

IN THE  
**UNITED STATES COURT OF APPEALS**  
FOR THE FEDERAL CIRCUIT

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AKAMAI TECHNOLOGIES, INC.,

*Plaintiff-Appellant,*

and

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,

*Plaintiff-Appellant,*

v.

LIMELIGHT NETWORKS, INC.,

*Defendant-Cross-Appellant.*

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**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.**

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**RESPONSE AND REPLY BRIEF OF PLAINTIFFS-APPELLANTS  
AKAMAI TECHNOLOGIES, INC. AND  
THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

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2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by us is:  
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3. All parent corporations and any publicly held companies that own 10% or more of the stock of any party represented by us are:  
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## I. INTRODUCTION

If ever a court should find joint infringement based on the actions of a service provider directing or controlling its customer, this is the case. After receiving proper instruction on the control or direction test, the jury found that Limelight jointly infringed claims 19-21 and 34 of the '703 patent. As Limelight does not dispute, joint infringement is a question of fact and, thus, the issue before this Court is whether substantial evidence supports that verdict.

As set forth in Akamai's opening brief (BB22-28, 39-43), the evidence supporting the verdict is more than substantial. First, the jury heard evidence that, when the claimed invention is used, Limelight's contract obligates content providers to perform the tagging and serving claim steps "via the then current Company process." (BB23.) Limelight further participates in, controls, and directs the tagging step by creating and assigning the tag itself. Limelight's content delivery service will not work if content providers do not use this exact tag and follow Limelight's specific directives on tagging and serving. Finally, Limelight offers technical support to the content providers throughout the claimed process. Under these circumstances, the district court's finding of no joint infringement as a matter of law seems absurd.

Nothing in Limelight's brief overcomes the substantial evidence in favor of the verdict. The facts Limelight points to—including that content providers can

decide, even on an object-by-object basis, whether to use Limelight's service—do not change the fact that, when the service is used, Limelight controls or directs the content providers to perform the tagging and serving claim steps. And this fact is more than enough to support the verdict.

Turning to claim construction, Limelight's positions on all five construction issues suffer the same inadequacy. In each instance, Limelight seeks to improperly limit the claims to a single preferred embodiment. For example, Limelight argues that the broad language in claim 1 of the '645 patent ("a given object . . . is associated with an alphanumeric string") and the broad language in claims 19-21 and 34 of the '703 patent ("tagging . . . so that requests. . . resolve to the domain instead of the content provider domain") limits the claims to prepending a hostname to an object's original URL because, according to Limelight, the specification says that the invention requires as much. The specification says no such thing. To the contrary, it repeatedly describes this embodiment as merely "preferred" and "preferable."

Likewise, Limelight argues that the broad language in claim 1 of the '645 patent ("the given name server that receives the DNS query being close to the client local name server") and the broad language in claims 8, 18, and 20 of the '413 patent ("responsive to a DNS query, selecting a given one of the name servers") require selection of a given name server by the alternative DNS. But,

again, Limelight’s argument rests on the incorrect view that the specification limits “the invention” to this single embodiment. To the contrary, by disclosing both a two-level and a single-level DNS, the specification makes clear that selection of a given name server by the alternative DNS is merely preferable.

Finally, Limelight argues that the “tagging” limitation in claims 19-21 and 34 of the ’703 patent requires selection of a single, best server. But Limelight’s argument again ignores the specification and claim language—neither of which speak of a single, best server. To the contrary, the claims expressly refer to “identifying *one or more* content servers from which the embedded object may be retrieved,” and the specification discloses that “instead of returning a single name [of a content server], a list of names [of content servers] is returned.” (A276; A272.)

Limelight’s grounds for a new trial—including that the district court erred in its jury instructions both on joint infringement and lost profits—also fail because, in each instance, Limelight failed to object and therefore waived its argument. While Limelight additionally argues that Akamai is not entitled to lost profits as a matter of law, Limelight’s argument rests on the unsupported assertion that Akamai’s damages expert “simply conjectured” that 75% of Limelight’s customers would have gone to Akamai even though Akamai’s service was twice the price of Limelight’s. But Limelight fails to even mention the admission of its Chief

Strategy Officer and founder that Limelight was the only competitor with the scale to compete with Akamai, which (in isolation or along with other evidence discussed in this reply) strongly supports the view that 75% of Limelight's customers would have gone to Akamai despite the price increase.

## **II. THE DISTRICT COURT'S JMOL OF NONINFRINGEMENT SHOULD BE REVERSED**

### **A. Limelight's Reliance on *Muniauction* Is Misplaced**

As set forth in Akamai's opening brief (BB22-28, 39-43), substantial evidence supports the jury's verdict of infringement. The jury heard evidence that, when Akamai's claimed invention is used, Limelight's form contract obligates content providers to perform the tagging and serving claim steps. (BB40-41; A17807.) Limelight also participates in, controls, and directs the claimed *tagging* step by creating and assigning the *tag*—*i.e.*, the virtual server hostname. (BB41-42.) As the jury heard, Limelight's Installation Guidelines direct content providers to tag embedded objects using this Limelight-supplied tag. (A587:122-23.) Limelight's founder admitted that “if they want us to deliver content they have to publish [*i.e.*, serve] URLs using [the Limelight-supplied] short name [*i.e.*, the tag] or . . . , implement a CNAME process to do that.” (A586.) And, if that were not enough, Limelight offers technical assistance to assure the claimed process is properly performed. (A17790.)

Based on this evidence, the jury's verdict was upheld by the district court under *BMC Resources, Inc v. Paymentech, L.P.*, 498 F.3d 1373, 1380-81 (Fed. Cir. 2007). And this Court did not mandate a different result in its decision in *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008), which recognized that *BMC* "clarified the proper standard for whether a method claim is directly infringed by the combined actions of multiple parties."

Limelight's principal response on appeal is that content providers decide for themselves whether to use the Limelight CDN to deliver content on an object-by-object basis. (RB34.) But this fact should not disrupt the jury's verdict. Specifically, the jury received substantial evidence that, once content providers elect to use Limelight's CDN to deliver an object, Limelight controls or directs them to perform the claim steps at issue. And this Court's precedent, including *BMC* and *Muniauction*, emphasizes that the key issue is whether *the claimed method* is performed at the control or direction of the alleged infringer. *Muniauction*, 532 F.3d at 1323 (citing *BMC*, 498 F.3d at 1380-81). Control or direction of something other than the claimed method (including whether to use the service) is not required.

Indeed, that Limelight's customers have a choice as to whether to use Limelight's service does not negate the undisputed fact that, once they choose to use that service, they have no choice but to perform the steps of tagging and

serving as specified by Limelight and required by Akamai's claims. Even in the extreme scenario of vicarious liability (in which Limelight admits "direction or control" exists), agents typically have a choice as to whether to enter and remain in the agency relationship. That Limelight's customers have a choice as to whether to use Limelight's service, even on an object-by-object basis, should not yield different results for purposes of liability for infringement. The key is whether the accused infringer directs or controls performance of the claim steps. *Id.* (citing *BMC*, 498 F.3d at 1380-81).

In this manner, this case differs materially from *Muniauction*. There, the primary control or direction evidence proffered by Muniauction—including that Thomson "controls access to its system and instructs bidders on its use"—related to steps that were *not* claimed. *Id.* at 1322, 1330 (evidence at 1330 and claim at 1322); (A55).<sup>1</sup> Indeed, the claim in *Muniauction* says nothing about controlling access to the system. *Muniauction*, 532 F.3d at 1322.

Limelight responds to this argument by noting that "no valid distinction exists between how Thomson instructed its bidders to access its system to place bids and how Limelight instructs its customers to use its CDN system." (RB37.)

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<sup>1</sup> Limelight argues that "no basis exists for this assertion." (RB37.) But this Court's *Muniauction* decision, which quotes the claim (*Muniauction*, 532 F.3d at 1322) and identifies Muniauction's evidence (*id.* at 1330), supports Akamai's assertion.

But, the claim step at issue in *Muniauction* was not directed to accessing Thomson’s system. *Muniauction*, 532 F.3d at 1322 (reciting claim). Rather, the claim step performed by the bidders required “inputting data associated with at least one bid.” *Id.* And, as Limelight’s own brief admits, “Thomson could not tell its bidders when or what to bid.” (RB37.)

Here, in contrast, it is undisputed that the claim steps performed by content providers are “tagging at least some of the embedded objects of the page” (claims 19-21 and 34) and “serving . . . the given page” (claims 19-21 alone). The jury heard substantial evidence that Limelight contractually obligates content providers to tag and serve, directs content providers to tag and serve in its Installation Guidelines, instructs content providers (in great detail) on how to tag, performs part of the tagging step by providing the customized hostname, and offers engineering assistance throughout the process. (BB22-28; A17807; A17789-90; A17237; A583-84; A587; A17220; A17583.) Given this evidence, the jury could easily find that Limelight “exercises control or direction over the entire process such that every step [of the claim] is attributable” to Limelight. *Muniauction*, 532 F.3d at 1329.

Limelight nonetheless argues that “[j]ust as Thomson could not tell its bidders when or what to bid, Limelight cannot tell its customers when or what content should be delivered.” (RB37.) Again, Akamai’s claims are not directed to



what content should be delivered or when to deliver it. Thus, this type of direction or control is not required.

Limelight further contends that there is “no evidence” that customers changed hostnames in URLs or CNAME records on behalf of Limelight. (RB35.) But Limelight’s contract specifically states, “Customer *shall* . . . identify[] via the then current [Limelight] process all uniform resource locators (‘URLs’) of the Customer Content to enable such Customer Content to be delivered by [Limelight]” and “*shall* provide [Limelight] all cooperation and information reasonably necessary for [Limelight] to implement the [content delivery service].” (A17807.) Limelight gives customers customized hostnames as part of the tagging step. (A17790; A17237.) And Limelight admits that “[i]f a customer chose to have Limelight deliver the content, the customer *had to* change the hostname in the URL for that content (or modify a CNAME record) in order for requests for the content to be directed to the Limelight CDN.” (RB34 (emphasis added).) Consequently, because Limelight controlled or directed its content-provider customers to perform at least the tagging step, the jury’s verdict of infringement of at least claim 34 must be upheld.

Likewise, Limelight directed or controlled content providers to serve the page with the tagged objects as additionally required by claims 19-21. Limelight’s contracts, its directives to content providers, and the admission of its founder

(quoted *supra*, at 4) make clear that tagging alone is insufficient. Rather, the content provider must also serve the page with the tagged objects. (A17807; A586-87.)

**B. Limelight’s Attempts to Parse Akamai’s Evidence Fail as the Totality of Evidence Supports the Jury’s Verdict**

Instead of addressing Akamai’s evidence of control or direction as a whole, Limelight addresses the evidence on a piecemeal basis. (RB36-43.) For example, Limelight asserts that reliance on instructions was rejected in *Muniauction*. (RB36.) While instructions alone may be insufficient under *Muniauction*, Akamai presented evidence of direction or control going well beyond instructions and the jury’s verdict is supported by the totality of the evidence, not just instructions.

**C. Limelight’s Procedural Arguments About Its Technical Account Managers and Contract Trial Exhibit Fail**

Remarkably, Limelight argues that Akamai cannot rely on the excerpt from Limelight’s standard form contract (A17807-08) produced by Limelight, presented to the jury, and discussed by the parties and the district court on JMOL (A56) because Akamai did not establish a sufficient factual foundation that the contract was used by Limelight (RB40). But, Limelight did not object to admission of the exhibit and the jury could conclude from the face of the document that it was part of Limelight’s form contract. Moreover, Limelight did not dispute that the exhibit included portions of Limelight’s standard form contract, referring to it as “*the*

*contract* [which] assigns to the customer the responsibility for identifying its own URL's if it wishes to enable Limelight to service the content.” (A17919 (emphasis added).) Indeed, Limelight quoted liberally from the contract language to support its position. (*Id.*) Further, while Limelight chastises Akamai for questioning only one witness about the contract (RB40), that one witness was Michael Gordon, founder and Chief Strategy Officer at Limelight. (A593:146.) Mr. Gordon's full testimony shows that he was, in fact, familiar with this document and knew exactly what it meant and required. (A587.) Finally, Limelight itself relies on this very exhibit for points that it raises on appeal. (RB35-36.) For all of these reasons, Limelight's attempts to distance itself from its own contract fail.

Limelight next argues that Akamai cannot rely on Limelight's own Installation Guidelines (A17787-95) to show that Limelight offers technical assistance throughout the installation process (RB38-39). Limelight contends that because Akamai did not specifically point out this evidence in its post-trial briefs, it cannot do so on appeal. But the evidence Akamai cites (A17787-95) was presented at trial (A626-28; A803), considered by the jury (A626-28; A803), cited by Akamai in its opposition to Limelight's Motion for Reconsideration (A17886), and supports the jury's verdict. In any event, on appeal, a party may rely on additional record evidence to support the jury's verdict. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1359 (Fed. Cir. 2008) (“While

a waiver may occur if a party raises a new issue on appeal . . . [a] waiver will not necessarily occur . . . if a party simply presented new or additional arguments” in support of an issue raised below. (alterations in original; internal quotation marks and citations omitted)).

Limelight next asserts that the Installation Guidelines merely show that the Technical Account Managers provide assistance *before* providing “the customer with the account information” and concludes (without any basis) that this assistance occurs before the customer receives instructions on how to tag and serve. (RB38-39.) But, as the Installation Guidelines and Akamai’s opening brief (BB27) explain, Limelight offers its content-provider customers support *throughout* the process, with both “Pre-Installation Support” from Technical Account Managers and “Post-Installation Support” from Limelight’s Network Operations Center, including help with any technical issues on a 24/7 basis. (A17794-95.)

Finally, Limelight asserts that “no evidence exists that Limelight participates in modifying customer URLs or CNAME records other than via instructions.” (RB39.) But the jury heard that Limelight participates in the claimed *tagging* step by creating and assigning the *tag*—*i.e.*, the virtual server hostname. (BB41-42.) Further, the Installation Guidelines state that Limelight’s employees will help in the process (A17794-95), the process includes the steps of tagging and serving

(A17791-92), and thus the jury could have inferred that Limelight’s employees did indeed participate in these steps. *See, e.g., DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (proper to use circumstantial evidence to prove intent).

This is particularly so given that the evidence must be viewed in a light most favorable to the jury’s verdict. *Borges Colón v. Román-Abreu*, 438 F.3d 1, 14 (1st Cir. 2006).

### **III. THE DISTRICT COURT PROPERLY DENIED LIMELIGHT’S MOTION FOR JMOL OF NONINFRINGEMENT BASED ON THE “TAGGING” LIMITATION**

Limelight alternatively seeks to support the JMOL of noninfringement by arguing that neither it nor its customers perform “tagging . . . so that requests . . . resolve to the domain instead of the content provider domain” as required by claims 19-21 and 34 of the ’703 patent. (RB43-46.) As explained below, Limelight’s argument fails for several reasons.

#### **A. Limelight’s Noninfringement Argument Rests on a New Construction of “Tagging,” Contrary to the Stipulated Construction of “Tagging”**

First, Limelight’s so-called “sufficiency of the evidence” argument really rests on a new construction of “tagging” that differs from the parties’ stipulated construction. Limelight stipulated that “tagging” means “providing a ‘pointer’ or ‘hook’ so that the object resolves to a domain other than the content provider domain.” (A17874.)

Limelight now argues that because its customers do not “prepend[] a virtual server hostname to an object’s original URL” (and instead replace the hostname in the object’s original URL with a new hostname), they do not perform “tagging.” (RB43-46.) But Limelight stipulated to a construction of “tagging” that is not limited to prepending a hostname to an object’s original URL, and Limelight cannot now argue a different construction of tagging. *See, e.g., SuperGuide Corp. v. DirectTV Enters., Inc.*, 358 F.3d 870, 888-89 (Fed. Cir. 2004) (where parties stipulated to a particular claim construction, finding that losing party “waived its right” to assert a different construction); *see also Amgen, Inc. v. F. Hoffmann-La Roche Ltd.*, 494 F. Supp. 2d 54, 70 n.1 (D. Mass. 2007) (agreements on claim construction implicate judicial estoppel).

Indeed, by stipulating to the construction of tagging, Limelight was advocating that the stipulated construction was, in fact, correct. In *Key Pharmaceuticals v. Hercon Laboratories Corp.*, 161 F.3d 709, 715 (Fed. Cir. 1998), this Court stated that “[o]rdinarily, doctrines of estoppel, waiver, invited error, or the like would prohibit a party from asserting as ‘error’ a position that it had advocated.” Here, Limelight’s actions of stipulating to a construction, then challenging the construction, form a basis for applying waiver and estoppel. *SuperGuide*, 358 F.3d at 888-89.

Limelight further waived its claim construction because, while it raised its new construction at the charge conference, the district court did not rule at the charge conference, the court did not give the requested jury charge, and Limelight did not object. (*See* A725-42 (charge conference); A813-27 (jury charge and sidebar conference).) Statements made during a charge conference are not “on the record” for purposes of Rule 51 and, accordingly, cannot form the basis for appellate review. *See, e.g., United States v. Callipari*, 368 F.3d 22, 42 n.8 (1st Cir. 2004), *vacated on other grounds*, 543 U.S. 1098 (2005).

**B. Limelight’s New Construction of “Tagging” in Claims 19-21 and 34 of the ’703 Patent Finds No Support in the Intrinsic Evidence**

Even assuming that Limelight did not waive its new claim construction argument, there is no basis in the claims, specification, or prosecution history for limiting claims 19-21 and 34 to prepending, let alone to prepending a hostname, to an object’s original URL.

The relevant claim limitation is “tagging . . . so that requests . . . resolve to the domain instead of the content provider domain.” As Limelight’s brief acknowledges (RB9-10, 12, 66), a way that a request for an object is caused “to resolve to a domain other than a content provider domain” is to put an identifier of the CDN in the hostname portion of a URL so that DNS queries using that hostname will be resolved to the CDN’s domain. (A270-71, 8:66-9:1, 9:22-28.)

The retention in the URL (but not in the hostname portion of the URL) of the content provider's original URL has nothing to do with getting something "to resolve to a domain other than a content provider domain" because the portion of the URL that is not a hostname is not resolved by DNS. It is instead one way of enabling a content server, after that content server has been selected via successful DNS resolution, to locate a copy of a requested object if that object is not stored on that content server. (A272, 12:26-38; RB12, 66.) Thus, retention of the original URL is, at most, a different aspect of "the invention" and is an aspect that is not recited in claims 19-21 or 34 of the '703 patent.

Examination of other claims of the '703 patent further supports Akamai's position. Claim 17 requires "tagging . . . to resolve to a domain other than a content provider domain by prepending given data to a content provider-supplied URL." (A275.) Claim 19 does not require "tagging . . . by prepending." See also claims 1, 14, 15, and 23, all of which do require prepending, and compare them to asserted claims 19-21 and 34, which do not. (A275-76.)

Limelight nonetheless argues (as it did in connection with the '645 patent) that the claims should be limited to prepending a hostname to an object's original URL because "the invention of the '703 patent . . . *requires* prepending a virtual server hostname to the object's original URL." (RB43-44 (emphasis added).) This is simply incorrect. The specification describes prepending as a "preferred method



for modifying the object URL” (A269, 6:44-45) and twice states that retention of the original URL is merely “preferabl[e]” (A268, 4:2; A272, 12:29).

Limelight next argues that Akamai “confirmed that the ’703 patent was limited to use of the object’s original URL” during prosecution of the ’703 patent. (RB44-45.) But Limelight’s argument rests on selective and misleading quotes from the prosecution history and does not establish a “clear and unmistakable surrender” of the claim scope in claims 19-21 and 34.

In particular, during prosecution, issued claims 17 and 19 were amended at the same time. Issued claim 17 was amended by adding a prepending limitation. (A20153.) Issued claim 19 was not amended to add a prepending limitation. Instead, a different limitation was added to what became issued claim 19 (the requirement that the content provider serves the page, while the CDN serves an embedded object). (A20154.) Review of the full section of the prosecution history selectively quoted by Limelight reveals that Akamai was merely indicating that issued claims 17 and 19 were each amended to add a feature that distinguished the prior art, not to add the same feature. (A20155-56.) Indeed, Akamai expressly stated that issued claim 19 was amended “to clarify that the page is served from the content provider domain while at least one embedded object for the page is served from a given content server . . . .” (A20163.)

Further, the difference between the amendments to claim 17 and claim 19 could not have eluded the Examiner. Stated another way, neither the Examiner nor the public could have been confused into thinking that claim 19 had been amended to include a prepending limitation.

Finally, in context, the prosecution history quoted in Limelight's brief does not even refer to issued claim 34, because what is now claim 34 (application claim 53) was not addressed by the quoted portion of the prosecution history. (A20155.)

**C. Substantial Evidence Supports the Verdict of Infringement**

The jury heard substantial evidence that Limelight's customers "provide a 'pointer' or 'hook' so that the object resolves to a domain other than the content provider domain." (*See, e.g.*, A60; A385; A397-401; A409; A420-21.) Indeed, as Limelight's brief explains, "The customer needs to modify a URL or the CNAME record of objects it wants Limelight to deliver" and, "[t]hereafter, requests for the selected object will be sent to Limelight." (RB22.) Limelight cannot now challenge sufficiency of the evidence based on some other waived and incorrect claim construction.

**D. Limelight's Claim Construction Arguments Contradict the Jury's Verdict on Written Description**

Limelight asserts that the "tagging" limitation is limited to prepending because "[t]he only method described in the patents for 'tagging' is prepending a virtual server hostname to an object's original URL." (RB44.) At trial, however,

Limelight made this same argument (albeit in the context of a written description defense) and the jury rejected it. Specifically, Limelight presented expert testimony and argued that claims 19-21 and 34 were invalid because the written description did not disclose any type of tagging besides prepending “a virtual hostname into an existing URL, and the original hostname and the path remains in the URL, so that if you don’t have the object, you know where to go get it.” (A794-95.) The jury found otherwise (rejecting Limelight’s written description defense) and Limelight does not challenge this finding on appeal. (A95.) For this additional reason, Limelight’s argument that the specification is limited to prepending a virtual hostname into the original URL should be rejected.

**E. Limelight’s Noninfringement Arguments Rest on the District Court’s Construction of Different Claims in a Different Patent**

Limelight also argues that the district court’s construction of “alphanumeric string” in the ’645 patent should have governed its construction of the tagging limitation. (RB43-44.) Limelight did not request such a construction at the time of the *Markman* proceeding. Instead, as noted above, it stipulated to a different construction. Further, as explained in the next section below, the district court’s construction of “alphanumeric string” is incorrect for many of the same reasons that this Court should not adopt Limelight’s new construction of “tagging.”

Finally, Limelight’s argument that Akamai’s proof “contradicted” the Court’s claim construction (RB46) is a play on words. Akamai’s proof was consistent with the Court’s stipulated construction of the tagging limitation in the ’703 patent (*see supra* at 12). Limelight is actually arguing that Akamai’s proof was inconsistent with the Court’s construction of the “alphanumeric string” limitation in claim 1 of the ’645 patent, which, as noted below, is incorrect. The trial addressed infringement of the ’703 patent and Limelight’s attempts to confuse the issues should be rejected.

#### **IV. THE DISTRICT COURT ERRED IN INTERPRETING CLAIM 1 OF THE ’645 PATENT TO REQUIRE AN ALPHANUMERIC STRING THAT CONTAINS THE OBJECT’S ORIGINAL URL**

Repeating the arguments it made in connection with “tagging,” Limelight argues that claim 1 of the ’645 patent is limited to prepending by retaining the object’s original URL. But, as set forth in Akamai’s opening brief (BB50-58), the district court erred, holding that the broad claim language “a given object of a participating content provider is associated with an alphanumeric string” in claim 1 requires the “alphanumeric string” to “include[] the URL used to identify the object in the absence of a content delivery network.” (A68.) This claim language—found in the preamble—“need not be construed at all, as the type of ‘association’ called for by Claim 1 is made clear by the [body of the] claim itself.” (BB28.) As Limelight points out (RB59), Akamai contends that this broad

language simply means “that the object ‘has some type of relationship with an alphanumeric string.’”

**A. Contrary to Limelight’s Assertion, the Specification Does Not Describe “the Invention” as Prepending a Virtual Server Hostname to the Original URL**

Limelight’s primary argument in support of the court’s construction is that the specification describes “the invention” as “prepending a virtual server hostname to the original URL.” (RB60.) But, as noted above in connection with Limelight’s “tagging” argument (*supra* at 15-16), the specification does no such thing. Rather, it describes prepending as a “preferred method for modifying the object URL” (A254, 6:57-64) and unequivocally states that “the name of original server” only “preferably is included as part of the URL” (A257, 12:48-49; A253, 4:16-17). Thus, contrary to Limelight’s contention (RB61), retention of the original URL (including the name of the original server) is merely a preference, not a requirement.

To support its position, Limelight’s brief selectively block quotes the specification (RB60), but the omitted material—identified simply by ellipses in Limelight’s block quote—is telling. It states: “A flowchart illustrating the *preferred* method for modifying the object URL is illustrated in FIG. 4.” (A254, 6:57-58 (emphasis on omitted material).)

Because the specification makes clear that prepending a hostname into the object's original URL is merely preferred (A268, 4:2; A254, 6:57-58; A257, 12:49), the specification disclaimer cases cited by Limelight (RB59) are inapposite. In each of those cases, the patentee had "specifically identified, criticized, and disclaimed" embodiments in the specification. *See, e.g., SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1345 (Fed. Cir. 2001). Such a conclusion could hardly be drawn here, where Akamai repeatedly described prepending as merely "preferred" and did not criticize other embodiments. (A268, 4:2; A254, 6:57-58; A257, 12:49.) Rather, in this case, the district court committed one of the "cardinal sins of patent law"—reading a limitation from the written description into the claims. *See, e.g., Phillips v. AWH Corp.*, 415 F.3d 1303, 1319-20 (Fed. Cir. 2005) (en banc) (quoting *SciMed*, 242 F.3d at 1340). Accordingly, this Court should reverse.

**B. As a Technical Matter, the Invention Does Not "Require" the Object's Original URL in the Alphanumeric String**

Like the district court, Limelight also asserts that the original URL of the object is "necessary" to operation of the invention because otherwise, the content server could not retrieve the object if no copy exists on the content server. (RB12-13; A69.) But, as noted in Akamai's opening brief (BB58), the specification clearly explains that, in this situation, the content server could alternatively retrieve

the object from other content servers instead of the original server (A257, 12:54-56). Moreover, as noted above, the specification repeatedly describes retaining “the name of the original server” as merely preferable, not required. (A257, 12:48-49; A253, 4:16-17.) Nothing in the specification supports Limelight’s contention that the original URL is “necessary” or “required.”

In response, Limelight argues—without any support—that the original URL is necessary because there may be times (for example, the first time the object is requested) when no content server has the object. (RB64.) But Limelight’s argument finds no support in the specification (which describes retaining the original URL as “preferred”), contradicts testimony presented to the jury (which explains that retaining the original URL is not necessary (A386; A425; A422)), and ignores that Limelight’s own system does not prepend by retaining the original URL and yet still works (A386; A425). Limelight does not dispute that its virtual hostnames do not preserve the original URL. Yet, at trial, Akamai’s expert, Dr. Crovella, repeatedly explained that when requested content was not present on a Limelight content server, the Limelight system would retrieve the content from the content provider in order to deliver it to the requesting end-user. (A386; A425.)

Limelight’s argument also ignores the language of claim 1. Claim 1 is directed to a method where the object *is* available for delivery from the content

server and, consequently, the claim is not concerned about the content provider's original URL. (BB 58.) While Limelight characterizes Akamai's position as "inexplicable" because of the word "if" in the claim (RB67), the word "if" makes no difference. Claim 1 is a method claim and the last element reads: "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." (A260.) The claim says nothing about what happens when the object is not available. Indeed, the claim is not directed to that situation.

In sum, there is simply no basis to support Limelight's fabrication that the original URL is "necessary" to the invention described in the specification or recited in claim 1.

**C. Limelight Does Not Dispute Many of the Key Points in Akamai's Opening Brief**

In responding to Akamai's brief, Limelight does not dispute the following critical points in support of Akamai's position:

- The district court's construction of alphanumeric string is inconsistent with the use of the same term in claims 8 and 18 of the '413 patent, which recite "a Uniform Resource Locator (URL) that includes, in addition to a filename, an alphanumeric string." (BB56-57.) In claims 8 and 18, an "alphanumeric string" cannot be a URL since it is included within a URL. During prosecution, Akamai



expressly noted that the term “alphanumeric string” as used in the claims of the ’645 patent had been previously “accepted for use” in the claims of the ’413 patent. (A16781.) Claim terms in related patents (with identical written descriptions) should be construed consistently. *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005).

- During prosecution, Akamai expressly defined “alphanumeric string” as “a character string up to 24 characters drawn from the alphabet (a-z), digits (0-9), minus signs (-), and periods(.” (BB37.) During *Markman* proceedings, Limelight stipulated that “alphanumeric string” has this meaning. (A17875.)

- If the alphanumeric string were to include the content provider’s original URL, it would not conform to the stipulated definition. Full URLs typically exceed 24 characters and all necessarily include slashes (“/”) because a slash is necessary to separate the hostname from the rest of the URL. (RB11, 62; BB8.)

- The parties agreed that “associated” should have its ordinary and customary meaning. (A16897-98.) There is simply no basis for limiting the nature of the association.

**D. Limelight’s Other Responses to Akamai’s Opening Brief Do Not Support the Court’s Claim Construction**

Limelight does respond to other points made in Akamai’s opening brief.

(RB64-67.) But none of Limelight’s arguments undermine Akamai’s position that nothing in the claims, specification, or prosecution history limits the broad claim language “a given object of a participating content provider is associated with an alphanumeric string” to require that the alphanumeric string include the original URL.

First, Limelight argues that Akamai’s reliance on the disclosed examples of alphanumeric strings in the prosecution history—*i.e.*, as showing that the alphanumeric strings are not limited to URLs—fails. (RB65.) As noted in Akamai’s opening brief, Akamai cited examples of alphanumeric strings to overcome a rejection under 35 U.S.C. § 112 during prosecution of the ’645 patent. (BB53.) Limelight does not dispute that all of the examples are hostnames and not URLs. Rather, Limelight simply asserts that representations during prosecution do not trump the claims or specification. (RB53.) But, in so arguing, Limelight fails to acknowledge that all of these examples come directly from the specification. (A16780.) Moreover, the prosecution history is actually consistent with the claims and specification because nothing in the claims or specification requires the “alphanumeric string” to include the original URL.

Second, Limelight argues that because claim 17 of the '703 patent requires “resolving a URL” and claim 1 requires ““resolving’ an alphanumeric string,” the alphanumeric string in claim 1 must be a URL and not just the hostname portion of the URL, as Akamai’s opening brief suggests. (RB64-65.) It does not follow, however, that the alphanumeric string in claim 1 must be a URL or include the original URL. As disclosed in the specification, it is the hostname that is resolved. (*See, e.g.*, A256, 9:40.) Further, that claim 1 uses broader language than claim 17 of the '703 patent—referring to resolving an “alphanumeric string” instead of a “URL”—actually supports Akamai’s position that the district court erred in requiring the alphanumeric string to include the object’s original URL.

Moreover, other language in claim 1, read in the light of the written description, supports Akamai’s position. Claim 1 references “a DNS query to the given object’s associated alphanumeric string.” The written description makes clear that DNS queries are directed to the virtual hostname of the invention, not to a URL or the content provider’s original URL. (A256, 9:38-44, 9:64-10:3, 10:17-19.)

Finally, Limelight asserts that the claim requirement that the alphanumeric string be “resolved without reference to a filename” requires “that the alphanumeric string *must* include the filename (which is a part of the original URL).” (RB66.) There is simply no basis for Limelight’s argument. More

logically, in requiring that the alphanumeric string be resolved and, more specifically “resolved without reference to a filename,” the claim suggests that the string does not include a filename. This is confirmed by claims 8 and 18 of the ’413 patent, which distinguish between an alphanumeric string and a filename.

(A291, 18:20-21; A292, 19:42-43.)

**V. THE DISTRICT COURT ERRED IN INTERPRETING CLAIM 1 OF THE ’645 PATENT AND CLAIMS 8, 18, AND 20 OF THE ’413 PATENT TO REQUIRE SELECTION BY THE ALTERNATIVE DOMAIN NAME SYSTEM**

**A. The District Court’s Construction of Claim 1 of the ’645 Patent Improperly Confines Claim 1 to a Single Embodiment**

In *Phillips*, 415 F.3d at 1323, this Court emphasized that, “although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.” The specification of the ’645 patent describes a preferred embodiment in which an alternative domain name system uses a top-level DNS server to select a low-level DNS server. (A256, 9:47-49.) But claim 1 of the ’645 patent does not recite that method of selecting a name server. In fact, claim 1 does not recite selecting at all. The district court therefore erred in construing claim 1 to require the “given name server” to be “selected by the alternative domain name system.”

Contrary to the district court’s construction, claim 1 only requires that the given name server be “close to the client local name server.”<sup>2</sup> The district court’s construction imposes an additional requirement—selection of the name server by the alternative domain name system. But that requirement is absent from claim 1, which does not even mention selecting, let alone selecting by the given name server.

Moreover, the court’s additional requirement contradicts the language of claim 1. In particular, claim 1 covers systems with “one or more DNS levels,” while the district court’s construction effectively requires *at least two DNS levels* (*i.e.*, a top DNS level that selects the given name server from a low DNS level). The district court based that construction on the specification’s description of a two-level DNS system. (*See* A79 (“[T]he embodiment describes a global hosting system containing a two-level DNS system . . . .”)) But the specification explicitly describes the two-level system as *preferable* while also disclosing a one-level system. (A256, 9:47-49, 10:2-3.)

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<sup>2</sup> Limelight contends that Akamai has not proposed its own construction on appeal for the “given name server.” (RB67-68.) To the contrary, Akamai’s opening brief provides Akamai’s claim construction position (*i.e.*, that the limitation “only requires that a DNS query be received by the name server in the content delivery network” and does “not require that the DNS be selected by anything or by any method.”). (BB31.)

Further, the Court’s construction imports into claim 1 a requirement of dependent claim 3 of the ’645 patent. Claim 3 narrows claim 1 by reciting an “alternative domain name system” that is “arranged as a hierarchy of levels, and wherein a name server in a given level selects a name server in a next succeeding level of the hierarchy.” The presence of this limitation in claim 3 indicates that the same limitation is not present in claim 1. *Phillips*, 415 F.3d at 1315 (“the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”).

The district court nevertheless limited claim 1 to the preferred embodiment having two or more DNS levels, despite the plain language of claim 1 to the contrary. Because the district court’s construction impermissibly confines claim 1 to a single embodiment and ignores the plain claim language, its construction should be reversed. As explained below, Limelight’s arguments in support of the district court’s construction reflect a misunderstanding of how one of ordinary skill in the art would understand the specification of the ’645 patent.

**B. Limelight’s Arguments in Support of the District Court’s Construction of Claim 1 of the ’645 Patent Fail**

First, Limelight argues that the specification limits the claims by using the phrase “the present invention” and “the inventive system.” (RB68.) To the contrary, the specification does not limit its definition of the invention to systems

with multiple DNS levels. Rather, Limelight’s quotations are incomplete. The specification states, “[P]referably there are two types of DNS servers *in the inventive system*: top-level and low-level.” (A256, 9:47-49 (emphases added).) Moreover, the specification discloses how to use the invention with one DNS level, stating that, “[i]f only one DNS level is used, a representative URL could be ‘a123.akamai.com.’” (A256, 10:2-3.) And by its plain language, claim 1 covers systems with one DNS level in addition to systems with multiple DNS levels.

In that respect, *Agfa Corp. v. Creo Prods. Inc.*, 451 F.3d 1366 (Fed. Cir. 2006), is on point, despite Limelight’s arguments to the contrary (RB69). In *Agfa*, this Court addressed claim language that was broader than a preferred embodiment and declined to limit the scope of the claims at issue. *Agfa*, 451 F.3d at 1376-77. Specifically, the Court declined to limit the claimed “stack of plates” to a horizontal arrangement of plates, even though Figure 1 of the patent-in-suit depicted the plates arranged horizontally. *Id.* The patent in *Agfa* even described Figure 1 as depicting “the present invention,” but the Court deferred to the broader language of the claims. *See id.*; U.S. Patent No. 5,655,452, col. 3, ll. 15-18. The same approach is appropriate here.

Second, Limelight contends that the specification only discloses one method for selecting a close-by name server. (RB68.) As an initial matter, this Court has explicitly rejected the argument that claims must be limited to a single embodiment

when only one embodiment is described. *Phillips*, 415 F.3d at 1323. And in any event, Limelight is mistaken.

The specification describes how a low-level server would be selected by a top-level server in the preferred embodiment. But the specification also discloses a one-level system, and one of skill in the art would readily understand from the specification how a DNS server in a one-level system would be selected. As the specification describes, a one-level system would use a hostname such as “a123.akamai.com.” (A256, 10:2-3.) According to the specification, “a123” is a serial number that may include information about an embedded object, and in a one-level system, “akamai.com” is the name that is resolved in the single DNS level. (See A255, 7:14-21; A256, 9:23-35.) As a matter of logic, a name server in the single level of a one-level system cannot be selected by another server on another level in the alternative domain name system because there is no other level. Rather, the name server in the system’s single level would be selected using known methods for selecting a name server. See *BJ Servs. Co. v. Halliburton Energy Servs., Inc.*, 338 F.3d 1368, 1372 (Fed. Cir. 2003) (holding the specification encompassed techniques known in the prior art). One commonly used and well-known method is Anycasting. (A17429-30.) As Limelight’s expert, Dr. Crovella, testified at trial, “Every request that goes out to a root-level server or a top-level domain server like dot com is using Anycast.” (A606:34.) One of skill



in the art would have no difficulty applying that understanding to the one-level DNS system of the claimed invention. (See Testimony of Dr. Crovella at A780:141 (“[Anycast] would have been known to someone of ordinary skill in the art. Someone who then looks at the patent, thinks about getting content, getting [a] request to a nearby server, and then choosing a good content server, would understand that if you used Anycast to do that, then a single-level domain name system would be sufficient for achieving these two things.”).)

Limelight’s argument that Akamai cannot rely on *BJ Services* to “add” to the specification misses the point. (RB71.) Akamai does not rely on *BJ Services* to add “hypothetical embodiments” to the specification. Rather, Akamai relies on that decision for the proposition that the claims and specification of a patent are read from the point of view of one of skill in the art and therefore encompass known techniques. 338 F.3d at 1372. Contrary to Limelight’s suggestion, the specification does not need to explicitly describe every conceivable way that one of skill in the art might use an invention. See *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1344 (Fed. Cir. 2001) (“An applicant is not required to describe in the specification every conceivable and possible future embodiment of his invention.”).

Likewise, contrary to Limelight’s assertion, *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009), does not support the district court’s claim

construction (RB71). *Abbott* involved a patent that disclosed one type of crystal (Crystal A) but not another type (Crystal B). 566 F.3d at 1289. The court limited the scope of the claim term “crystalline” because the specification only disclosed Crystal A and never suggested that the claimed process might produce Crystal B. *Id.* In this case, the ’645 patent discloses both a one-level system and a two-level system. Either system can be readily implemented by one of skill in the art. Claim 1 covers both.

Third, Limelight misplaces reliance on the district court’s statement that a single server can combine the functionality of a top-level server and a low-level server. (RB70.) The specification states that “there may be a single DNS level that combines the functionality of the top level and low-level servers.” (A254, 6:3-4.) That statement discloses that the claimed invention can operate in the context of a one-level DNS system. But it does not suggest that a name server in the single level of a one-level system must be selected by the alternative domain name system. Indeed, Limelight does not even attempt to explain how a name server in a one-level system could be selected by the alternative domain name system without providing an additional DNS level. Rather, the single-level server would be selected by any known method for selecting a name server. *See BJ Servs.*, 338 F.3d at 1372.

Finally, as noted in Akamai's opening brief, the district court's construction improperly adds limitations to claim 1, contrary to this Court's holding in *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342 (Fed. Cir. 2008). (BB58.) In its response, Limelight mischaracterizes the holding of *DSW*. Limelight argues that the Court in *DSW* reversed the district court's construction because the claims at issue were unambiguous, and not because the district court imported structural limitations into a method claim. (RB70.) To the contrary, the Court held that "it was improper for the trial court to import limitations from the apparatus and system claims into the method claims." *DSW*, 537 F.3d at 1348. In any event, claim 1 of the '645 patent unambiguously covers systems with "one or more" DNS levels. Because the district court's construction excludes systems with one DNS level, it should be reversed.

**C. The District Court's Construction of Claims 8, 18, and 20 of the '413 Patent Also Improperly Confines the Claims to a Single Embodiment**

Based on a similar claim construction error, the district court entered summary judgment of noninfringement with respect to the '413 patent. (A840-42.) The district court read claims 8, 18, and 20 to require that "the content delivery network's domain name system selects a particular name server." (A77-80.) The claims, however, do not limit how the name server can be selected and they do not require the content delivery network's DNS to perform the selection step. Rather,

the claims simply require “responsive to a DNS query, selecting a given one of the name servers in the content delivery network service provider’s domain name system.”<sup>3</sup> As with the ’645 patent, the district court’s construction limits claims 8, 18, and 20 to systems with two or more DNS levels, while those claims expressly cover systems with “one or more” DNS levels.

Limelight argues that statements made during the prosecution of the ’413 patent disclaimed systems with one DNS level, but that is not the case.

Prosecution disclaimer requires a clear and unambiguous disavowal of claim scope. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003).

During an interview with the Examiner, Akamai presented a slide showing a system with two DNS levels. (A16474; A16867.) Nothing in the presentation indicated that the system could not be used with one DNS level. (*See* A16864-67.)

After the interview, the Examiner allowed claims 8, 18, and 20, which explicitly cover systems with “one or more” DNS levels. (A16511.) There was no disclaimer.

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<sup>3</sup> Again, Limelight argues that Akamai has not provided a claim construction for this limitation. (RB72.) Limelight, however, quotes the construction that Akamai proposed to the district court. (*Id.*; A15157.) Consistent with its proposed construction, Akamai argued in its opening brief that claims 8, 18, and 20 require selection of a name server, but do not require the content delivery network’s DNS to select the name server. (BB63.)

## **VI. THE COURT SHOULD NOT REMAND FOR A NEW TRIAL ON JOINT INFRINGEMENT**

As an alternative argument on joint infringement, Limelight argues that the jury's infringement verdict should not be reinstated because the district court's instruction on "control or direction" was incorrect and prejudicial. (RB47.) A new trial on infringement is unnecessary. As explained below, Limelight's counsel failed to object to the instruction it now challenges on appeal, and in any event, the court's instruction was not prejudicial error.

### **A. Limelight Failed to Object to the Instruction**

When reviewing claimed instructional errors, this Court applies regional circuit law—in this case, the law of the First Circuit. *Cordis Corp. v. Medtronic AVE, Inc.*, 511 F.3d 1157, 1172 (Fed. Cir. 2008). The First Circuit requires parties challenging a jury instruction to comply with the strictures of Federal Rule of Civil Procedure 51 "without deviation." *Rivera Castillo v. Autokirey, Inc.*, 379 F.3d 4, 10 (1st Cir. 2004) (quoting *Smith v. Mass. Inst. of Tech.*, 877 F.2d 1106, 1109 (1st Cir. 1989)). Rule 51(c)(1) requires a party objecting to an instruction to state "distinctly the matter objected to and the grounds for the objection." Moreover, the objection must be made "on the record." Fed. R. Civ. P. 51(c)(1).

When a party fails to object *on the record* to a particular instruction and the party later challenges that instruction, the instruction is reviewed under the plain error standard. Fed. R. Civ. P. 51(d)(2). In the First Circuit, the plain error

standard requires Limelight to show that “(1) an error was committed; (2) the error was ‘plain’ (i.e. obvious and clear under current law); (3) the error was prejudicial (i.e. affected substantial rights); and (4) review is needed to prevent a miscarriage of justice.” *Rivera*, 379 F.3d at 10 (quoting *Smith v. Kmart Corp.*, 177 F.3d 19, 26 (1st Cir. 1999)). The plain error standard is met in only rare instances when an error has reached “the pinnacle of fault” and “seriously affected the fairness, integrity or public reputation of the judicial proceedings.” *Kmart*, 177 F.3d at 26.

Here, the district court asked both parties to make any objections after it instructed the jury. (A823:41 (Telling the jury, “Why don’t you stretch for a moment because I need to talk to the lawyers so they can tell me about all the mistakes I made.”).) The court held a side-bar conference, and both parties made their objections. With respect to the joint infringement instruction, the parties agreed that the court’s instruction needed to be corrected to clarify that the issue was whether content providers act under Limelight’s direction *or* control, rather than direction *and* control, as the Court had just instructed the jury. (A823:41-A824:42.) At no point did counsel for Limelight object to the portion of the instruction in which the court asked the jury to consider whether the content provider acts “entirely independently.” (See A823:41-A826:52.)

Limelight now argues that it preserved its objection to that portion of the instruction. (RB46-49.) In particular, Limelight argues that its submission of a

“proper alternative instruction” and its statements at the charge conference established an on-the-record objection. (RB47-48.) Limelight is mistaken. The Advisory Committee Notes for the 2003 amendments to Rule 51 make clear that submitting a request for a jury instruction does not preserve the right to appeal a district court’s decision not to provide the requested instruction. Fed. R. Civ. P. 51, 2003 advisory committee’s notes. And in *Callipari*, 368 F.3d at 42 n.8, the First Circuit stated that statements made during a charge conference are not “on the record” for purposes of Rule 51. In any event, there was no mention at the charge conference from either party or in any proposed instruction of whether the content provider acts “entirely independently.” That portion of the court’s instruction did not come to light until the court read its jury instructions at trial, and Limelight did not object to that portion of the instruction at the side-bar conference that followed. In short, when given the opportunity to object, Limelight failed to comply with the strict requirements of Rule 51 by distinctly stating the grounds for the objection that it now presses on appeal. As a result, the plain error standard applies, and Limelight does not even argue that the alleged error in the court’s instruction meets the high burden imposed by that standard. A new trial is not warranted.

**B. The District Court’s Instruction Was Not Prejudicial Error**

In any event, the district court’s instruction was neither erroneous nor prejudicial. Limelight quotes only a brief portion of the instruction on joint

infringement, stating further that the court directed the jury to find joint infringement “*unless* the jury concluded that customers acted ‘entirely independently’ from Limelight.” (RB48 (emphasis added).) The court never instructed the jury that it was required to find joint infringement “unless” the content providers acted “entirely independently.” The court repeatedly instructed the jury to consider “whether the content provider acted under the direction and control of Limelight.” (A818:21 (ll. 5-7); *see also* A818:20 (ll. 14-18, ll. 20-22); A818:21 (ll. 7-12, 14-19).) When the court corrected its joint infringement instruction, it once again stated that the issue is whether Limelight directed or controlled the content provider. (A826:53 (“I was wrong on that. It is either direct or control, control or direct; it doesn’t have to be both.”).) Although one line from the district court’s original instruction asked the jury to consider whether the content provider performs modifications “entirely independently,” jury instructions are reviewed in their entirety, not piecemeal. *See Cordis*, 511 F.3d at 1172; *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1363 (Fed. Cir. 2004).

Read in its entirety, the court’s instruction correctly characterizes the “control or direction” test. The court’s singular use of the phrase “entirely independently” was not prejudicial and does not merit a new trial. *See Sulzer Textil*, 358 F.3d at 1364-65 (holding that a single misstatement in a jury instruction on infringement was harmless when the instruction was considered in context);



Fed. R. Civ. P. 61 (“At every stage of the proceeding, the court must disregard all errors and defects that do not affect any party’s substantial rights.”).

Limelight also argues that the court’s instruction was incorrect because it did not instruct the jury that “teaching, instructing or facilitating a customer’s participation in a system is irrelevant” to joint infringement. (RB49.) Limelight, however, did not propose an instruction on the relevance of those activities (A20862) and did not object to the joint infringement instruction that was given. More importantly, it would be highly unusual for a court to address the relevance of certain activities by allowing the jury to hear evidence, then instructing the jury to disregard the evidence it just heard. If Limelight considered those activities to be irrelevant to joint infringement, the proper course would have been to object to the admission of evidence of those activities. By failing to properly object, Limelight waived its challenge to the jury’s consideration of that evidence. Fed. R. Evid. 103(a)(1). Moreover, even if Limelight’s instructions alone are insufficient under *Muniauction*, that does not mean that the jury could not consider Limelight’s instructions as part of the totality of the evidence on joint infringement. (*See supra*, 4-9.)

Lastly, Limelight misses the point in its argument that this Court’s decision in *Muniauction* provides a basis for a new trial because it provides “additional guidance” on the joint infringement issue. (RB27.) Jury verdicts are not set aside

and new trials held simply because a subsequent appellate court decision could provide a jury with “additional guidance” on an issue. (*Id.*) If that were the case, appellate courts would routinely vacate jury verdicts after issuing new opinions. In any event, the plain error standard applies even if *Muniauction* reflected a change in the law. *Cordis*, 511 F.3d at 1172. Under that standard, Limelight is not entitled to a new trial. *See Kmart*, 177 F.3d at 26 (noting that plain error is a “rare species in civil litigation”).

**VII. THIS COURT SHOULD NOT REMAND FOR A NEW TRIAL ON INFRINGEMENT BASED ON THE CONSTRUCTION OF “OPTIMAL”**

**A. The District Court Correctly Instructed the Jury on the “Tagging” Limitation**

Limelight requests a new trial based on the district court’s interpretation of the word “optimal” in the parties’ stipulated construction of “tagging.” (RB49.) “Optimal” does not appear in the claims or specification of the ’703 patent. Instead, the word was used in a claim construction adopted from an earlier case. (A60-61 (citing *Akamai Techs., Inc. v. Digital Island, Inc.*, No. 00-11851 (D. Mass. Nov. 8, 2001) (claim construction order)).)<sup>4</sup> In *Digital Island*, the district court had construed the “tagging” limitation in claims 19-21 and 34 to mean “providing a ‘pointer’ or ‘hook’ so that the object resolves to a domain other than the content

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<sup>4</sup> Limelight refers to the *Digital Island* case by its name on appeal, *Akamai Techs., Inc. v. Cable & Wireless Internet Servs., Inc.*, 344 F.3d 1186 (Fed. Cir. 2003).

provider domain.” (*Id.*) The court had further construed “resolves to a domain other than the content provider domain” to mean “to specify a particular group of computers that does not include the content provider from which an optimal server is to be selected.” (*Id.*) As noted above, Akamai and Limelight adopted those constructions by stipulation. (A17874.)

At the pretrial conference, Limelight sought interpretation of the word “optimal” in the stipulated construction of the “tagging” step. (A951-52.) In particular, Limelight contended that the dictionary definition of the word “optimal” implies that the “tagging” limitation is only met by systems that select a single, best server. (A62.) In response, Akamai argued that the claims and specification of the ’703 patent support interpreting the “tagging” limitation to require selecting an “optimal” server based on several criteria, including whether the server is close to the end-user, whether the server is overloaded, and whether the server is likely to host the embedded object. (*See* A63.) After reviewing the specification and claims of the ’703 patent, the district court rejected Limelight’s proposed construction, and instead interpreted “optimal” to require “the selection of a content server that is better than other possible choices in terms of the criteria established by the specification.” (A64.) The court also held that Akamai’s position in the *Digital Island* case did not estop it from opposing Limelight’s

proposed construction. (A61-62.) The district court’s rulings on claim construction and judicial estoppel are correct and should be affirmed.

**B. The District Court’s Rejection of Limelight’s Interpretation of “Optimal” Should Be Affirmed**

Under *Phillips*, 415 F.3d at 1314-15, claims are construed with particular attention to the written description and the claims themselves. As the district court observed, the asserted claims (19-21 and 34) and the specification of the ’703 patent make clear that the “tagging” limitation does not require selection of a single, best server. (A62-64.) Indeed, the claims say nothing about an “optimal” server. Asserted claim 20 of the ’703 patent depends on claim 19 and indicates that the “tagging” limitation is met by systems that identify “one or more content servers from which the embedded object may be retrieved.” Moreover, claims 21 and 34 recite limitations based on the criteria identified by the specification. (*See* A276, claim 21 (“resolving a request to the domain as a function of a requesting user’s location”) and claim 34 (“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”).) As the district court observed, the claims’ use of those criteria implies that the claims require “the selection of a

content server that is better than other possible choices in terms of the criteria established by the specification.” (A64.)

Like the claims, the specification of the ’703 patent contemplates networks with DNS servers that return lists of servers rather than a single server. (A272, 12:19-23 (“The low level DNS servers make use of a standard feature of DNS to provide an extra level of fault tolerance for the ghost servers. When a name is translated, instead of returning a single name, a list of names is returned.”).) Moreover, the specification discloses selecting content servers based on the criteria identified by the district court: being close to the client machine (*e.g.*, A269, 5:37-41, 6:29-34; A271, 9:25-28, 10:58-61); not being overloaded (A269, 5:38-41; A271, 10:58-61; A272, 11:52-53); and being likely to have a current version of the embedded object (A269, 5:38-41; A271, 9:25-29, 10:58-61). That is, the low-level DNS servers select content servers based on the specified criteria, and multiple DNS servers may meet those criteria. Indeed, that understanding of the specification conforms with the expert testimony (partially quoted by Limelight (RB52)) that the patent “teach[es] specific criteria to use to choose a good server, *given that you can’t know which one is absolutely going to be the best in advance*” (A458:100 (emphasis added)).

Limelight’s interpretation of the stipulated construction to require selection of a single “best” server would exalt the dictionary definition of “optimal” (a term

not even found in the claims or specification) over the intrinsic evidence. (RB51.)

But, contrary to Limelight's position, this Court warns against construing claims based on extrinsic evidence such as dictionaries. *Phillips*, 415 F.3d at 1318-19.

Additionally, the court's further construction of the "tagging" limitation did not leave a claim construction dispute for the jury to resolve, as Limelight argues. (RB49-50.) To the contrary, if the court had not resolved the parties' dispute over the meaning of "optimal," the court would not have fulfilled its obligation to resolve disputes of claim scope. *See Every Penny Counts, Inc. v. Am. Express Co.*, 563 F.3d 1378, 1383 (Fed. Cir. 2009).

For all these reasons, the district court correctly rejected Limelight's claim construction argument. A new trial is not necessary.

**C. The District Court Correctly Rejected Limelight's Judicial Estoppel Arguments.**

A district court's decision to not invoke the doctrine of judicial estoppel is reviewed for an abuse of discretion. *Alternative Sys. Concepts, Inc. v. Synopsis, Inc.*, 374 F.3d 23, 30 (1st Cir. 2004). When considering whether it is appropriate to apply the doctrine, the Supreme Court requires consideration of three factors:

(1) [T]he party's later position must be "clearly inconsistent" with the earlier position; (2) the party must have succeeded in persuading a court to adopt the earlier position in the earlier proceeding; and (3) the courts consider "whether the party seeking to assert an inconsistent position would derive an unfair advantage or impose an unfair detriment on the opposing party if not estopped."

*SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1290-91 (Fed. Cir. 2005) (quoting *New Hampshire v. Maine*, 532 U.S. 742, 751 (2001)). In applying those factors, the First Circuit requires significant deference to the district court's familiarity with the proceedings before it:

[D]eferential review often is appropriate for matters in which the trial court is "better positioned . . . to decide the issue in question." *Miller v. Fenton*, 474 U.S. 104, 114, 106 S.Ct. 445, 88 L.Ed.2d 405 (1985). Judicial estoppel is such a matter. Determining whether a litigant is playing fast and loose with the courts has a subjective element. Its resolution draws upon the trier's intimate knowledge of the case at bar and his or her first-hand observations of the lawyers and their litigation strategies.

*Alternative Sys. Concepts*, 374 F.3d at 31 (second alteration in original).

With respect to the first factor, Akamai's position before the district court in this case is not consistent with its position in *Digital Island*. Indeed, Judge Zobel presided over both cases and recognized that there was no inconsistency between Akamai's positions on the "tagging" limitation or the meaning of "optimal." (A61-62.) In *Digital Island*, the jury found claims 17, 18, and 22 of the '703 patent anticipated by U.S. Patent No. 6,185,598. *Cable & Wireless*, 344 F.3d at 1191. Digital Island filed a motion for JMOL that claims 1, 3, 5, and 9 of the '703 patent were also anticipated by the '598 patent. *Id.* That motion was denied, and Digital Island appealed. *Id.* In reviewing the denial of JMOL with respect to claims 1, 3, 5, and 9, this Court stated that the '598 patent does not disclose using load

balancing software at the DNS servers to select content servers *during the resolving process*. *Id.* at 1193-96. Based on that statement, Akamai filed a motion for JMOL to vacate the jury’s verdict for anticipation of claims 17, 18, and 22 on the basis that the ’598 patent “does not ‘disclose or fairly suggest’ selection of a best server ‘during the resolving process’ as required by each of those claims.” (A20672.)

On appeal and before the district court, Limelight has misleadingly emphasized that statement to imply that Akamai sought to distinguish the ’598 patent based on the use of the words “best server.” (*See* RB50 (emphasizing “selection of a best server”).) But the distinction between claims 17, 18, and 22 and the ’598 patent was based on *when* content servers are selected, not on whether a single, best server was selected. As the district court noted, “What did or did not constitute an optimal server was not an issue in determining whether the jury’s verdict should stand, rather it was that the ’598 patent did not disclose selection of the content server ‘*during the resolving process*.’” (A61 (emphasis added).) And Judge Zobel’s intimate knowledge of the proceedings in both cases merits significant deference. *Alternative Sys. Concepts*, 374 F.3d at 31.

Limelight also takes out of context a statement made by counsel for Akamai during the *Digital Island* claim construction hearing. Counsel for Akamai agreed with the district court’s statement that the “tagging” step “identifies the best



computer or server” within a domain (A20327), but he made that statement after the district court had observed that the “tagging” step involves selecting a domain “that is the best one *under various criteria*” (A20326 (emphasis added)). That is entirely consistent with Akamai’s position in this case that an “optimal” server can be one or more servers selected based on the criteria described in the specification.

Likewise, Limelight’s argument regarding footnote 7 of Akamai’s summary judgment motion in this case shows no inconsistency with Akamai’s position in *Digital Island*. (RB51.) In that footnote, Akamai explained that it used the word “best” in *Digital Island* as shorthand for the application of the server-selection criteria described in the ’703 patent’s specification. (A20242 n.7.) There is no inconsistency. Akamai used the word “best” in *Digital Island* in the same way that it interpreted “optimal” in this case.

Similarly, Dr. Leighton’s testimony in *Digital Island* does not reveal any inconsistency between Akamai’s claim construction positions. Dr. Leighton’s testimony explained that the “tagging” step, under the district court’s construction, involves selecting a domain from which a content server is selected. (A20571-73.) Although he used the phrase “single best computer,” nothing in Dr. Leighton’s testimony suggests that, in his view, only a single server could meet the criteria disclosed in the ’703 patent for selecting a content server. And despite Limelight’s

suggestion, Dr. Leighton’s testimony was not the basis for the district court’s decision to vacate the jury’s verdict of invalidity in *Digital Island*.

Limelight also argues that Akamai was able to “profit from ambiguity in the court’s interpretation” (RB53), but the court’s interpretation was far from ambiguous. It made clear that the “tagging” step does not require selection of a single, best server. And to be sure, the court’s interpretation was a construction of a claim construction, which had the effect of providing more guidance for the jury than the parties’ initial stipulation. Limelight also complains that the district court read to the jury parts of the order on the meaning of “optimal.” (RB51.) But Limelight omits that the district court read portions of the order *as Limelight requested*:

MR. SAROS: Okay. I agree with Mr. Perez where he starts on Page 3, except it should be the paragraph before as well, if we’re reading the order. So, starting with, “With construed” on Page 3 to the end.

...

MR. SAROS: Your Honor, may I suggest, because, as you said, they are your words, that you read the order to the jury instead of counsel? (A395:32; A396:35.) Any alleged instructional error based on that request is unreviewable, invited error. *Cordis*, 511 F.3d at 1172.

In short, the district court correctly recognized that Akamai did not take any positions in this case that were inconsistent with its positions in *Digital Island*. And Limelight has not even attempted to demonstrate the third factor for judicial

estoppel—that any alleged inconsistency imposed an unfair detriment on Limelight. *SanDisk*, 415 F.3d at 1290-91. As a result, the district court’s rejection of Limelight’s judicial estoppel arguments was not an abuse of discretion.

## **VIII. LIMELIGHT IS NOT ENTITLED TO JMOL OR A NEW TRIAL ON DAMAGES**

### **A. Substantial Evidence Supports the Jury’s Lost Profits Award**

Limelight seeks JMOL that Akamai is not entitled to lost profits. (RB53.) Limelight’s principal argument is that “the price for Akamai’s CDN service was double that of Limelight’s accused service” and that Akamai’s damages expert “simply conjectured” that 75% of Limelight’s customers would have gone to Akamai—at twice the price. (RB53-54, 56.) But, as explained below, substantial evidence supports the jury’s lost profits award. The jury heard testimony from Akamai’s damages expert, Dr. Keith Ugone, who used an accepted method for calculating lost profits, properly considered and adjusted his damage analysis for the price difference and the CDN market’s elasticity of demand, and also considered the impact of Limelight’s prior noninfringing service and sales by other CDNs. Further, the jury awarded just over \$40 million in lost profits—significantly less than Dr. Ugone calculated.

**1. Akamai Relied on an Accepted Method of Calculation of Lost Profits with Generous Reductions in Limelight's Favor**

Dr. Ugone used the adjusted market share approach to calculate lost profits. (A500-03.) This Court has repeatedly found this approach acceptable. *See, e.g., Ericsson, Inc. v. Harris Corp.*, 352 F.3d 1369, 1377-78 (Fed. Cir. 2004); *State Indus., Inc. v. Mor-Flo Indus., Inc.* 883 F.2d 1573, 1577-80 (Fed. Cir. 1989). As in *Ericsson*, Dr. Ugone identified the various CDN providers in the market and determined the actual market share for each provider. (A501); *Ericsson*, 352 F.3d at 1378. Dr. Ugone found that Akamai's real-world market share was 79.8% in 2005 and 74.7% in 2006, even though Akamai charges up to twice as much as Limelight and more than its other competitors. (A501; A504.) Further, Dr. Ugone determined Limelight's actual market share to be 5% in 2005 and 10.7% in 2006. Limelight's damages expert did not challenge Dr. Ugone's actual market share determination. (A716-17.)

Next, following the adjusted market share methodology, Dr. Ugone established an adjusted market share in the "but for" world in which Limelight was not selling its infringing service. (A502.) Dr. Ugone explained to the jury that his analysis was based in part on testimony that the parties shared the same customer base (despite price differences). (A515; A467-68.) Dr. Ugone also relied on the undisputed testimony that the parties competed head-to-head for customers (A467-

68; A583) and the admission of Limelight’s founder and Chief Strategy Officer, Mr. Gordon, that Limelight was the only company with the scale to compete effectively with Akamai (A583). Based on this collective evidence, Dr. Ugone determined that, for many customers, Akamai’s service was the only reasonable alternative to Limelight’s in the “but for” world. “For conservatism,” however, Dr. Ugone reduced Akamai’s “but for” market share by 3% to account for the possibility that another third-party CDN might step up and fill some of the void left by Limelight. (A502; A521.) In addition, Dr. Ugone took into account that Limelight could have continued to sell its older, much less desirable switch-based technology, which Akamai had not accused of infringement. (A501-02.) Both of these adjustments reduced Akamai’s market share in the “but for” world, thus reducing Dr. Ugone’s calculation of Akamai’s lost profits.

Next, Dr. Ugone considered Limelight’s infringing sales, based on evidence provided by Limelight, but reduced this figure by generously assuming a relatively slow rate of migration from Limelight’s switch-based technology (which was not accused of infringement) to its infringing system. Dr. Ugone also removed the bottom 25% of Limelight’s customers in terms of revenues from the Limelight sales figure (and thus from his damage calculation) because these smaller customers might have chosen not to use Akamai’s more expensive service. (A503; A521-22.)

In the final step of his analysis, Dr. Ugone determined the CDN market's elasticity of demand and concluded that a price elasticity of demand of  $-.25$  was appropriate, representing a market that is relatively insensitive to changes in prices. (A505-06; A528.) In reaching this conclusion, Dr. Ugone considered the price differential between Akamai's service and Limelight's service, and the fact that CDN delivery cost is considered by content providers to be a "revenue generating cost" because it makes their businesses more efficient. (A505; A523.) He explained that, because the demand is driven by the end-user, who does not directly pay for the service, and not the content provider, there is little or no impact on the end-user's usage as a result of the different pricing of CDN delivery services. (A505; A528.) Finally, Dr. Ugone noted that the parties' services were the only reasonable substitutes in the market, further supporting his determination of relative inelasticity of demand. (A529-30; A583; A467-68; A515.)

In sum, Dr. Ugone's analysis was supported by substantial evidence tying Akamai's lost profits to Limelight's infringing activities. Akamai's supporting evidence was far from speculative, including party admissions that the products were the only reasonable substitutes (A467-68; A583), twenty-four analyst reports about market share (A501), consideration of annual variations in the market share (A501-02), and Limelight's undisputed sales figures (A503).

As such, the *Shockley v. Arcan, Inc.*, 248 F.3d 1349 (Fed. Cir. 2001), and *Oiness v. Walgreen Co.*, 88 F.3d 1025 (Fed. Cir. 1996), cases cited by Limelight are inapposite. In *Shockley*, the Federal Circuit rejected the jury's award of *future* lost profits because the expert based his calculation on the patentee's assumption of how many units it could sell per year when the patentee's own salesman had been unable to sell *any* patented products in the past. 248 F.3d at 1363-64. Here, Akamai's expert based his calculation of past lost profits on two dozen analyst reports showing Akamai's actual market share during Limelight's infringement. In *Oiness*, the Federal Circuit affirmed the district court's reversal of a jury award where the patentee did not present proof of infringer's actual sales but rather used underlying estimates based on pictures of infringer's store displays and the patentee failed to account for annual sales variations. 88 F.3d at 1029. Again, in this case, Akamai's expert used Limelight's actual sales figures for the infringing period and took into account annual sales and market share variations. Thus, neither *Shockley* nor *Oiness* supports Limelight's contention.

Limelight also argues that Dr. Ugone's reconstruction of the market did not take into consideration "likely outcomes" when Limelight's infringement was factored out. (RB54.) But, as demonstrated above, this is simply not true. For example, Dr. Ugone specifically included Limelight's older switch-based CDN solution in his adjusted market share. (A502.) Rather than eliminate Limelight

completely from the market, Dr. Ugone, based on the testimony of Limelight’s founder and Chief Strategy Officer, assumed that Limelight’s switch-based solution would continue to attract 3.5% of the market in 2005, rising to 4.2% of the market in 2006. (A501-02.) This is exactly the type of consideration this Court required in *Grain Processing Corp. v. American Maize-Products Co.*, 185 F.3d 1341, 1350-51 (Fed. Cir. 1999) (“[A] fair and accurate reconstruction of the ‘but for’ market also must take into account, where relevant, alternative actions [that] the infringer foreseeably would have undertaken had he not infringed.”).

## **2. Akamai’s Expert Did Not Simply Conjecture About the Relative Inelasticity of the CDN Market**

Limelight repeatedly chastises Dr. Ugone for what Limelight deemed a “judgment call” with respect to his determination of the elasticity of demand for the CDN market. (RB53-54, 56.) Although Dr. Ugone readily admitted that there is an element of judgment required in making this determination (A528), he clearly explained his reasoning (*supra* at 53-54) based on more than twenty-two years of experience as a microeconomist. (A495; A528.) Dr. Ugone’s analysis is far from merely an unsupported “judgment call” plucked from thin air.

Limelight specifically points to Dr. Ugone’s testimony that the CDN “market is price sensitive” (RB55), but Limelight ignores his later testimony, in which he explained that this market was less sensitive to price than other markets



(A506; A522-23; A527-28). Indeed, Limelight’s damages expert also agreed that the CDN market was “somewhat price sensitive . . . but it’s not very price sensitive,” only to a different degree than Dr. Ugone. (A711.) Although Limelight clearly disagrees with Dr. Ugone’s conclusion regarding the elasticity demand of the market, that disagreement does not mean that Dr. Ugone’s analysis “lacks any economic or logical basis.” (RB56.)

In addition, Limelight heavily criticizes Dr. Ugone’s choice not to use other techniques to determine elasticity of demand. (*Id.*) But Dr. Ugone specifically explained that he did not have sufficient data to use regression analysis (A506), and that, in his opinion, the Lerner Index calculation always returned a relatively elastic figure for demand and thus is an inappropriate tool for analysis of a relatively price-insensitive market (A527-29). All of this was a matter for consideration by the jury. It is not a ground for holding the jury verdict impermissible.

### **3. Limelight’s Analogy to *BIC* Fails**

Limelight’s reliance on *BIC Leisure Products, Inc. v. Windsurfing International, Inc.*, 1 F.3d 1214, 1218 (Fed. Cir. 1993), is misplaced. (Br. 55, 57.)

In *BIC*, the patentee’s sailboard product was also twice the price of the infringer’s product. But the similarities end there. In *BIC*, the sailboard market was split, with higher-end, competition-qualified sailboards, like the patentee’s product, at

one end and the lower-end recreational sailboards, like the infringer's product, at the other. 1 F.3d at 1216-17. In that scenario, this Court found that the patentee's competition-qualified product was not a substitute for the infringer's lower-end product. *Id.* at 1218. Moreover, the record in *BIC* showed that the market for sailboards is relative *elastic*, especially for the lower-end products. *Id.* Simply put, in the "but for" world without the infringing product, the customer in the market for the lower-end infringing product would have purchased another lower-end product from one of the dozen other competitors rather than the patentee's product. *Id.* at 1216-17. Thus, this Court denied lost profits because the patentee failed to establish a reasonable probability that the infringer's customers would have bought from the patentee in proportion with the patentee's market share. *Id.* at 1219.

Here, in contrast, Akamai's and Limelight's services are admittedly the only reasonable substitutes in the market for many customers, *supra* 51-52, and the market is relatively inelastic, *supra* 53. Thus, there can be no credible comparison between this case and *BIC*.

#### **4. The Other Cases Cited by Limelight Are Inapposite**

Limelight relies on *DSU Medical Corp. v. JMS Co.*, 471 F.3d 1293, 1309 (Fed. Cir. 2006), for the proposition that the reconstruction of the market must include some footing in economic principle. (RB54.) But this case is nothing like

*DSU*, where this Court affirmed the exclusion of the expert's lost profits testimony because he relied on a theory involving "hypothesized terms in hypothesized contracts." *DSU*, 471 F.3d at 1308. Here, as noted above, this Court has repeatedly accepted Dr. Ugone's adjusted market share methodology. (A500-03.)

Limelight cites *Water Technologies Corp. v. Calco, Ltd.*, 850 F.2d 660, 673-74 (Fed. Cir. 1988) (RB56), for the proposition that this Court should reverse the jury's lost profits award because Akamai's service costs significantly more than Limelight's service. But this Court reversed the jury's lost profits award in *Water* because the patentee had utterly failed to show that it had the capacity to make the sales, not because one product was twice the price of the other. *Water*, 850 F.2d at 672-73. This case does not help Limelight.

##### **5. After Considering the Evidence, the Jury Awarded About Half of Akamai's Damages Expert's Recommendation**

In the end, the jury chose not to completely accept Dr. Ugone's lost profits calculation, but instead awarded a much lower amount in lost profits damages. Akamai's expert calculated that Akamai's lost profits were either approximately \$63 million or \$73 million, depending on the period of infringement. (A513; A509-10.) After considering the substantial evidence in support of Dr. Ugone's calculations, the jury only awarded just over \$40 million in lost profits. This reduced award was more than supported by the evidence.

**B. The District Court's Instructions to the Jury on Lost Profits Were Proper and Do Not Warrant a New Trial**

Limelight contends that the district court erred by failing to give Limelight's proposed jury instruction on lost profits, and further erred by failing to "mention" the particular need for nonspeculative evidence of lost profits. (RB57.) As a threshold matter, Limelight did not object on the record to the district court's instruction on lost profits (A823-26), as required by Rule 51 and controlling First Circuit precedent, *see supra* at 36-37. Moreover, Limelight's offer of the alternative instruction is not equivalent to an objection. *Id.*

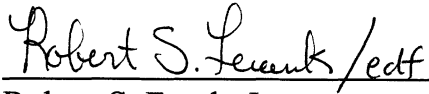
More importantly, the district court actually gave an instruction that speculation was impermissible. (A822 ("The amount of lost profits must be proved with reasonable certainty and cannot be left simply to speculation.").) Perhaps these words are not exactly as Limelight would have said them, but this hardly amounts to the type of plain error required when a party fails to object, *supra* at 36-37. Thus, at most, the district court's decision not to read Limelight's jury instruction word for word is harmless error, not warranting a new trial.

**IX. CONCLUSION**

For the reasons above and in Akamai's opening brief, this Court should reverse the district court's JMOL of noninfringement, reinstate the jury's verdict on infringement and damages, and reverse the district court's construction of the

“alphanumeric string” and “given name server” limitations in claim 1 of the ’645 patent and claims 8, 18, and 20 of the ’413 patent.

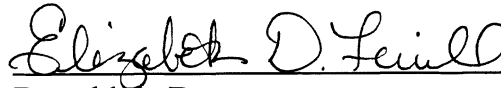
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February 10, 2010



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2009-1372, -1380, -1416, -1417

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**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT**

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AKAMAI TECHNOLOGIES, INC.,  
*Plaintiff-Appellant,*  
and

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,  
*Plaintiff-Appellant,*

v.

LIMELIGHT NETWORKS, INC.,  
*Defendant-Cross Appellant.*

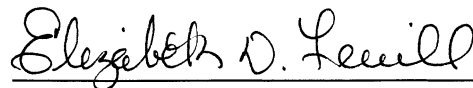
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**DECLARATION OF AUTHORITY**

In accordance with Federal Circuit Rule 47.3(d) and pursuant to 28 U.S.C. § 1746, I, Elizabeth D. Ferrill, hereby declare under penalty of perjury that Robert S. Frank, Jr. has authorized me to sign the foregoing RESPONSE AND REPLY BRIEF OF PLAINTIFFS-APPELLANTS AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY on his behalf.

February 10, 2010

Respectfully submitted,



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## **CERTIFICATE OF SERVICE**

I hereby certify that copies of the foregoing RESPONSE AND REPLY BRIEF OF PLAINTIFFS-APPELLANTS AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY were served by Federal Express on this 12<sup>th</sup> day of February, 2010, on the following counsel of record:

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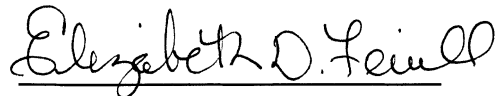
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**CERTIFICATE OF COMPLIANCE**

I certify that the foregoing RESPONSE AND REPLY BRIEF OF PLAINTIFFS-APPELLANTS AKAMAI TECHNOLOGIES, INC. AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY contains 13,753 words as measured by the word processing software used to prepare this brief.

Dated: February 10, 2010

Respectfully submitted,



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