IN THE

UNITED STATES COURT OF APPEALS

FOR THE FEDERAL CIRCUIT

AKAMAI TECHNOLOGIES, INC.,

Plaintiff-Appellant,

and

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

Plaintiff-Appellant,

v.

LIMELIGHT NETWORKS, INC.,

Defendant-Cross Appellant.

Appeals from the United States District Court for the District of Massachusetts in case nos. 06-CV-11109 and 06-CV-11585, Judge Rya W. Zobel.

COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC OF PLAINTIFF-APPELLANT AKAMAI TECHNOLOGIES, INC.

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February 18, 2011

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Counsel for Akamai Technologies, Inc. certifies the following:

1. The full name of every party or amicus represented by Counsel is:

   Akamai Technologies, Inc.

2. The name of the real party in interest represented by me is:

   None

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party represented by me are:

   None

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TABLE OF ABBREVIATIONS

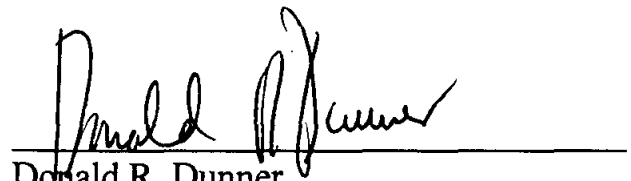
"Akamai"	Plaintiff-Appellant Akamai Technologies, Inc.
"Blue Br."	Akamai's opening brief on appeal, dated March 8, 2010
"Limelight"	Defendant-Cross Appellant Limelight Networks, Inc.
"MIT"	Massachusetts Institute of Technology
"the '703 patent"	U.S. Patent No. 6,108,703
"JMOL"	Judgment as a matter of law
"*BMC Resources*"	*BMC Resources, Inc. v. Paymentech L.P.*, 498 F.3d 1373 (Fed. Cir. 2007)
"*Muniauction*"	*Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008)
Bold, Italicized Text	All emphases in this brief has been added unless otherwise noted.

I. STATEMENT OF COUNSEL

Based on my professional judgment, I believe this appeal requires an answer to the following precedent-setting question of exceptional importance: Whether the Panel's bright-line rule requiring an agency relationship to establish joint infringement contradicts this Court's flexible approach in determining such infringement and thus runs afoul of the Supreme Court's admonition against adopting rigid bright-line rules that upset the settled expectations of the patent community?

Based on my professional judgment, I also believe the panel decision conflicts with the following precedents of this Court and is contrary to the following precedents of the Supreme Court of the United States: *Centillion Data Sys., LLC v. Qwest Commc'ns Int'l, Inc.*, No. 2010-1110, 2011 WL 167036 (Fed. Cir. Jan. 20, 2011); *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, 614 F.3d 1367 (Fed. Cir. 2010); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed. Cir. 2008); *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373 Fed. Cir. 2007); *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342 (Fed. Cir. 2007); *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331 (Fed. Cir. 2006); *Bilski v. Kappos*, 130 S. Ct. 3218 (2010); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007); *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002); *Pfaff v. Wells*

Elecs., Inc., 525 U.S. 55 (1998); and *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997).



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II. POINTS OF LAW OR FACT OVERLOOKED OR MISAPPREHENDED BY THE PANEL

There are certain inventions, like the one claimed here, that are by their very nature designed to be carried out by separate parties. In assessing whether a claim covering such an invention has been infringed, this Court previously examined the particular facts and circumstances concerning the relationship between the parties to determine if one party has sufficient control or direction over the other in practicing the claimed invention to establish liability for joint infringement. No longer. For the first time, a Panel of this Court has established a bright-line rule requiring a formal ***agency*** relationship to establish joint infringement. While the Panel purported to state that a contractual obligation may also be sufficient, the Panel's opinion makes abundantly clear that only a contractual obligation that constitutes an ***agency*** relationship would be legally adequate.

The Panel's ***retroactive*** application of this new rigid standard requiring an ***agency*** relationship may diminish—and in many cases destroy—the value of existing multi-participant patent claims. The Panel's holding thus inflicts

significant harm on industries that depend heavily on their investments in patented inventions based on the stable interpretation of the patent laws. As such, the Panel's new rule violates the Supreme Court's admonition against the retroactive adoption of such bright-line rules that "risk destroying the legitimate expectations of inventors in their property." *Festo*, 535 U.S. at 739. The Panel's unwarranted departure from the "control or direction" test should be vacated.

III. STATEMENT OF THE CASE

A. Factual Background

The '703 patent is directed to an improved method of delivering web page content. *Akamai*, 2010 WL 5151337 at *2. A web page typically includes a "base document," which serves as an outline for the web page, and "embedded objects," such as images or videos, that fill the outline. (Blue Br. 7.) Traditionally, the entirety of this web page, including both the page itself and embedded content, was delivered by a single entity. (*Id.* at 9.) As explained in the specification, one novel and advantageous aspect of Akamai's invention—and the one to which the asserted claims are directed— involves having a first corporation (the "content provider") deliver the base document and perhaps some of the objects, while a second corporation (the "content delivery network" or "CDN") delivers other objects in the web page. (*Id.* at 11.) CDN's deliver content for content providers simultaneously and thus offloads demand from the content providers' servers. (*Id.*) This was a breakthrough in web content delivery, as it "provide[d] a scalable

solution that could efficiently deliver large amounts of web content and handle flash crowds." *Akamai*, 2010 WL 5151337 at *2.

To make this system work, the inventors had to develop a way for Internet users to receive content from the CDN. (Blue Br. 11.) To this end, the claims at issue require that the embedded objects be "tagged" to link to the CDN. (*Id.* at 11-12.)

Limelight, Akamai's direct competitor in the CDN business, performs all of the steps of asserted claim 34 of the '703 patent, but contractually obligates its customers, the content providers, to perform the tagging step if they want to use Limelight's service. *Akamai*, 2010 WL 5151337 at *2-3. Limelight provides a virtual hostname ("xyz.vo.llnwd.net") to the content provider for tagging the embedded objects so that requests for those objects resolve to the Limelight CDN. (Blue Br. 25.) Because some of the claim steps were performed by Limelight and some by its customers, Limelight argued it was not liable for direct infringement. Akamai asserted that under a theory of joint liability, Limelight ***controls or directs*** the activities of its customers, and therefore is liable for infringement. *Akamai*, 2010 WL 5151337 at *4.

After a three-week trial, the jury, properly instructed under the *BMC Resources* control or direction test, to which Limelight did ***not*** object, returned a verdict of infringement and awarded over $40 million in lost-profit damages. *Id.* at

*3. As the Panel recognized, the jury heard evidence that Limelight: (1) creates and assigns a unique "tag" for the content provider; (2) provides explicit step-by-step instructions to perform the tagging step; (3) offers technical assistance to help content providers with their performance of the claim step; and (4) contractually requires content providers to perform the tagging step if they use Limelight's service. *Id.* at *3-4. Following the verdict, the district court (Judge Zobel) initially denied Limelight's JMOL motion, finding that "unlike in *BMC Resources*, here there was evidence that ***not only*** was there a contractual relationship between Limelight and its customers, but that [Limelight] provided those customers with instructions explaining how to utilize its content delivery service." *Id.* at *4. Subsequently however, on Limelight's motion for reconsideration, the district court analogized the facts before it to those at issue in *Muniauction*, reversed its previous decision, and granted JMOL of noninfringement. *Id.*

B. The Panel's Opinion

In affirming the district court, initially the Panel correctly stated that the precedent of this Court, in particular *BMC Resources* and *Muniauction*, set forth a "control or direction" test to establish joint infringement. *Akamai*, 2010 WL 5151337 at *5. But, as explained below, rather than applying a flexible "control or direction" standard, the Panel held that joint infringement applies ***only*** when there is an ***agency relationship*** between the parties performing the steps of a claimed

method. *Id.* at *6. The Panel held that "[f]or an agency relationship to exist, and thus, for infringement to be found, both parties must consent that the agent is acting on the principal's behalf and subject to the principal's control." *Id.*

After determining that Limelight and its customers did not have a formal agency relationship, the Panel focused its analysis on the contractual agreement that Limelight has with its customers. *Id.* at *7. Again citing *BMC Resources*, the Panel recognized that joint infringement can be established where one party is contractually obligated to the other to perform the steps. *Id.* But in applying this part of the analysis, the Panel again focused exclusively on whether the contract amounted to an agency relationship. While conceding that Limelight's contract "***requires*** content providers to perform certain claim steps if they choose to use Limelight's service, and ***provides instructions*** . . . for performing those steps," the Panel nonetheless found no contractual obligation because the contract allegedly did not establish "either Limelight's control over its customers or its customers' consent to Limelight's control." *Id.* at *8. But this is the exact test that the Panel required for a determination of whether there was an agency relationship between the parties. *See id.* at *6 ("For an agency relationship to exist, . . . both parties must consent that the agent is acting on the principal's behalf and subject to the principal's control."). Thus, rather than evaluate whether the contract obligated customers to perform certain steps of the claimed method, as required under *BMC*

Resources and *Muniauction*, the Panel ***only*** considered whether the contract evidenced an agency relationship.

IV. ARGUMENT FOR PANEL REHEARING AND REHEARING EN BANC

A. The Panel's Bright-Line Rule Will Cause Significant Harm

1. The Supreme Court Has Criticized Such Bright-line Rules

There are doubtless many patents with multi-participant method claims that were issued before the adoption of the Panel's new bright-line test. The Panel's bright-line test effectively renders many of these multi-participant patent claims incapable of being enforced, as it did here, and completely undermines the settled expectations of the patent community. The Supreme Court has specifically instructed this Court not to create such rules that retroactively destroy the value of existing intellectual property. In *Festo*, for example, the Supreme Court stated that this Court "ignored the guidance of *Warner-Jenkinson*, which instructed that courts must be cautious before adopting changes that disrupt the settled expectations of the inventing community. . . . The responsibility for changing them rests with Congress. . . . Fundamental alterations in these rules risk destroying the legitimate expectations of inventors in their property." *Festo*, 535 U.S. at 739 (citing *Warner-Jenkinson*, 520 U.S. at 28).

Further, the Supreme Court has been particularly vigilant where a rigid new rule has been adopted that alters a previous, more flexible standard. *See, e.g.*,

Bilski, 130 S. Ct. at 3227 (rejecting machine-or-transformation test as exclusive way to assess patentable subject matter under § 101); *KSR*, 550 U.S. at 415 ("We begin by rejecting the ***rigid approach*** of the Court of Appeals. Throughout this Court's engagement with the question of obviousness, our cases have set forth an ***expansive and flexible approach*** inconsistent with the way the Court of Appeals applied its TSM test here."); *eBay*, 547 U.S. at 392-93 (rejecting the Federal Circuit's bright-line grant of permanent injunctions when validity and infringement have been found); *Pfaff*, 525 U.S. at 63 (rejecting a bright-line rule that an invention cannot be "on sale" unless and until it is reduced to practice). In direct contradiction of such precedent, the Panel's rigid bright-line rule destroys the settled expectations and investments of many patent holders.

Indeed, the result of the Panel's bright-line test is the elimination of traditional liability for "masterminds." *BMC*, 498 F.3d at 1381 ("A party cannot avoid infringement, however, simply by contracting out steps of a patented process to another entity. In those cases, the party in control would be liable for direct infringement. It would be unfair indeed for the mastermind in such situations to escape liability. District courts in those cases have held a party liable for infringement."). The Panel's new bright-line rule re-opens the loophole for a party to escape infringement by allowing potential infringers to avoid liability simply by directing customers or other third parties to complete some claim steps, while

falling just short of the fiduciary relationship required of agency. If left to stand, this decision will allow would-be infringers to easily evade liability and leave patentees without a remedy for such method-style claims. It is not supported by precedent and should be reversed by this en banc Court.

2. There is No Meaningful Remedy to Mitigate the Harm Caused by the New Rule

The Panel's assertion that the "concerns" created by its new bright-line test are mitigated by proper claim drafting is of little comfort to the owners of the many already issued patents with multi-participant claims. *See Akamai*, 2010 WL 5151337 at *8. There is nothing "wrong" with the claims in these already issued patents that would require the patentee to seek reissue, if such a remedy is even available as the Panel suggests. *See id.* It is simply not always possible or desirable to draft method claims in a way that avoids steps being performed by a separate entity. And, a reissue to "correct" a multi-party claim would certainly be looked upon by the PTO as a broadening reissue on the grounds that it broadens the scope of a claim from one that no party infringed to one that at least one party infringed, and as such could only be utilized within two years of issuance. *See* 35 U.S.C. § 251 (1999); MPEP§ 1412.03(I) (8th ed., rev. 8, July 2010) ("A claim would be considered a broadening claim if the patent owner would be able to sue any party for infringement who previously could not have been sued for infringement."). Patentees with multi-party method claims that issued outside of

this two-year time limit have no reissue remedy.

There are certain inventions, like those in the claims of the '703 patent at issue here, that are designed to be carried out by separate parties. As explained in the specification and above, one novel and advantageous aspect of Akamai's invention (and the one to which the particular claims at issue in the '703 patent are directed) is having the content provider provide the web page base document and perhaps some of the objects in that page to an end user, while a second corporation provides other objects in the web page to the end user.[1] '703 patent, col.3 ll.4-16. As claimed in the '703 patent, it is this shared responsibility that is at the core of the invention that is so unique and different from the prior method of web delivery. *Id.* at col.2 ll.16-21; col.3 ll.1-16. Protection of such inventions should not focus on whether the claim drafter drafts the claims to cover one entity. Requiring such awkward wordsmithing by the claim drafter goes against a patentee's obligation to ***clearly*** claim ***the invention***. Moreover, it is not always feasible to draft a claim that both covers the inventive concept of having multiple participants, and does not actually claim multiple participants. Nor is it necessarily feasible to draft claims

[1] While Akamai does have other related patents, the claims are directed to other aspects of the invention. That Akamai has patents on other aspects should not prevent Akamai from having proper patent protection for the multi-participant aspect of its invention.

that will account for every possible allocation of method steps by a competitor in the future, such as was the case here, where Limelight avoided infringement simply by allocating the tagging step to its customers. Nor is it feasible for the patent owner to sue everyone involved in using the invention where, as here, there are multiple "customers" involved with Limelight's use of Akamai's invention (and such customers are also Akamai customers).

The very purpose of patent protection is to protect against others exploiting an invention discovered by another. An invention that by its very nature requires multiple participants is no less deserving of patent protection. There is no doubt that in this case, Limelight is exploiting the invention of appellant Akamai. Limelight simply avoids infringement by having its customers complete the tagging step. This is ***exactly*** the type of unjust result that *BMC Resources* sought to avoid. 498 F.3d at 1381 ("It would be unfair indeed for the mastermind in such situations to escape liability."). There is no basis in precedent or logic for holding that ***only*** an agency relationship can constitute joint infringement.

B. The Panel's New Bright-Line Rule Contradicts Precedent

The Panel's rule requiring an agency relationship represents a profound change in the law. Prior binding precedent simply did ***not*** require a formal agency relationship to impose joint infringement liability. Judge Zobel addressed this very issue below and, after reviewing *BMC* and *Muniauction*, concluded that this Court

did *not* require agency to establish joint infringement. (A53-54 ("There is no indication that the [Federal Circuit] intended to make a major change to this jurisprudence in its *Muniauction* decision. While a showing of vicarious liability is sufficient to find direction or control, it is not a necessary requirement.").)

Indeed, in *BMC Resources* and *Muniauction*, this Court determined that when an accused infringer performs some, but not all, of the steps of a patented method and other parties perform the remaining steps, the accused infringer (the so-called "mastermind") is liable for infringement under a theory of joint infringement if it ***controlled or directed*** the other party's performance of the "missing" steps. *BMC Resources*, 498 F.3d at 1380-81; *Muniauction*, 532 F.3d at 1329. "Control or direction" is a far broader and different standard from that of a formal agency relationship. The Panel itself noted the difference, finding that "[w]hile control or direction is a consideration," what is "essential is not merely the exercise of control," but rather "whether the relationship between the parties is such that acts of one may be attributed to another." *Akamai*, 2010 WL 515337 at *6.

In addition to control, the Panel stated that its agency test requires a "fiduciary relationship" where there is "***consent that the agent is acting on the principal's behalf***" such that "the agent manifests assent or otherwise consents so to act." *Id.* Accordingly, in applying the facts of this case, the jury and the Panel

reached different outcomes because the properly-instructed jury found infringement under a "control or direction" standard, while the Panel found missing elements under its newly created agency standard.

Further, this Court in *BMC Resources* unambiguously stated that a "party cannot avoid infringement . . . simply by contracting out steps of a patented process to another entity." 498 F.3d at 1381. The Panel purported to allow a contractual obligation as another avenue for establishing joint infringement, but in carrying out this analysis, the Panel conflated its "contractual obligation" analysis with its "agency relationship" analysis. Specifically, as noted *supra* at § III.B, after correctly recognizing that Limelight's contract with its customers "requires content providers to perform certain claim steps if they choose to use Limelight's service," *Akamai*, 2010 WL 5151337 at *8, the Panel slipped back into its agency analysis by stating that there could be no joint infringement because the contract did not establish the "customers' consent to Limelight's control." *Id.* This was the same standard that the Panel applied for determining an agency relationship. *See id.* at *6. In other words, according to the Panel, unless the contract exhibited an agency relationship between the parties, there could be no joint infringement. As such, the Panel collapsed its entire analysis into one question: Is there an agency relationship between the parties?

This Court's precedent does ***not*** support such a narrow inflexible rule. *BMC*

Resources conducted a flexible fact-based analysis that balanced the concerns of expanding direct infringement against the unfairness of letting masterminds escape liability. 498 F.3d at 1381. Acknowledging this same tension, *Muniauction* also focused on the "control or direction" of one party on the performance of the steps of the claim. 532 F.3d at 1329. Further, under *Muniauction,* there is not a rigid focus on an agency relationship, but an examination of the all parties' activities to determine where on the "spectrum" the relationship falls: On one end of the "***multi-party spectrum***," this Court explained that mere 'arms-length cooperation' will ***not*** give rise to direct infringement by any party." *Id.* On the other end of the spectrum, the Court explained that sufficient "control or direction" would be present in an agency relationship, "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." *Id.* at 1330. In other words, an agency relationship ***may*** establish joint infringement, but it is ***not*** the only way. However, the Panel decision eliminates this balance by turning a fact-intensive analysis across a "spectrum" of multi-participant scenarios into a narrow bright-line rule.

This Court's prior decisions in *PharmaStem,* 491 F.3d 1342, *On Demand,* 442 F.3d 1331, and *Golden Hour,* 614 F.3d at 1380-81, likewise did not announce a formal agency relationship to establish joint infringement. Even more recently, a

subsequent panel of this Court acknowledged that "control or direction" is separate and distinct from a formal agency relationship. *Centillion,* 2011 WL 167036 at *7. Although that case dealt with system claims, in analyzing the "vicarious liability cases" the panel held that "Qwest in no way directs its customers to perform ***nor*** do its customers act as its agents." *Id.* This clearly states that the appropriate standard includes something more than an agency relationship.

V. CONCLUSION

For all the reasons noted above, Akamai respectfully submits that the Panel's decision should be reconsidered by the Panel or by the en banc Court. At the very least, the case should be remanded with instructions for a new trial on joint infringement based on the Panel's ***newly announced*** agency standard.

Respectfully submitted,

Date: February 18, 2011

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ADDENDUM

--- F.3d ----, 2010 WL 5151337 (C.A.Fed. (Mass.)), 97 U.S.P.Q.2d 1321
(Cite as: 2010 WL 5151337 (C.A.Fed. (Mass.)))

H

United States Court of Appeals,
Federal Circuit.
AKAMAI TECHNOLOGIES, INC., Plaintiff-Appellant,
and
The Massachusetts Institute of Technology, Plaintiff-Appellant,
v.
LIMELIGHT NETWORKS, INC., Defendant-Cross-Appellant.

Nos. 2009-1372, 2009-1380, 2009-1416, 2009-1417.
Dec. 20, 2010.

Background: Patent holders brought action against competitor alleging infringement of patents for Internet server architecture and related software. The United States District Court for the District of Massachusetts, Rya W. Zobel, J., 494 F.Supp.2d 34, construed the claims and granted judgment as matter of law for competitor after jury verdict for plaintiffs, 614 F.Supp.2d 90. Parties appealed.

Holdings: The Court of Appeals, Linn, Circuit Judge, held that:
(1) customers of patentee's competitor did not have agency relationship with competitor;
(2) phrase, "given object of a participating content provider is associated with an alphanumeric string," limited tagged alphanumeric strings to those strings including object's original Uniform Resource Locator (URL); and
(3) phrase, "given name server that receives the DNS query being close to the client local name server as determined by given location information," and phrase, "selecting a given one of the name servers in the content delivery network," required selection of name server by alternative domain name system.

Affirmed.

West Headnotes

[1] Patents 291 ⚿259(1)

291 Patents
291XII Infringement
291XII(A) What Constitutes Infringement
291k259 Contributory Infringement; Inducement
291k259(1) k. In general. Most Cited Cases

An accused infringer's control over its customers' access to an online system, coupled with instructions on how to use that system, is not enough to establish direct patent infringement.

[2] Patents 291 ⚿259(1)

291 Patents
291XII Infringement
291XII(A) What Constitutes Infringement
291k259 Contributory Infringement; Inducement
291k259(1) k. In general. Most Cited Cases

Customers of patentee's competitor did not have agency relationship with competitor, as required for infringement of patent on Internet server architecture and related software under joint patent infringement theory, on basis that competitor had provided instructions on use of its service and required customers to perform some steps of claimed method to take advantage of that service; customers decided what content, if any, they would like delivered by competitor's content delivery network and then performed step of "tagging" that content and they also performed step of "serving" their own web pages, but agency relationship did not arise when one party simply provided direction, no matter how explicit, to another party. Restatement (Third) of Agency § 1.01.

[3] Patents 291 ⚿228.1

291 Patents
291XII Infringement
291XII(A) What Constitutes Infringement
291k228 Patents for Processes
291k228.1 k. In general. Most Cited Cases

--- F.3d ----, 2010 WL 5151337 (C.A.Fed. (Mass.)), 97 U.S.P.Q.2d 1321
(Cite as: 2010 WL 5151337 (C.A.Fed. (Mass.)))

Direct patent infringement requires a single party to perform every step of a claimed method.

[4] Patents 291 ⚿259(1)

291 Patents
291XII Infringement
291XII(A) What Constitutes Infringement
291k259 Contributory Infringement; Inducement
291k259(1) k. In general. Most Cited Cases

The performance of a method step may be attributed to an accused patent infringer when the relationship between the accused infringer and another party performing a method step is that of principal and agent, applying generally accepted principles of the law of agency as explicated by the Supreme Court and the Restatement of Agency; while control or direction is a consideration, as is the extent to which instructions, if any, may be provided, what is essential is not merely the exercise of control or the providing of instructions, but whether the relationship between the parties is such that acts of one may be attributed to the other. Restatement (Third) of Agency § 1.01.

[5] Patents 291 ⚿259(1)

291 Patents
291XII Infringement
291XII(A) What Constitutes Infringement
291k259 Contributory Infringement; Inducement
291k259(1) k. In general. Most Cited Cases

Joint patent infringement through an agency relationship occurs when a party is contractually obligated to the accused infringer to perform a method step; both parties must consent that the agent is acting on the principal's behalf and subject to the principal's control. Restatement (Third) of Agency § 1.01.

[6] Patents 291 ⚿259(1)

291 Patents
291XII Infringement
291XII(A) What Constitutes Infringement
291k259 Contributory Infringement; Inducement
291k259(1) k. In general. Most Cited Cases

When assessing patent infringement based on the actions of joint parties, it is not enough to determine for whose benefit the actions serve, for in any relationship there may be benefits that inure in some respects to both parties; there can only be joint infringement when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps. Restatement (Third) of Agency § 1.01.

[7] Patents 291 ⚿259(1)

291 Patents
291XII Infringement
291XII(A) What Constitutes Infringement
291k259 Contributory Infringement; Inducement
291k259(1) k. In general. Most Cited Cases

A party that engages another to perform a step of a claimed method as its agent cannot escape liability for patent infringement simply by designating its agent an independent contractor if all the elements that otherwise reflect an agency relationship are present. Restatement (Third) of Agency § 1.01.

[8] Patents 291 ⚿101(3)

291 Patents
291IV Applications and Proceedings Thereon
291k101 Claims
291k101(3) k. Limitations in general. Most Cited Cases

Phrase, "given object of a participating content provider is associated with an alphanumeric string," in patent for Internet server architecture and related software, limited tagged alphanumeric strings to those strings including object's original Uniform Resource Locator (URL); alphanumeric strings including object's original URL were not merely discussed as preferred embodiment, but, instead, written description specifically referred to strings including object's original URL as "the invention."

--- F.3d ----, 2010 WL 5151337 (C.A.Fed. (Mass.)), 97 U.S.P.Q.2d 1321
(Cite as: 2010 WL 5151337 (C.A.Fed. (Mass.)))

[9] Patents 291 ⚿324.5

291 Patents
291XII Infringement
291XII(C) Suits in Equity
291k324 Appeal
291k324.5 k. Scope and extent of review in general. Most Cited Cases

Patent claim construction is reviewed de novo.

[10] Patents 291 ⚿165(3)

291 Patents
291IX Construction and Operation of Letters Patent
291IX(B) Limitation of Claims
291k165 Operation and Effect of Claims in General
291k165(3) k. Construction of language of claims in general. Most Cited Cases

Patents 291 ⚿167(1)

291 Patents
291IX Construction and Operation of Letters Patent
291IX(B) Limitation of Claims
291k167 Specifications, Drawings, and Models
291k167(1) k. In general. Most Cited Cases

Patent claim construction analysis begins by considering the language of the claims themselves; however, the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format.

[11] Patents 291 ⚿101(2)

291 Patents
291IV Applications and Proceedings Thereon
291k101 Claims
291k101(2) k. Construction in general. Most Cited Cases

Phrase, "given name server that receives the [domain name system (DNS)] query being close to the client local name server as determined by given location information," and phrase, "selecting a given one of the name servers in the content delivery network," in patents describing framework including set of "hosting" or "ghost" servers used to store and deliver Internet website's embedded objects, required selection of name server by alternative DNS.

[12] Patents 291 ⚿101(11)

291 Patents
291IV Applications and Proceedings Thereon
291k101 Claims
291k101(11) k. Process or method claims. Most Cited Cases

Structural element of alternative domain name system (DNS) framework explicitly and properly had been included in claims, in patent describing framework including set of "hosting" or "ghost" servers used to store and deliver Internet website's embedded objects, where all of asserted claims had explicitly referred to alternative DNS as detail associated with claimed method.

Patents 291 ⚿328(2)

291 Patents
291XIII Decisions on the Validity, Construction, and Infringement of Particular Patents
291k328 Patents Enumerated
291k328(2) k. Original utility. Most Cited Cases

6,108,703. Not Infringed.

Patents 291 ⚿328(2)

291 Patents
291XIII Decisions on the Validity, Construction, and Infringement of Particular Patents
291k328 Patents Enumerated
291k328(2) k. Original utility. Most Cited Cases

6,553,413, 7,103,645. Construed.

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(Cite as: 2010 WL 5151337 (C.A.Fed. (Mass.)))

Donald R. Dunner, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, of Washington, DC, argued for all plaintiffs-appellants. With him on the brief were Kara F. Stoll and Elizabeth D. Ferrill. Of counsel on the brief was Robert S. Frank, Jr., Choate, Hall & Stewart LLP, of Boston, MA, for The Massachusetts Institute of Technology. Of counsel were G. Mark Edgarton and Carlos Perez-Albuerne.

Alexander F. Mackinnon, Kirkland & Ellis LLP, of Los Angeles, CA, argued for defendant-cross appellant. With him on the brief were Robert G. Krupka, and Nick G. Saros. Of counsel on the brief was Dion Messer, Limelight Networks, Inc., of Tempe, AZ.

Before RADER, Chief Judge, LINN and PROST, Circuit Judges.

LINN, Circuit Judge.

***1** Akamai Technologies, Inc. and the Massachusetts Institute of Technology (collectively, "Akamai") appeal the district court's judgment as a matter of law ("JMOL") overturning a jury verdict of infringement by Limelight Networks, Inc. ("Limelight") of claims 19-21 and 34 of U.S. Patent No. 6,108,703 (the "'703 patent"). *See Akamai Techs., Inc. v. Limelight Networks, Inc.*, 614 F.Supp.2d 90 (D.Mass.2009) (" *JMOL Opinion* "). Akamai also appeals the district court's construction of claim 1 of U.S. Patent No. 7,103,645 (the "'645 patent") and claims 8, 18, and 20 of U.S. Patent No. 6,553,413 (the "'413 patent"). Limelight cross appeals the district court's denial of JMOL relating to the jury's award of lost profits. *See Akamai Techs., Inc. v. Limelight Networks, Inc.*, Nos.2009-1372, -1380, -1416, -1417, 2010 WL 331770 (Fed.Cir. Jan.27, 2010) (finding Limelight's cross appeal in this case proper as to the lost profits determination).

Because Limelight did not perform all of the steps of the asserted method claims, and the record contains no basis on which to attribute to Limelight the actions of its customers who carried out the other steps, this court affirms the finding of noninfringement and does not reach Limelight's cross-appeal regarding damages. This court also affirms the district court's judgment of noninfringement of the '645 and '413 patents based on its rulings on claim construction.

BACKGROUND

I. The Technology and the Nature of the Dispute

Information is typically delivered over the Internet from websites. Websites are collections of documents written using a standard page description language known as Hypertext Markup Language ("HTML"). Each web page is a separate HTML file with an identifying string of characters known as a Uniform Resource Locator ("URL"). Typically, a full URL (e.g., "http:// www.cafc.uscourts.gov/forms") consists of several elements: a protocol (e.g., "http://"); a domain name (also referred to herein as a "hostname") (e.g., "www.cafc.uscourts.gov"); and sometimes a path (e.g., "/forms"). A typical web page consists of a base HTML document that includes text interspersed with various types of content such as images, video, and sound-referred to as objects. Most of these objects are not incorporated into the web page in their entirety, but instead are simply included as links, in the form of separate URLs, which reference the actual object stored elsewhere on the same computer or another computer in the same domain (a group of networked computers that share a common domain name). These objects are referred to in the patents as "embedded objects." An embedded object's URL is typically the same as that of the web page containing the embedded object, with the object's name appended thereto (e.g., "http://www.cafc.uscourts.gov/forms/pic.jpg").

The Internet maintains a Domain Name System ("DNS"), which uses computers, known as domain name servers ("DNS servers"), to convert the hostname of a URL into a numeric Internet Protocol ("IP") address, which identifies one or more computers that store content ("content servers"). This conversion process is referred to as "resolving." A user requesting a web page using a web browser (e.g., Netscape Navigator® or Microsoft Internet Explorer®) will receive an IP address from a local DNS server that corresponds to the content server for the requested web page. In response, the user's computer sends a request for the web page directly to that content server using the IP address. The content server sends the requested web page-the base HTML document and any embedded objects' URLs-to the user's computer. The user's web browser then requests each embedded object from the content provider's server using that object's URL in the same manner that it requested the web page until all of the objects have been retrieved and the web page is fully displayed on the user's computer.

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*2 This process of retrieving web content can be slow and unreliable. For example, Internet congestion problems may occur when a single content server receives many simultaneous requests for the same web page-sometimes referred to as "flash crowds." In addition, users may experience poor content delivery performance when the user's computer is located far away from the content server it is accessing. One known solution to these content delivery problems is called mirroring, in which an entire website is replicated on multiple servers in different locations. Mirroring, however, has scalability problems, including costs required by the multiple hosting facilities, additional overhead associated with keeping mirror sites synchronized, and a ceiling on the number of website copies that may be maintained concurrently. '703 patent col.1 ll.34-61.[FN1] In response to these known problems with delivering content, Akamai sought to provide a scalable solution that could efficiently deliver large amounts of web content and handle flash crowds. Akamai obtained the three patents at issue, which all share the same specification and disclose a system for allowing a content provider to outsource the storage and delivery of discrete portions of its website content.

All three patents include method claims directed to a content delivery service that delivers the base document of a web site from a content provider's computer while individual embedded objects of the website are stored on an object-by-object basis on a Content Delivery Network ("CDN"). CDNs are systems of computers strategically placed at various geographical locations to maximize the efficient delivery of information over the Internet to users accessing the network. The embedded objects are stored on and served from the CDN's "hosting" or "ghost" servers. Instead of maintaining identical copies of the entire web site content at a single location or at multiple locations by mirroring as taught by the prior art, only embedded objects are replicated on and served from a CDN. To allow users accessing a content provider's web page to receive embedded objects from a CDN, the URL of the embedded object must point to a CDN hosting or ghost server instead of to a computer within the content provider's domain. To this end, the specification of the patents describes modifying the embedded object's URL, "to condition the URL to be served by the global hosting servers." '703 patent col.6 ll.41-46. This process of modifying an embedded object's URL to link to an object on the CDN is referred to as "tagging."

Akamai and Limelight operate and compete in the market for CDN services. Limelight's accused service delivers content providers' embedded objects from its CDN. According to Limelight's contracts with its content provider customers, to use Limelight's CDN service, the content provider must perform several steps. First, the content provider must choose which embedded objects, if any, it would like to be served from Limelight's CDN. The content provider must then tag the URL of each chosen object as instructed by Limelight. Limelight then replicates the properly tagged objects on some or all of its servers and directs a user's request for one of these objects to an appropriate Limelight server.

II. Proceedings Before the District Court

*3 On June 23, 2006, Akamai sued Limelight in the United States District Court for the District of Massachusetts asserting infringement of the '645, '703, and '413 patents. After a trial on infringement of independent claims 19 and 34 and dependent claims 20-21 of the '703 patent, a jury returned a verdict of infringement and awarded $40.1 million in lost profits and $1.4 million in reasonable royalty damages. The two independent claims asserted at trial cover methods that require tagging at least some embedded objects in a content provider's web page so that requests for those objects resolve to a domain name other than the content provider's domain name. Claim 19 also requires serving the requested web page from the content provider's domain. Claims 19 and 34 read as follows, with steps at the heart of this dispute emphasized:

19. A content delivery service, comprising:

replicating a set of page objects across a wide area network of content servers managed by a domain other than a content provider domain;

for a given page normally served from the content provider domain, tagging the embedded objects of the page so that requests for the page objects resolve to the domain instead of the content provider domain;

responsive to a request for the given page received at the content provider domain, serving the

given page from the content provider domain; and

serving at least one embedded object of the given page from a given content server in the domain instead of from the content provider domain.

'703 patent col.19 ll.6-20.

34. A content delivery method, comprising:

distributing a set of page objects across a network of content servers managed by a domain other than a content provider domain, wherein the network of content servers are organized into a set of regions;

for a given page normally served from the content provider domain, tagging at least some of the embedded objects of the page so that requests for the objects resolve to the domain instead of the content provider domain;

in response to a client request for an embedded object of the page:

resolving the client request as a function of a location of the client machine making the request and current Internet traffic conditions to identify a given region; and

returning to the client an IP address of a given one of the content servers within the given region that is likely to host the embedded object and that is not overloaded.

'703 patent col.20 ll.32-52.

It is undisputed that Limelight does not itself perform every step of the asserted claims. *JMOL Opinion* at 116. Limelight provides the information necessary for its customers, the content providers, to modify their web pages or Internet address routing information to use the Limelight service. However, the content providers perform the actual tagging step (emphasized above) themselves. There are two tagging methods used by Limelight's customers. As described by the district court:

> *4 In the first method, the customer changes the hostname address of one or more page objects in the initial web page to point to Limelight's servers (the "prepend method"). In the second method, the customer adds or changes alias information in its DNS record so that the hostname addresses of the page objects resolve to Limelight's servers without requiring any change to the customer's initial web page (the "CNAME method").

JMOL Opinion at 117 n. 23. The content provider also serves the web page from its own domain. Limelight performs the rest of the steps of the asserted claims. This divided process is explicitly set forth in Limelight's standard customer contract, which states:

> Customer [i.e., content provider] shall be responsible for identifying via the then current [Limelight] process all [URLs] of the Customer Content to enable such Customer Content to be delivered by [Limelight]
>
> and
>
> Customer shall provide [Limelight] with all cooperation and information necessary for [Limelight] to implement the [Content Delivery Service].

J.A. 17807.

Because Limelight itself does not perform all the steps of the asserted claims, Akamai presented a theory of joint liability at trial. Akamai relied on the reasoning expressed by this court in *BMC Resources* that while "[i]nfringement requires, as it always has, a showing that a defendant has practiced each and every element of the claimed invention," joint liability may be found when one party "control[s] or direct[s]" the activities of another party. *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed.Cir.2007). The district court, following *BMC Resources*, instructed the jury that Limelight could only be found to infringe if "the content provider, when [tagging objects], acts under the direction and control [FN2] of Limelight such that Limelight can properly be deemed to be the one to do it." *JMOL Opinion* at 118. The district court added that the jury "should review the evidence, decide how the Limelight systems work, how does the interaction with the content provider work, and, specifically, does Limelight direct and control the modifications or does the content provider carry out these tasks entirely independently." *Id.*

[1] Following the verdict finding infringement, Limelight moved for JMOL of noninfringement on the ground that substantial evidence did not support the

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verdict that Limelight directs or controls all the steps in the asserted claims. Initially, the district court denied the motion "because, unlike in *BMC Resources*, here there was evidence that not only was there a contractual relationship between Limelight and its customers, but that it provided those customers with instructions explaining how to utilize its content delivery service." *JMOL Opinion* at 119. Subsequently, this court issued its decision in *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318 (Fed.Cir.2008), and Limelight moved for reconsideration. *Muniauction*, applying *BMC Resources*, held that an accused infringer's control over its customers' access to an online system, coupled with instructions on how to use that system, was not enough to establish direct infringement. *Id.* at 1328-30. On reconsideration, the district court granted JMOL of noninfringement to Limelight holding that there was "no material difference between Limelight's interaction with its customers and that of Thomson in *Muniauction*." *JMOL Opinion* at 122.

*5 Akamai appeals and this court has jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. Joint Infringement of the '703 Patent [FN3]

[2] On appeal, Akamai asserts that we should reverse the district court's JMOL of noninfringement of the '703 patent because substantial evidence supports the jury's determination that Limelight exercises control or direction over the entire claimed process. Akamai attempts to distinguish *Muniauction*, arguing that Limelight: (1) creates and assigns a unique hostname for the content provider; (2) provides explicit step-by-step instructions to perform the tagging and serving claim steps; (3) offers technical assistance to help content providers with their performance of the claim steps; and (4) contractually requires content providers to perform the tagging and serving claim steps if they utilize the Limelight service. Limelight responds that Akamai's evidence is indistinguishable from that found legally insufficient in *Muniauction* and therefore we should affirm.

[3] It is well settled that direct infringement requires a single party to perform every step of a claimed method. *BMC Resources*, 498 F.3d at 1378-79 (citing *Warner-Jenkinson Co., Inc. v. Hilton Davis Corp.*, 520 U.S. 17, 40, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997)). In both *BMC Resources* and *Muniauction* this court confronted the situation in which more than one party is required to perform the steps of a claimed method. The court concluded that there can be no infringement unless "one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party." *Muniauction*, 532 F.3d at 1329 (citing *BMC Resources*, 498 F.3d at 1380-81). In assessing whether "control or direction" is present, the court in *BMC Resources* made reference to the legal principle that imposed "vicarious liability on a party for the acts of another in circumstances showing that the liable party controlled the conduct of the acting party." *BMC Resources*, 498 F.3d at 1379 (citing *Engle v. Dinehart*, 213 F.3d 639 (5th Cir.2000) (unpublished decision); Restatement (Second) of Agency § 220 cmt. d). The court concluded that "[it] would be unfair indeed for the mastermind in such situations to escape liability." *Id.* at 1381. Moreover, the court in *BMC Resources* also explained that "[a] party cannot avoid infringement ... simply by contracting out steps of a patented process to another entity." *Id.*

While the "control or direction" test of *BMC Resources* established a foundational basis on which to determine liability for direct infringement of method claims by joint parties, it left several questions unanswered, including the question of whether the furnishing of instructions is sufficient to attribute the actions of the instructed party to the accused. *Muniauction* addressed the question about instructions and, in concluding that the instructions in that case were not enough, reiterated the notion of vicarious liability mentioned in *BMC Resources*. The court in *Muniauction* held that the requisite level of control or direction over the acts committed by a third party is met in circumstances in which "the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party." 532 F.3d at 1330. Thus, both *BMC Resources* and *Muniauction* set forth relevant factors in assessing liability for joint infringement.

*6 [4][5] While control or direction is a consideration, as is the extent to which instructions, if any, may be provided, what is essential is not merely the exercise of control or the providing of instructions, but whether the relationship between the parties is such that acts of one may be attributed to the other. Implicit in this court's holdings in *BMC Resources* and *Muniauction* is that the performance of a method step

may be attributed to an accused infringer when the relationship between the accused infringer and another party performing a method step is that of principal and agent, applying generally accepted principles of the law of agency as explicated by the Supreme Court and the Restatement of Agency. The Restatement defines agency as "the fiduciary relationship that arises when one person (a 'principal') manifests assent to another person (an 'agent') that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act." Restatement (Third) of Agency § 1.01. For an agency relationship to exist, and thus, for infringement to be found, both parties must consent that the agent is acting on the principal's behalf and subject to the principal's control. *See Dixson v. United States*, 465 U.S. 482, 505, 104 S.Ct. 1172, 79 L.Ed.2d 458 (1984) (citing the Restatement (Second) of Agency § 1 for the rule that an "agency relationship [is] created when one person agrees with another 'that the other shall act on his behalf and subject to his control' "). Similarly, also implicit in the court's holdings in *BMC Resources* and *Muniauction*, is that joint infringement occurs when a party is contractually obligated to the accused infringer to perform a method step.

[6] In assessing infringement based on the actions of joint parties, it is not enough to determine for whose benefit the actions serve, for in any relationship there may be benefits that inure in some respects to both parties. This court therefore holds as a matter of Federal Circuit law that there can only be joint infringement when there is an agency relationship between the parties who perform the method steps or when one party is contractually obligated to the other to perform the steps. Neither is present here.

[7] The court notes that the common law of agency encompasses not only the fiduciary relationship noted above, but also some other relationships, which may include those of independent contractors. *United States v. Hudson*, 491 F.3d 590, 595 (Fed.Cir.2007) ("As a matter of legal custom and tradition, ... nothing about the title independent contractor invariably precludes someone from being an agent under appropriate circumstances."); Restatement (Third) of Agency § 1.01 cmt. c ("The common law of agency ... additionally encompasses the employment relation.... [T]he common term 'independent contractor' is equivocal in meaning and confusing in usage because some termed independent contractors are agents while others are nonagent service providers.... This Restatement does not use the term 'independent' contractor."); Restatement (Second) of Agency § 2(3) ("An independent contractor ... may or may not be an agent."). This same principle applies to the question of joint infringement. A party that engages another to perform a step of a claimed method as its agent cannot escape liability simply by designating its agent an independent contractor if all the elements that otherwise reflect an agency relationship are present.

*7 In this case, there is nothing to indicate that Limelight's customers are performing any of the claimed method steps as agents for Limelight. To the contrary, Limelight's CDN is a service similar to Thomson's on-line auction system in *Muniauction*, and Limelight's relationship with its customers is similar to Thomson's relationship with the bidders. In both cases, customers are provided instructions on use of the service and are required to perform some steps of the claimed method to take advantage of that service. In *Muniauction*, the customers performed the step of bidding. Here, the customers decide what content, if any, they would like delivered by Limelight's CDN and then perform the step of "tagging" that content. Limelight's customers also perform the step of "serving" their own web pages.

Akamai argues that in *Muniauction*, the direction or control provided by Thomson was "only tangentially related to the claimed process" because it related to controlling access to the auction system, not directing users on what bid information to input. Akamai's Principal Br. at 44. According to Akamai, here the control or direction is directly related to the claimed step because Limelight tells providers not only how to tag, but also what hostname to use as a tag. Further, Akamai points out that by including the word "direct" in the "control or direct" test, this court in *BMC Resources* must have meant the word "direct" to mean something other than "control," and this case "presents the ultimate in direction" because of the detailed instructions and technical assistance provided to customers by Limelight. Akamai's Principal Br. at 42. However, the words in the *BMC Resources* test must be read in the context of traditional agency law. "An essential element of agency is the principal's right to control the agent's actions. Control is a concept that embraces a wide spectrum of meanings, but within any relationship of agency the principal initially states

what the agent shall and shall not do, in specific or general terms." Restatement (Third) of Agency § 1.01 cmt. f. Like *BMC Resources*, the Restatement and the Supreme Court refer to the words "control" and "direction" when assessing whether an agency relationship exists, but there is no indication that an agency relationship arises when one party simply provides direction, no matter how explicit, to another party. All the elements of an agency relationship must be present. *See Meyer v. Holley*, 537 U.S. 280, 286, 123 S.Ct. 824, 154 L.Ed.2d 753 (2003) ("The Restatement [ ] specifies that the relevant principal/agency relationship demands not only control (or the right to direct or control) but also 'the manifestation of consent by one person to another that the other shall act *on his behalf*, and consent by the other so to act.' ").

Akamai also argues that the relationship between Limelight and its customers compels a finding of joint infringement because Limelight "contracts out to content providers the claim steps that it alone does not perform." This conclusion stems from Limelight's standard form contract that, according to Akamai, "obligates content providers to perform the claim steps of tagging the embedded objects and serving the tagged page so that requests for the embedded objects resolve to Limelight's network instead of the content provider's." Akamai's Principal Br. at 40. For this argument, Akamai relies on the statement in *BMC Resources* that "[a] party cannot avoid infringement ... simply by contracting out steps of a patented process to another entity." *BMC Resources*, 498 F.3d at 1381. Akamai's reliance on this statement is misplaced.

***8** As discussed above, Limelight's customers decide what content, if any, they choose to have delivered by Limelight's CDN and only then perform the "tagging" and "serving" steps. The form contract does not *obligate* Limelight's customers to perform any of the method steps. It merely explains that the customer will have to perform the steps *if* it decides to take advantage of Limelight's service. *See Muniauction*, 532 F.3d at 1329 ("[M]ere 'arms-length cooperation' will not give rise to direct infringement by any party."). What is critical here is whether the evidence shows that the relationship between Limelight and its customers is such that the steps in question are performed by the customers as agents of Limelight or under a contractual obligation and are, thus, properly attributable to Limelight. It is true that Limelight's agreement calls for its customers to assign a unique hostname, requires content providers to perform certain claim steps if they choose to use Limelight's service, and provides instructions and offers technical assistance for performing those steps. However, none of those points establishes either Limelight's control over its customers or its customers' consent to Limelight's control. To the contrary, the agreement merely provides the customers with the tools to allow them to exercise their independent discretion and control over how and in what respect they implement the system. Limelight's customers did not perform the actions of tagging and serving as Limelight's agents and were not contractually obligated to perform those actions. Instead, the evidence leaves no question that Limelight's customers acted principally for their own benefit and under their own control.

While acknowledging the difficulty of proving infringement of claims that must be infringed by multiple parties, this court has noted that such concerns "can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by a single party." *BMC Resources*, 498 F.3d at 1381. Akamai recognizes and, indeed, asserts that the other two patents at issue in this case (the '645 and '413 patents), which share the same specification, do not implicate this joint infringement issue because of the way the asserted claims were drafted. Oral Arg. 10:35-11:10, *available at* http://oralarguments.cafc.uscourts.gov. This court also observes that in addition to initially structuring a claim to capture infringement by a single party, patentees may be able to correct a claim that can only be infringed by multiple parties by seeking a reissue patent. *See* Mark A. Lemley et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 278-79 (2005).

Here, the asserted claims were drafted so as to require the activities of both Limelight and its customers for a finding of infringement. Thus, Akamai put itself in a position of having to show that the allegedly infringing activities of Limelight's customers were attributable to Limelight. Akamai did not meet this burden because it did not show that Limelight's customers were acting as agents of or were contractually obligated to Limelight when performing the tagging and serving steps. Thus, the district court properly granted JMOL of noninfringement to Limelight.

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*9 Limelight argues as an alternative ground for affirmance that Akamai presented no substantial evidence that Limelight or its customers actually performed the tagging limitation as properly construed. Because we find that the district court properly granted JMOL of noninfringement on the ground stated, we need not and do not address this argument. Likewise, we do not reach Limelight's conditional cross-appeal of the damages award alleging that Akamai failed to present economic proof of a causal link between Limelight's infringement and any Akamai lost sales.

II. Claim Construction of the '645 and '413 Patents

[8] After the district court's claim construction order, *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 494 F.Supp.2d 34, 39 (D.Mass.2007) ("*Claim Construction Order*"), Akamai stipulated that it could not prove infringement of the '645 patent under the district court's construction. The district court thus entered judgment of noninfringement. The district court subsequently entered summary judgment of noninfringement of claims 8, 18, and 20 of the '413 patent. Akamai appeals the district court's construction of several terms in the '645 and '413 patents. While Limelight does not concede that the '645 and '413 patents do not implicate a joint infringement issue similar to that found in the '703 patent above, both parties agree that even if such an issue does exist, it is not properly before the court in this appeal. Oral Arg. 10:35-11:10; 30:40-31:40 (Limelight's counsel stating that the joint infringement issues for the '645 and '413 patents were not developed at the trial court). Thus, we decide Akamai's appeal of the district court's construction of several terms in the asserted claims of the '645 and '413 patents independent of any potential joint infringement issues.

[9][10] We review claim construction de novo. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1451 (Fed.Cir.1998) (en banc). "We begin a claim construction analysis by considering the language of the claims themselves." *Edward Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1327 (Fed.Cir.2009). However, "the written description can provide guidance as to the meaning of the claims, thereby dictating the manner in which the claims are to be construed, even if the guidance is not provided in explicit definitional format." *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344 (Fed.Cir.2001).

A. The Technical Setting

As part of a system for efficient content delivery, the '645 and '413 patents describe a framework including a set of "hosting" or "ghost" servers used to store and deliver a website's embedded objects. '703 patent col.3 ll.4-7. To determine the location of a hosting computer on which a particular object is stored, the framework includes a second set of servers that are configured with functionality that is similar to, but not exactly the same as, a typical Internet DNS server, such that the servers resolve URLs specifically for the CDN. The specification refers to this second set of servers as "top-level" DNS servers. *Id.* col.3 ll.17-21, 31. The specification also describes a third set of servers that provide "low-level DNS" functionality. *Id.* col.3 ll.22-24. Together, the top-level and low-level servers form an "alternative domain name system." According to the patents' preferred embodiment, when a user's machine requests a web page from a content provider, the web page base document is delivered to the user's computer from the content server in the traditional manner described above. *Id.* col.3 ll.24-27. Any embedded objects in that web page that are stored on the CDN's hosting servers, however, are located using the invention's framework. First, the top-level DNS server determines the user's location in the network and uses that information to identify a list of low-level DNS servers. *Id.* col.3 ll.29-33, 60-61. The top-level DNS server then redirects the request for the embedded object to one of the identified low-level DNS servers that, in turn, resolves the request into an IP address for the appropriate hosting server that delivers the object to the user's computer. *Id.* col.3 ll.33-37. The specification does not limit the framework to two levels of DNS servers, but describes "a hierarchy of DNS servers that consisting [sic] of several levels." *Id.* col.3 ll.37-41. In addition, the top-level and low-level DNS functionality may be combined into a single DNS level. *Id.* col.5 ll.54-57.

*10 The specification also describes load balancing across the set of hosting servers. *Id.* col.3 ll.66-67. Load balancing is the process of equalizing the workload on multiple computers. The specification describes a load balancing technique based on distributing the embedded object requests. This technique can be included in the tagging process by modifying the embedded object URL using the hostname of a "virtual server." *Id.* col.4 ll.1-5. A virtual server is

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simply a reference to a hosting server whose physical location is not determined until a user attempts to access a specific object. This allows users to retrieve the objects stored on hosting servers efficiently based on a number of continually changing factors (e.g., network traffic, user location). Thus, upon retrieval of a modified web page by a user, the hosting framework maintained by the CDN will resolve the virtual server hostname in the modified URL into the IP address of the appropriate hosting server from which to retrieve the object.

Claim 1 of the '645 patent provides:

> In a wide area network in which an Internet domain name system (DNS) is useable to resolve DNS queries directed to participating content provider content that is available from participating content provider sites, a method of content delivery wherein participating content providers identify content to be delivered by a service provider from a set of content servers that are distinct from the participating content provider sites and associated with the service provider, wherein *a given object of a participating content provider is associated with an alphanumeric string,* the method comprising:
>
> having the service provider establish an alternative domain name system (DNS), distinct from the Internet domain name system and any client local name server, and having authority to *resolve the alphanumeric strings associated with the objects* identified by the participating content providers so that the objects identified by the participating content providers are available to be served from the service provider's content servers, the service provider's alternative domain name system having one or more DNS levels, wherein at least one DNS level comprises a set of one or more name servers;
>
> for each of one or more participating content providers, delivering a given object on behalf of the participating content provider, wherein the given object is delivered by the following steps;
>
> responsive to a DNS query to the given object's associated alphanumeric string, the DNS query originating from a client local name server, receiving the DNS query at a given name server of a lowest level of the one or more DNS levels in the service provider's alternative domain name system, *the given name server that receives the DNS query being close to the client local name server as determined by given location information;*
>
> having the given name server that receives the DNS query resolve the alphanumeric string into an IP address that the given name server then returns to the client local name server, wherein *the alphanumeric string is resolved without reference to a filename for the given object,* wherein the IP address returned as a result of the resolution is associated with a content server within a given subset of the set of content servers, the subset of the set of content being associated with the given name server, the content server associated with the IP address returned by the given name server being selected according to a load sharing algorithm enforced across the subset of the set of content servers associated with the given name server;
>
> *11 at the content server associated with the IP address, receiving a request for the given object, the request having the filename associated therewith;
>
> if the given object is available for delivery from the content server associated with the IP address, serving the given object from the content server.

'645 patent col.17 ll.39-col.18 ll.29 (emphases added).

Claim 8 is representative of the asserted claims of the '413 patent. It provides:

> A method of content delivery wherein participating content providers identify content to be delivered by a content delivery network service provider from a set of content servers associated with the content delivery network service provider, wherein a given object of a participating content provider is associated with a [URL] that includes, *in addition to a filename, an alphanumeric string,* comprising:
>
> having the content delivery network service provider establish a domain name system (DNS) having authority to resolve the alphanumeric strings in the URLs of the objects identified by the participating content providers, the content delivery network server provider's *domain name system having one or more DNS levels,* wherein at least one DNS

level comprises a set of one or more name servers;

for each of one or more participating content providers, delivering a given object on behalf of the participating content provider, wherein the given object is delivered by the following steps;

responsive to a DNS query, selecting a given one of the name servers in the content delivery network service provider's domain name system;

at the given one of the name servers, resolving the alphanumeric string to an IP address, wherein the alphanumeric string is resolved without reference to the filename for the given object;

at a server associated with the IP address, the server being one of the set of content servers, receiving a request for the given object, the request having the filename associated therewith;

from the server, serving the given object; and

caching the given object at the server so that the given object is available for delivery from the server for a given time period in the event that a new DNS query to resolve the alphanumeric string is received at the domain name system and is resolved to the IP address of the server.

'413 patent col.18 ll.14-51 (emphases added).

B. Associated with an Alphanumeric String

Akamai appeals the construction of the term "a given object of a participating content provider is associated with an alphanumeric string" in the preamble of claim 1 of the '645 patent.[EN4] The district court construed the limitation to require that the alphanumeric string include the embedded object's original URL (the URL including the hostname of the computer on which the actual object resided within the content provider's domain). *Claim Construction Order* at 39. The court reasoned that the written description portion of the '645 patent "describes *the invention* as associating a particular object of a content provider with an alphanumeric string consisting of a virtual server hostname prepended onto the URL for the object." *Id.* at 40. The court found that "[t]he specification discloses no other way that an object is associated with an alphanumeric string, nor is there any suggestion or teaching that an association which did not include the URL for the embedded object could be used in an embodiment of the invention." *Id.* The district court declined as overly broad Akamai's proposed construction of the term "associated" according to its dictionary definition of "brought into some kind of relationship with."

*12 Akamai contends that the court imported a limitation from the specification into the claims and thereby improperly limited the scope of the claims to the specification's preferred embodiment. According to Akamai, nothing in the claim language supports requiring that the alphanumeric string include the original URL. Akamai relies on the parties' stipulation that "alphanumeric string" is "a character string up to 24 characters drawn from the alphabet (a-z), digits (0-9), minus signs (-), and periods(.)." Stipulated Order Establishing the Constructions for Certain Claim Terms as Agreed Upon by the Parties at 3, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, No. 06-CV-11109 (D.Mass. Apr. 24, 2007). Akamai asserts that the specification and prosecution history do not define "associated" as having any meaning other than its ordinary meaning. Thus, Akamai argues that the ordinary meaning of the words in the claim compel a broad interpretation without the limitation introduced by the district court. Akamai also argues that the specification very clearly indicates that including the object's original URL in the alphanumeric string is merely the preferred method. Akamai contends that one of ordinary skill in the art would understand that other tagging methods may be used to associate an alphanumeric string with the object.

In addition, Akamai points to the prosecution history, other claim limitations in the '645 patent, and the use of "alphanumeric string" in claim 18 of the '413 patent as evidence contradicting the district court's construction. Akamai notes that (1) none of the examples of alphanumeric strings cited by Akamai during prosecution included the original URL; (2) other claim limitations of the '645 patent use the term "alphanumeric string" as a virtual server hostname, not a URL; and (3) the preamble of claim 18 of the '413 patent requires a URL to include an alphanumeric string, not the other way around.

Limelight responds that the district court correctly limited the claim term to include the object's original URL because it reflects the '645 patent's ex-

plicit description of the invention. Reiterating the points made by the district court, Limelight asserts that the patents consistently describe "the invention" as associating an alphanumeric string with an object by prepending a virtual server hostname to the original URL that identifies the object in the absence of the CDN. Limelight adds that including the original URL in the alphanumeric string is not merely a preferred embodiment in the patents because all the examples in the patents contain the object's original URL.

This court agrees with Limelight and the district court that the claim term "a given object of a participating content provider is associated with an alphanumeric string" limits tagged alphanumeric strings to those strings including the object's original URL. Here, as in *Honeywell International, Inc. v. ITT Industries, Inc.*, 452 F.3d 1312, 1318 (Fed.Cir.2006), alphanumeric strings including the object's original URL were not merely discussed as a preferred embodiment. Instead, the written description specifically refers to strings including the object's original URL as "the invention":

> ***13** According to the present invention, load balancing across the set of hosting servers is achieved in part through a novel technique for distributing the embedded object requests. In particular, each embedded object URL is preferably modified by prepending a virtual server hostname into the URL. More generally, the virtual server hostname is inserted into the URL.
>
> '645 patent col. 4 ll.13-19.
>
> According to the invention, the embedded object URL is first modified, preferably in an off-line process, to condition the URL to be served by the global hosting servers.
>
> *Id.* col.6 ll.54-57.
>
> Thus, according to the present invention, a virtual server hostname is prepended into the URL for a given embedded object....
>
> *Id.* col.7 ll.36-38.
>
> With the above as background, the inventive global hosting framework is now described in the context of a specific example.... Instead of returning the usual page, according to the invention, the Web site returns a page with embedded object URLs that are modified according to the method illustrated in the flowchart of FIG. 4.
>
> *Id.* col.7 l.49-col.8 l.2
>
> If, however, no copy of the data on the ghost exists, a copy is retrieved from the original server or another ghost server. Note that the ghost knows who the original server was because the name was encoded into the URL that was passed to the ghost from the browser.
>
> *Id.* col.12 ll.54-60.

The specification does include language indicating that the patentee intended certain aspects of the description to represent preferred, rather than required, elements of the invention. *See, e.g.*, '645 patent col.4 ll.15-17 ("[E]ach embedded object URL is preferably modified by prepending a virtual server hostname into the URL."); *id.* col.6 ll.57-58 ("A flowchart illustrating the preferred method for modifying the object URL is illustrated in FIG. 4."). This court also acknowledges that much of the language describing a string including a URL as "the invention" occurs within the section entitled "Detailed Description of the Preferred Embodiment" or in the description of Figure 4, which is referred to as a "preferred method for modifying the object URL." However, the specification as a whole makes clear that including the object's original URL is the only method to achieve the claimed association between an alphanumeric string and the embedded object. Indeed, it is the only method described. *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed.Cir.2001) ("Although the specification need not present every embodiment or permutation of the invention and the claims are not limited to the preferred embodiment of the invention ... neither do the claims enlarge what is patented beyond what the inventor has described as the invention.") (internal citations omitted). *See also Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1271 (Fed.Cir.2001) ("[W]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that term 'by implication.' ") (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996)). Moreover, the specification specifically limits the object's modified URL to either prepending or inserting a virtual server hostname into the URL. '645 patent col.4 ll.15-19 ("In particular, each embedded object URL is preferably modified by prepending a virtual server hostname into the URL.

More generally, the virtual server hostname is inserted into the URL."). Both of these methods include the original URL of the object in the modified string. Finally, the specification describes the proper functioning of the invention as motivation for including the object's original URL in the modified string, "the ghost knows who the original server was because the name was encoded into the URL that was passed to the ghost from the browser." *Id.* col.12 ll.56-58.

***14** This court is not persuaded by Akamai's argument that the patentee established a broader scope during prosecution or that other uses of the term "alphanumeric string" compel a broader interpretation. Akamai argues that during prosecution the patentee made it clear that an alphanumeric string can be comprised of just a hostname as opposed to requiring the inclusion of an entire URL. Akamai refers to the patentee's description of an examiner interview in a preliminary amendment. The remarks describe the interpretation of the phrase "alphanumeric string" and cite "numerous examples of such strings, such as ... 'a1234.g.akamaitech.net,' " in the written description. *Id.* col.7 ll.14-15. However, in the specification, the reference to the indicated hostname is in the context of determining a virtual server hostname for ultimate inclusion in the tagged string. The specification does not indicate that this virtual hostname can eventually be the entire string. Instead, the specification clearly describes that the hostname will be "prepended into the URL for the given embedded object" once the hostname is determined. *See, e.g., id.* col.6 ll.63-64. In fact, all the examples in the specification indicate that the ultimate tagged string contains the object's original URL. '645 patent col.8 ll.24-25; *id.* col.8 ll.56-57; *id.* col.9 ll.25-26. Even if we agreed with Akamai that the patentee indicated in the prosecution history that the alphanumeric string associated with an object could include only a hostname, this is not enough to overcome the clear description of the invention in the specification. *See Honeywell*, 452 F.3d at 1319 ("Where, as here, the written description clearly identifies what his invention is, an expression by a patentee during prosecution that he intends his claims to cover more than what his specification discloses is entitled to little weight."); *Biogen, Inc. v. Berlex Labs.*, 318 F.3d 1132, 1140 (Fed.Cir.2003) (stating that "[r]epresentations during prosecution cannot enlarge the content of the specification."). Akamai's arguments that other uses of "alphanumeric string" in the '645 and '413 patents require a broad interpretation such that the string may include only a hostname are likewise not persuasive. None of the uses of "alphanumeric string" in either patent clearly limits the contents to just a hostname. In fact, Akamai does not explain how a string made up of just a virtual server hostname would be "associated" with the original object even under the broadest definition of that term.

Akamai argues that the district court's requirement that the alphanumeric string include an entire URL is nonsensical because DNS servers resolve hostnames, not URLs. Akamai also asserts that the district court's statement that "[t]he URL of the object is necessary to the inventive global framework in order to retrieve the object from the content provider's server if no copy exists on a ghost [i.e., content] server" in its claim construction order, *Claim Construction Order* at 40, demonstrates a "fundamental misunderstanding of the requirements of the invention." Akamai's Principal Br. at 57. According to Akamai, this statement ignores that the specification describes retrieving any missing content from either the content provider's original server or another content server in the CDN. None of these arguments are persuasive. At no place does the specification indicate that the entire string must be used by the DNS server. Even if only the hostname is used by the DNS during the resolving step, this does not mean that an alphanumeric string cannot contain other information not used by the DNS during this step. Indeed, this must be the case since the specification explicitly notes that "the ghost knows who the original server was because the name was encoded into the URL that was passed to the ghost from the browser." '645 patent col.12 ll.56-58.

C. Selection by the Alternative Domain Name System

***15** [11] Akamai also appeals the district court's construction of "the given name server that receives the DNS query being close to the client local name server as determined by given location information" in claim 1 of the '645 patent and "selecting a given one of the name servers in the content delivery network" in claims 8, 18, and 20 of the '413 patent. The district court interpreted both limitations to require that the name server be selected by the alternative domain name system.[ENS] *Claim Construction Order*, at 42, 45. The court found that the specification compelled this interpretation because "[r]ead in light of the specification, the invention claims an alternate DNS system that selects a DNS server in response to a user request based on the location of the user." *Id.* at 43. Akamai,

citing *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1347 (Fed.Cir.2008), argues that the district court improperly incorporated a structural limitation-the alternative domain name system-into method claims. Moreover, Akamai asserts that claim 1 of the '645 patent does not use the term selecting at all. Akamai points out that claim 1 only requires that the CDN's DNS server receiving a DNS query be close to the client's local name server. In addition, Akamai argues that nothing in the '413 patent claim language, specification, or prosecution history supports the court's requirement of selection by the alternative domain name system. Limelight responds that the district court did not import a new structural limitation because claim 1 expressly requires an alternative domain name system.

[12] This court is not persuaded by Akamai's argument. *DSW* is inapposite. In *DSW* this court reversed the district court's claim construction importing a limitation from a preferred embodiment because the claim language was unambiguously broader than the preferred embodiment, not because it imported structural limitations into a method claim. *Id.* at 1347. Method claims often include structural details. *See e.g., Microprocessor Enhancement Corp. v. Tex. Instruments, Inc.*, 520 F.3d 1367, 1374 (Fed.Cir.2008) ("Method claim preambles often recite the physical structures of a system in which the claimed method is practiced, and claim 1 is no different."); *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1342 (Fed.Cir.2003) (construing a method claim as including "steps that require the operation or manipulation of the particular structure identified and described by the preamble"). All of the asserted claims in both the '645 patent and the '413 patent explicitly refer to the alternative domain name system as a detail associated with the claimed method. '645 patent col.17 ll.50-51 ("having the service provider establish an alternative domain name system (DNS)"); '413 patent col.18 ll.22-23, col.19 ll.44-45, col.20 ll.25-26 ("having the content delivery network service provider establish an alternative domain name system (DNS)"). Therefore, the structural element of the alternative DNS framework was explicitly and properly included in the claims.

***16** Akamai also asserts that the district court's interpretation improperly limits the inventive framework to a multi-level DNS system. Akamai points out that because the patents explicitly allow for a framework with a one-level DNS framework, a multi-level restriction is unduly limiting. '703 patent col.5 ll.56-57 ("Alternatively, there may be a single DNS level that combines the functionality of the top-level and low-level servers.").

The district court responded to this exact argument in its claim construction order. Specifically, the court explained that because the specification states that "the functionality of the top and low-level servers" may be combined in "a single DNS level," the specification requires that a single-level DNS system accomplish the same steps as the two-level system described in the preferred embodiment. *Claim Construction Order* at 45. Thus, the district court's construction *does* support a single-level DNS system, and is not limited to a multilevel DNS system. As the district court recognized, the steps described in the preferred embodiment-(1) a top-level DNS server of the CDN selects a close-by low-level DNS server and redirects the user to that server and (2) the user's local DNS server requests the object's IP address from the low-level server-can be accomplished by one DNS server. *Id.* at 46 (citing '413 patent col.9 ll.44-50). Specifically, the district court explained:

> In a single-level DNS embodiment, as suggested by the specification, the user's local name server would still contact a content delivery provider's top-level name server to resolve the IP address of a server to serve an object. This name server, however, would then *directly* communicate with a particular local name server, based on the user's location, to resolve the server's IP address and return it to the user, rather than require the user to conduct a second lookup. Thus, the user would obtain the IP address of the appropriate ghost server with only a *single* DNS request, however the selection of a particular name server would still be the result of a DNS lookup by the service provider's DNS system. Such an embodiment would satisfy the claimed "one" level of DNS, yet not be in conflict with [the district court's adopted] claim construction.
>
> *Id.* at 45-46.

This explanation is entirely consistent with the specification's description of the invention and effectively counters Akamai's argument that the court's construction improperly limits the invention to a multi-level DNS system. Akamai also asserts, how-

ever, that one of these "other techniques" could be substituted for the top-level DNS servers in order to implement a one-level DNS framework. Thus, according to Akamai, the patent, but not the district court's construction, allows for a one-level DNS framework in which "other techniques," such as "Anycasting," would be used to select the ultimate CDN DNS server-instead of a top-level DNS server-because "the specification encompassed techniques known in the prior art." Akamai's Br. at 61 (citing *BJ Servs. Co. v. Halliburton Energy Servs., Inc.*, 338 F.3d 1368, 1372 (Fed.Cir.2003)). This court does not agree that the patent's description allows for such a broad reading of the claims. The patent disclosure supports only one method for choosing the ultimate CDN DNS server-the alternative DNS system. There is no support in the specification for any method of choosing a particular name server other than by a DNS lookup and no disclosure that would have suggested to a person of ordinary skill in the art that anything other than a DNS lookup should be contemplated. There is no evidence that, given the lack of detailed disclosure in the patent's language, a person of skill in the art would have looked to other known techniques to implement this portion of the claimed invention.

***17** In fact, the patent repeatedly defines using DNS lookup for choosing the ultimate CDN DNS server as the "invention." As noted by the district court, the specification describes "the present invention" as "manipulat[ing] the DNS system so the name is resolved to one of the ghosts that is near the client." ' 703 patent col.9 ll.26-28. In addition, under the heading entitled "Brief Summary of the Invention," the specification states that "[t]o locate the appropriate hosting servers to use, the top-level DNS server determines the user's location in the network to identify a given low-level DNS server to respond to the request for the embedded object." '703 patent col.3 ll.29-33.

Akamai conceded that under the district court's construction, Limelight does not infringe the '645 patent. Akamai also does not argue that Limelight would infringe the '413 patent under this construction. Therefore, this court is left to conclude that the district court properly entered judgment in favor of Limelight on the issue of infringement.

CONCLUSION

For the foregoing reasons, this court affirms the district court's grant of Limelight's motion for JMOL of noninfringement of the '703 patent. This court also affirms the district court's entry of judgment of noninfringement of the '645 and '413 patents.

AFFIRMED

FN1. Because the specifications of all three patents are substantially identical, we refer throughout to the specification as it appears in the '703 patent.

FN2. The district court initially instructed the jury that Limelight must both direct *and* control the actions of the Content Provider, but then issued a correcting instruction that "[i]t is either direct or control, control or direct; it doesn't have to be both." *JMOL Opinion* at 118 n. 26.

FN3. Because Akamai waived any assertion of indirect infringement before trial, the question before us is one of direct infringement only. Feb. 26, 2008 Trial Tr. at 46:4-22.

FN4. Neither party contends that the term in question is not a limitation because it is part of the preamble.

FN5. The claim limitations and their associated construction differ slightly for the '645 and '413 patents. For the '645 patent, the limitation "the given name server that receives the DNS query being close to the client local name server as determined by given location information" was construed by the district court to be "the particular name server that receives the DNS query is selected by the alternative domain name system and is close in Internet terms to the client local name server." *Claim Construction Order* at 42. Claims 8 and 18 of the '413 patent include the limitation "responsive to a DNS query, selecting a given one of the name servers in the content delivery network," which is construed as "in response to a DNS query, the [CDN's] [DNS] selects a particular name server." *Id.* at 45. Claim 20 of the '413 patent includes the limitation "responsive to a DNS query received from a client local name server, selecting a given one of the name servers in the [CDN]," which is construed as

> "in response to a DNS query received from a client local name server, the [CDN's] [DNS] selects a particular name server." *Id.* at 45. These distinctions are not germane to the issue presented in this appeal.

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CERTIFICATE OF SERVICE

I hereby certify that on February 18, 2011, two true and correct copies of the foregoing COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC OF PLAINTIFF-APPELLANT AKAMAI TECHNOLOGIES, INC. were served by the indicated means to the persons at the addresses listed:

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