498 F.3d at 1378.

[28] Id. at 1378-80; Muniauction, 532 F.3d at 1329 (citing BMC Res., 498 F.3d at 1380).

[29] BMC Res., 498 F.3d at 1375; U.S. Patent No. 5,870,456 (filed Oct. 7, 1997); U.S. Patent No. 5,715,298 (filed Jan. 22, 1997).

[30] See BMC Res., 498 F.3d at 1375 (stating that BMC's patents featured the combined actions of several participants including the payee's agent, a remote payment network, and the financial institution that issued the card).

[31] Id.

[32] Id. at 1375-76 (describing Paymentech's sequence in processing PIN-less debit bill payment transactions).

[33] Id. at 1375.

[34] Id. at 1376.

[35] Id.

[36] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1376 (Fed. Cir. 2007).

[37] Id.

[38] Id.

[39] Id.

[40] Id. at 1376-77.

[41] Id. at 1377.

[42] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1376-77 (Fed. Cir. 2007); U.S. Patent No. 5,870,456 (filed Oct. 7, 1997).

[43] BMC Res., 498 F.3d at 1377.

[44] Id.; U.S. Patent No. 5,715,298 (filed Jan. 22, 1997).

[45] BMC Res., 498 F.3d at 1378.

[46] Id. (citing On Demand Mach. Corp. v. Ingram Indus., Inc., 442 F.3d 1331 (Fed. Cir. 2006)).

[47] Id. at 1380.

[48] Id. at 1378.

[49] Id. (noting the district court's determination that On Demand did not alter the traditional standard applied to infringement by multiple parties).

[50] Id.

[51] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1377-78 (Fed. Cir. 2007).

[52] Id. at 1378.

[53] Id. at 1375.

[54] See id. at 1380.

[55] On Demand, 442 F.3d at 1344-45; BMC Res., 498 F.3d at 1380 (citation omitted).

[56] On Demand, 442 F.3d at 1344-45; BMC Res., 498 F.3d at 1379 (emphasis added) (citation omitted).

[57] See BMC Res., 498 F.3d at 1380.

[58] See id. (emphasizing the district court's proper interpretation that just because the Federal Circuit in On Demand found no flaw on the jury instruction, that doesn't indicate a wholesale adoption of the instruction).

[59] Id.

[60] Id. at 1380 (citing Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40 (2007)).

[61] Id.

[62] Id. at 1379 (citing Dynacore Holdings Corp. v. U.S. Philips Corp., 363 F.3d 1263, 1272 (Fed. Cir. 2004)).

[63] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1379 (Fed. Cir. 2007).

[64] Id. at 1380 (citations omitted).

[65] Id. at 1379 (citation omitted).

[66] Id at 1379 (citing Engle v. Dinehart, No. 99-10087, 2000 WL 554942 (N.D. Tex. Apr. 19, 2000) (unpublished opinion)).

[67] Id.

[68] Id. at 1381.

[69] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1381 (Fed. Cir. 2007).

[70] Id.

[71] Id. at 1381-82. BMC argued that "that instructions or directions can be inferred from the provision of these data, or that the data themselves provide instructions or directions." Id. However, the court found that this inference is insufficient in the absence of evidence supporting either theory. Id.

[72] Id. at 1382 (pointing to the evidence in front of the district court and the magistrate judge).

[73] Id.

[74] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1382 (Fed. Cir. 2007).

[75] Id. ("Direct infringement is a strict-liability offense, but it is limited to those who practice each and every element of the claimed invention. By contrast, indirect liability requires evidence of 'specific intent' to induce infringement. Another form of indirect infringement, contributory infringement under § 271(c), also requires a mens rea (knowledge) and is limited to sales of components or materials without substantial noninfringing uses. Under BMC's proposed approach, a patentee would rarely, if ever, need to bring a claim for indirect infringement.")

[76] Id. (providing that a plaintiff can structure a claim by focusing on one entity. It added that BMC's claim, could have referred to a single entity instead of having four different parties perform parts of a claim).

[77] Id.

[78] Id. at 1381 (citing Sage Prods. Inc. v. Devon Indus. Inc., 126 F.3d 1420, 1425 (Fed. Cir. 1997)).

[79] See Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1328 (Fed. Cir. 2008), cert. denied, 129 S. Ct. 1585 (2009).

[80] See id. at 1321-22.

[81] Id. at 1322 ("[T]he '099 patent provides an 'integrated system on a single server' that allows issuers to run the auction and bidders to prepare and submit bids using a conventional web browser, without the use of other separate software.").

[82] Id. at 1323.

[83] Id. The jury imposed over $38 million in damages for Thomson's willful infringement. Id.

[84] Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1323 (Fed. Cir. 2008), cert. denied, 129 S. Ct. 1585 (2009). The district court also increased the damages to over $76 million plus interest and issued a permanent injunction. Id.

[85] Id. at 1328.

[86] Id. at 1328-29.

[87] Id. at 1323. See discussion infra Part II.A.

[88] Id. at 1329 (citing BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1380-81 (Fed. Cir. 2007)).

[89] Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1329 (Fed. Cir. 2008) (citing BMC Res., 498 F.3d at 1371), cert. denied, 129 S. Ct. 1585 (2009).

[90] Id.

[91] Id. at 1330 (citing BMC Res., 498 F.3d at 1379).

[92] See id. at 1329-30.

[93] See id. at 1330.

[94] Id. at 1330.

[95] Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1330 (Fed. Cir. 2008), cert. denied, 129 S. Ct. 1585 (2009).

[96] See BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1380-81 (Fed. Cir. 2007).

[97] Muniauction, 532 F.3d at 1330 (citing BMC Res., 498 F.3d at 1379).

[98] Global Patent Holdings, LLC v. Panthers BRHC LLC, 586 F. Supp. 2d 1331, 1334 (S.D. Fla. 2008), aff'd, 318 F. App'x 908 (Fed. Cir. 2009).

[99] Muniauction, 532 F.3d at 1329 (citing BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1380-81 (Fed. Cir. 2007)); Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 829 (S.D. Tex. 2008). See also discussion infra Part II.B.

[100] See, e.g., Global Patent Holdings, 586 F. Supp. 2d at 1332 n.1 (involving a method patent for downloading data from a remote server); Am. Patent Dev. Corp. v. Movielink, LLC, 637 F. Supp. 2d 224, 236-37 (D. Del. 2009) (involving patents for video-on-demand programming).

[101] See, e.g., Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924 (N.D. Ill. 2008) (involving an apparatus claim); Global Patent Holdings, 586 F. Supp. 2d at 1332 n.1 (involving a method claim).

[102] See supra notes 71, 93 and accompanying text; see also Emtel, 583 F. Supp. 2d at 831 (citing BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1381 (Fed. Cir. 2007)); Muniauction, 532 F.3d at 1329.

[103] Global Patent Holdings, 586 F. Supp. 2d at 1335.

[104] Id.

[105] Id. at 1332 n.1.

[106] Id. at 1333.

[107] Id.

[108] Id.

[109] Global Patent Holdings, LLC v. Panthers BRHC LLC, 586 F. Supp. 2d 1331, 1332 n.1, 1333 (S.D. Fla. 2008), aff'd, 318 F. App'x 908 (Fed. Cir. 2009). More specifically, "plaintiff allege[d] that step (a) of claim 17 of the '341 patent is controlled by Defendant, even though it is executed by a remote user's computer, because the remote user's computer 'runs Javascript programs and renders html-based web page material which have been supplied to the user's computer by Boca Resort's website.'" Id.

[110] Id. at 1333.

[111] Id. at 1335.

[112] Id.

[113] Id.

[114] Id.

[115] Global Patent Holdings, LLC v. Panthers BRHC LLC, 586 F. Supp. 2d 1331, 1335 (S.D. Fla. 2008) (emphasizing that merely putting Javascript applications on the user's computer for the process to begin is insufficient to meet the BMC Resources standard, absent additional showing of some form of relationship that establishes vicarious liability between the defendant and the third party), aff'd, 318 F. App'x 908 (Fed. Cir. 2009).

[116] Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 834 (S.D. Tex. 2008).

[117] Global Patent Holdings, 586 F. Supp. 2d at 1335.

[118] Id.

[119] See Akamai Techs, Inc. v. Limelight Networks, Inc., 614 F. Supp. 2d 90, 118 (D. Mass. 2009).

[120] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1382 (Fed. Cir. 2007). See also Akamai Techs, 614 F. Supp. 2d at. at 117-18; supra note 80 and accompanying text.

[121] See Akamai Techs, 614 F. Supp. 2d at 116-23.

[122] See id. at 119-20.

[123] Id. at 120 (citing Graham v. Malone Freight Lines, Inc., 314 F.3d 7, 15 (1st Cir. 1999) ("Employers are generally not liable for the negligent acts of the independent contractors they hire.")).

[124] Id. (citing BMC Res., 498 F.3d at 1381).

[125] Id. at 121.

[126] Id.

[127] Akamai Techs, Inc. v. Limelight Networks, Inc., 614 F. Supp. 2d 90, 121 (D. Mass. 2009) (comparing the facts with the defendant in Muniaction and concluding that in both cases "the customer must perform a step of the patented method in order to obtain the offered service").

[128] Id. at 122.

[129] See id.

[130] Gammino v. Cellco P'ship, 527 F. Supp. 2d 395 (E.D. Pa. 2007). In the Gammino case, however, the defendant was the purchaser of the service (international call blocking), which the plaintiff claimed infringed its patent. Id. at 397.

[131] Id. The defendant purchased telephone service along with international call blocking from various local providers. Id.

[132] Id. at 398-99.

[133] See Larsen, supra note 18, at 58-59 ("If liability should be imposed upon entities who seek to reap the commercial benefit of another's patented process and avoid liability simply by exploiting the technicalities of infringement jurisprudence, an approach broader than the 'control or direction' standard of BMC v. Paymentech is needed.").

[134] See Akamai Techs, Inc. v. Limelight Networks, Inc., 614 F. Supp. 2d 90, 121 (D. Mass. 2009).

[135] See, e.g., Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 833 (S.D. Tex. 2008); Gammino, 527 F. Supp. 2d 395; Akamai, 614 F. Supp. 2d 90;

[136] Emtel, 583 F. Supp. 2d at 835.

[137] See Am. Patent Dev. Corp. v. Movielink, LLC, 637 F. Supp. 2d 224, 236-37 (D. Del. 2009).

[138] Id. at 227.

[139] Id. at 226. See also U.S. Patent No. 5,400,402 (filed June 7, 1993).

[140] Am. Patent Dev. Corp. v. Movielink, LLC, 637 F. Supp. 2d 224, 227 (D. Del. 2009).

[141] Id.

[142] U.S. Patent No. 5,400,402 (filed June 7, 1993).

[143] Am. Patent Dev., 637 F. Supp. 2d at 236.

[144] Id. at 227.

[145] Id. at 228.

[146] Id.

[147] Id.

[148] Id. at 236.

[149] Am. Patent Dev. Corp. v. Movielink, LLC, 637 F. Supp. 2d 224, 236-37 (D. Del. 2009) (noting that APDC has pointed to sufficient evidence to survive summary judgment).

[150] Id. at 237 ("[T]he Movielink Manager software is repeatedly depicted in Movielink documents as being part of an integrated Movielink system made up of a number of highly interrelated components.").

[151] See id. (finding the testimony of Movielink's former Vice President of Web Engineering and Operation compelling).

[152] Id. at 235-36.

[153] Id. at 235.

[154] Id.

[155] Am. Patent Dev. Corp. v. Movielink, LLC, 637 F. Supp. 2d 224, 236 (D. Del. 2009) (citing Global Patent Holdings, LLC v. Panthers BRHC LLC, 586 F. Supp. 2d 1331, 1335 (S.D. Fla. 2008) ("Plaintiff conceded that the patented method does not begin until a computer user visits Defendant's website. If no person ever visited Defendant's website, then Plaintiff's patent would never be infringed. The initial step of the '341 patent calls for action on the part of the remote computer user.")).

[156] Id.

[157] Id.

[158] Id.

[159] Id. at 237.

[160] Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 834 (S.D. Tex. 2008).

[161] Id. See also Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924, 933 (N.D. Ill. 2008).

[162] Rowe, 586 F. Supp. 2d at 933; Emtel, 583 F. Supp. 2d at 834.

[163] Rowe, 586 F. Supp. 2d at 929.

[164] Id. at 930.

[165] Id. at 930; BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1375 (Fed. Cir. 2007) (involving method patents); Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1321 (Fed. Cir. 2008) (involving method patents), cert. denied, 129 S. Ct. 1585 (2009). See also supra notes 30-41 and accompanying text.

[166] U.S. Patent No. 6,397,189 (filed May 12, 1998); Rowe, 586 F. Supp. 2d at 941.

[167] Rowe, 586 F. Supp. 2d at 929.

[168] Id. at 930.

[169] Id. at 930-31.

[170] Id. at 933.

[171] Id. at 931.

[172] Id. at 932-33.

[173] Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924, 933 (N.D. Ill. 2008).

[174] Id. The court also noted that Rock-Ola and View Interactive were not independently producing jukeboxes that would work with Ecast. Id.

[175] Id. at 931.

[176] Id. at 933.

[177] Id.

[178] Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924, 933 (N.D. Ill. 2008).

[179] Id.

[180] Id.

[181] Id.

[182] TGIP, Inc. v. AT&T Corp., 527 F. Supp. 2d 561, 578 (E.D. Tex. 2007).

[183] Id. at 567.

[184] Id.

[185] Id.

[186] Id. at 568. See also U.S. Patent No. 5,511,114 (filed June 6, 1994).

[187] TGIP, 527 F. Supp. 2d at 568.

[188] Id.

[189] Id. at 568-69; U.S. Patent No. 5,721,768 (filed Nov. 18, 1996).

[190] TGIP, 527 F. Supp. 2d at 569.

[191] U.S. Patent No. 5,511,114 (filed June 6, 1994).

[192] TGIP, 527 F. Supp. 2d at 571.

[193] Id.

[194] Id.

[195] Id.

[196] Id. at 577.

[197] Id. at 577.

[198] TGIP, Inc. v. AT&T Corp., 527 F. Supp. 2d 561, 567 (E.D. Tex. 2007).

[199] Id. at 577-78 (discussing the Federal Circuit's decision in BMC Resources and applying it to the facts of the case).

[200] Id. at 578.

[201] Id.

[202] Id.

[203] See Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318, 1329 (Fed. Cir. 2008), cert. denied, 129 S. Ct. 1585 (2009).

[204] See, e.g., Global Patent Holdings, LLC v. Panthers BRHC LLC, 586 F. Supp. 2d 1331, 1335 (S.D. Fla. 2008), aff'd, 318 F. App'x 908 (Fed. Cir. 2009).

[205] See Akamai Techs, Inc. v. Limelight Networks, Inc., 614 F. Supp. 2d 90, 121 (D. Mass. 2009).

[206] See Muniauction, 532 F.3d at 1330.

[207] See Akamai, 614 F. Supp. 2d at 120.

[208] See Am. Patent Dev. Corp. v. Movielink, LLC, 637 F. Supp. 2d 224, 236-37 (D. Del. 2009).

[209] See Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 828 (S.D. Tex. 2008); Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924, 933 (N.D. Ill. 2008).

[210] See BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1381 (Fed. Cir. 2007) ("A patentee can usually structure a claim to capture infringement by a single party." (citing Mark A. Lemley et al., Divided Infringement Claims, 33 AIPLA Q.J. 225, 272-75 (2005))).

[211] See id. (noting the flaw in BMC's claim drafting by "hav[ing] four different parties perform different acts within one claim").

[212] Id.

[213] Id.

[214] See, e.g., BMC Res., 498 F.3d 1373; Muniauction, Inc. v. Thomson Corp., 532 F.3d 1318 (Fed. Cir. 2008), cert. denied, 129 S. Ct. 1585 (2009).

[215] BMC Res., 498 F.3d at 1381.

[216] See id.

[217] See, e.g., Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811 (S.D. Tex. 2008); Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924, 933 (N.D. Ill. 2008); Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924 (N.D. Ill. 2008); Global Patent Holdings, LLC v. Panthers BRHC LLC, 586 F. Supp. 2d 1331 (S.D. Fla. 2008), aff'd, 318 F. App'x 908 (Fed. Cir. 2009).

[218] Global Patent Holdings, 586 F. Supp. 2d at 1335. The first step of claim 1 of U.S. Patent No. 5,253,341 is "identifying a query via a data input means and inputting said query to remote query and data retrieval means." Id. at 1332 n.1; See also U.S. Patent No. 5,253,341 (filed Apr. 11, 1991).

[219] Global Patent Holdings, 586 F. Supp. 2d at 1335.

[220] Id. (noting the plaintiff's allegation that the defendant controlled the remote user by putting Javascript program on the user's computer).

[221] Id.

[222] Id.

[223] Id.

[224] Id.

[225] Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 815-17 (S.D. Tex. 2008) (discussing asserted claims 1 and 4).

[226] Id. at 825.

[227] See id.

[228] Id. at 815-16. See also U.S. Patent No. 7,129,970 (filed Mar. 25, 2003).

[229] Emtel, 583 F. Supp. 2d at 817.

[230] Id.

[231] Id.

[232] Id.

[233] Id.

[234] See id. at 835 ("The parties [disputed] whether these contracts establish direction or control by the movants over the physicians' performance of the steps of the claimed method of using videoconferencing in diagnosing remote patients, instructing on treating remote patients, and aiding in treating remote patients.").

[235] Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 835 (S.D. Tex. 2008).

[236] Id. at 837 (citing Indian Harbor Ins. Co. v. Valley Forge Ins. Group, 535 F.3d 359, 364-65 (5th Cir. 2008)).

[237] Id. at 837-38.

[238] Id. at 838.

[239] Id.

[240] Id. at 839-40. The court also emphasized that there was insufficient evidence that the physicians directed or controlled the defendants. Id. at 840.

[241] Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811, 840 (S.D. Tex. 2008).

[242] Id. Specifically, the plaintiff's claims "could be rewritten to refer to the telemedicine videoconferencing system provider receiving in a central medical videoconferencing station a physician's diagnosis of a medical condition of a patient in a satellite medical care facility, transmitting that diagnosis to the satellite medical care facility, receiving instructions provided by the physician to treat a patient at the satellite facility; and transmitting those instructions to the satellite medical facility." Id.

[243] Id.

[244] See Level 3 Commc'ns, LLC v. Limelight Networks, Inc., 630 F. Supp. 2d 654, 659-60 (E.D. Va. 2008).

[245] Id.

[246] U.S. Patent No. 6,654,807 (filed Dec. 6, 2001).

[247] Level 3 Commc'ns, 630 F. Supp. 2d at 659.

[248] Id. at 659-60. For instance, in responding to the defendant's argument that it did not direct or control its subscribers, the court emphasized that the subscribers were only passive elements of the claims' methods. Id. at 660. It also pointed to the plaintiff's argument that it would be able to prove infringement without referencing actions by the subscribers. Id.

[249] Id. at 659.

[250] FotoMedia Techs., LLC v. AOL, LLC, No. 2:07-CV-255, 2009 U.S. Dist. LEXIS 62542 at *25-28 (E.D. Tex. July 29, 2009).

[251] Id. at *25-26.

[252] Id. at *26; U.S. Patent No. 6,018,774 (filed July 3, 1991).

[253] FotoMedia, 2009 U.S. Dist. LEXIS 62542, at *26.

[254] Id.

[255] Id. at 27. FotoMedia argued that the amendment was only made to "identify the source of the image." Id.

[256] Id. at *27-28 (citing BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1381 (Fed. Cir. 2007)).

[257] Id. at *28.

[258] FotoMedia Techs., LLC v. AOL, LLC, No. 2:07-CV-255, 2009 U.S. Dist. LEXIS 62542 at *28 (E.D. Tex. July 29, 2009).

[259] See id.

[260] See, e.g., Bogdanowicz, supra note 6, at 9 (discussing the future innovations attributed to DCC technology).

[261] BMC Res., Inc. v. Paymentech, L.P., 498 F.3d 1373, 1378 (Fed. Cir. 2007).

[262] Id.

[263] See Akamai Techs, Inc. v. Limelight Networks, Inc., 614 F. Supp. 2d 90, 122-23 (D. Mass. 2009).

[264] See Am. Patent Dev. Corp. v. Movielink, LLC, 637 F. Supp. 2d 224, 233 (D. Del. 2009).

[265] See Rowe Int'l Corp, v. Ecast, Inc. 586 F. Supp. 2d 924, 932-33 (N.D. Ill. 2008).

[266] See BMC Res., 498 F.3d at 1381.

[267] See Emtel, Inc. v. LipidLabs, Inc., 583 F. Supp. 2d 811 (S.D. Tex. 2008).

[268] See Level 3 Commc'ns, LLC v. Limelight Networks, Inc., 630 F. Supp. 2d 654, 660 (E.D. Va. 2008).

[269] See FotoMedia Techs., LLC v. AOL, LLC, No. 2:07-CV-255, 2009 U.S. Dist. LEXIS 62542 at *25-28 (E.D. Tex. July 29, 2009).