United States Court of Appeals for the Federal Circuit

03-1341, -1366

NCUBE CORPORATION (now C-COR Inc.),

Plaintiff-Cross Appellant,

v.

SEACHANGE INTERNATIONAL, INC.,

Defendant-Appellant.

Robert J. Gunther, Jr., Latham & Watkins LLP, of New York, New York, argued for plaintiff-cross appellant. With him on the brief were David A. Nelson and Israel Sasha Mayergoyz, of Chicago, Illinois. Of counsel was Mary B. Graham, Morris, Nichols, Arsht & Tunnel, of Wilmington, Delaware.

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Appealed from: United States District Court for the District of Delaware

Judge Joseph J. Farnan, Jr.

United States Court of Appeals for the Federal Circuit

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NCUBE CORPORATION (now C-COR Inc.),

Plaintiff-Cross Appellant,

v.

SEACHANGE INTERNATIONAL, INC.,

Defendant-Appellant.

DECIDED: January 9, 2006

Before RADER, Circuit Judge, FRIEDMAN, Senior Circuit Judge, and DYK, Circuit Judge.

Opinion for the court filed by Circuit Judge RADER. Dissenting opinion filed by Circuit Judge DYK.

RADER, Circuit Judge.

Background

After the U.S. District Court for the District of Delaware construed the relevant claims, a jury found SeaChange International, Inc. (SeaChange) to have willfully infringed, literally and under the doctrine of equivalents, claims 1-4, 6-10, 12, and 14 of nCube Corporation's (nCube's) U.S. Patent No. 5,805,804 (Sept. 8, 1998) (the '804 patent). The trial judge denied SeaChange's motions for Judgment as a Matter of Law (JMOL) on literal infringement, willfulness, and indirect infringement for incomplete systems sold to Scientific-Atlanta Corp., but vacated the jury's verdict of infringement under the doctrine of equivalents. The judge also denied SeaChange's motion

requesting a new trial, and awarded nCube double its actual damages and two-thirds of its attorney fees. Because the court properly decided the JMOL motions, this court affirms. Because the trial court did not abuse its discretion in making its damages and attorney fees awards, this court also affirms those awards.

Discussion

This court applies the same standard of review as that applied by the trial court when reviewing a JMOL motion following a jury verdict. See Callicrate v. Wadsworth Mfg., Inc., 427 F.3d 1361 (Fed. Cir. 2005). Thus, to prevail, SeaChange must show that the jury lacked substantial evidence for its verdict, viewing the evidence most favorably to the non-movant. See Kinnel v. Mid-Atlantic Mausoleums, Inc., 850 F.2d 958, 962 (3d Cir. 1988).

A jury verdict of willfulness requires a finding "by clear and convincing evidence in view of the totality of the circumstances that [the defendant] acted in disregard of the . . . patent and lacked a reasonable basis for believing it had a right to do what it did." Amsted Indus. Inc. v. Buckeye Steel Castings Co., 24 F.3d 178, 181 (Fed. Cir. 1994). Therefore, "[this court] must determine whether there is substantial evidence, when viewed as a whole, upon which a jury could [find willful infringement] under the clear and convincing evidence standard." Braun, Inc. v. Dynamics Corp. of Am., 975 F.2d 815, 822-23 (Fed. Cir. 1992).

This court reviews a district court's exceptional case finding for clear error. Pharmacia & Upjohn Co. v. Mylan Pharms., Inc., 182 F.3d 1356, 1359 (Fed. Cir. 1999). Criteria for declaring a case exceptional include willful infringement, bad faith, litigation misconduct, and unprofessional behavior. See Sensonics, Inc. v. Aerosonic Corp., 81

F.3d 1566, 1574 (Fed. Cir. 1996). This court reviews increased damages awards or attorney fees for abuse of discretion. Electro Scientific Indus., Inc. v. Gen. Scanning Inc., 247 F.3d 1341, 1349 (Fed. Cir. 2001).

The denial of a motion for a new trial is a procedural issue not unique to patent law which this court reviews under the law of the appropriate regional circuit -- in this case, the United States Court of Appeals for the Third Circuit. Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co., 308 F.3d 1167, 1182 (Fed. Cir. 2002). The Third Circuit reviews a district court's decision whether to grant a new trial on the basis that the verdict is against the weight of the evidence, for abuse of discretion. Greenleaf v. Garlock, Inc., 174 F.3d 352, 366 (3d Cir. 1999).

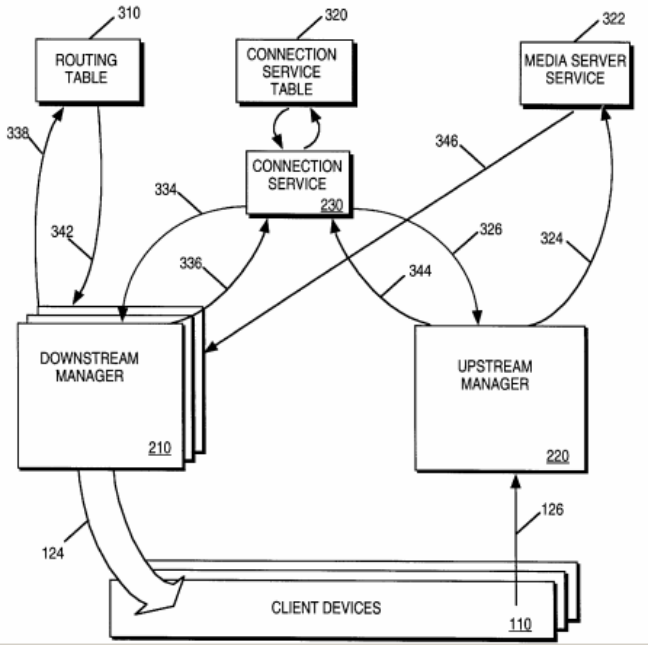
A. Claim Interpretation

The '804 patent claims a "Method and Apparatus for Scalable, High Bandwidth Storage Retrieval and Transportation of Multimedia Data on a Network." The '804 patent provides "a better means and method for providing multimedia data in a networked system," (Col. 2, ll. 15-16)[*] by allowing a client flexible access to various multimedia sources over a network. Claim 1 of the '804 patent teaches:

> 1. A high bandwidth, scalable server for storing, retrieving, and transporting multimedia data to a client in a networked system, said server comprising:
>
> an upstream manager receiving messages from said client and routing said messages to an appropriate service on said server, said upstream manager being coupled to a first network;
>
> a downstream manager sending a stream of said multimedia data from said appropriate service on said server to said client, said downstream manager being coupled to a second network; and
>
> a connection service for maintaining information to connect said client, said upstream manager, said downstream manager, and said appropriate service on said server.

[*] All column and line references are to the '804 patent.

In the invention, as shown in Fig. 6 from the ’804 patent below, the client communicates his desires to the system using a client device 110. The upstream manager 220 accepts a message, e.g., a request for a particular service, from the client device and routes them to the media server service 322, which will supply that service.



The client may request such services as interactive shopping, news, games, education, movies, etc. The downstream manager 210 sends the data, i.e., the requested service, to the client device 110. (Col. 16, ll. 11-18) The additional elements in the figure deal with managing the requested service data flows to the requesting client, including obtaining and associating the addresses of the client and the appropriate media server.

This court must interpret the terms governing operation of an “upstream manager” and use of addresses in the invention. As mentioned, the invention of the ’804 patent allows the client to receive requested material from different types of networks. This function, in turn, requires the invention to accommodate the addressing

schemes of each separate network, which may differ from one another. In order to accommodate the different types of addresses for each data link, the network protocol of the invention superimposes its own independent addresses on top of those of the nodes used in the diverse links of the various networks. (Col. 13, ll. 11-16.) Thus, the invention can route commands and data from the requesting client to the appropriate media server by using the system's own network protocol. As part of this scheme, the connection service described in the specification assigns a "logical" (i.e., ad hoc) address to the "physical" address (i.e., the real physical location) of a client, in the connection manager 230. (Col. 17, ll. 27-51). The relationship between the logical and related physical addresses is stored in the connection service table 320.

The trial court construed the term "Upstream Manager" as follows:

> Upstream Manager: a computer system component that (a) accepts messages from a client bound for services on a server; (b) routes messages from a client to services on a server; and (c) is distinct from the Downstream Manager.

The parties agree on this much of the construction, but SeaChange seeks further limitation. In particular, SeaChange contends that the upstream manager must (d) receive and route all messages from clients that are "bound for" services, and (e) must do so using only logical, not physical, addresses, of both sender and receiver of a message. SeaChange also reserves an argument of noninfringement even under the court's claim construction.

The district court's claim construction correctly does not require the upstream manager to receive and route all messages from a client bound for a server. The patent claims require that the upstream manager receive messages from the client and the downstream manager send data to the client, but do not make these the exclusive

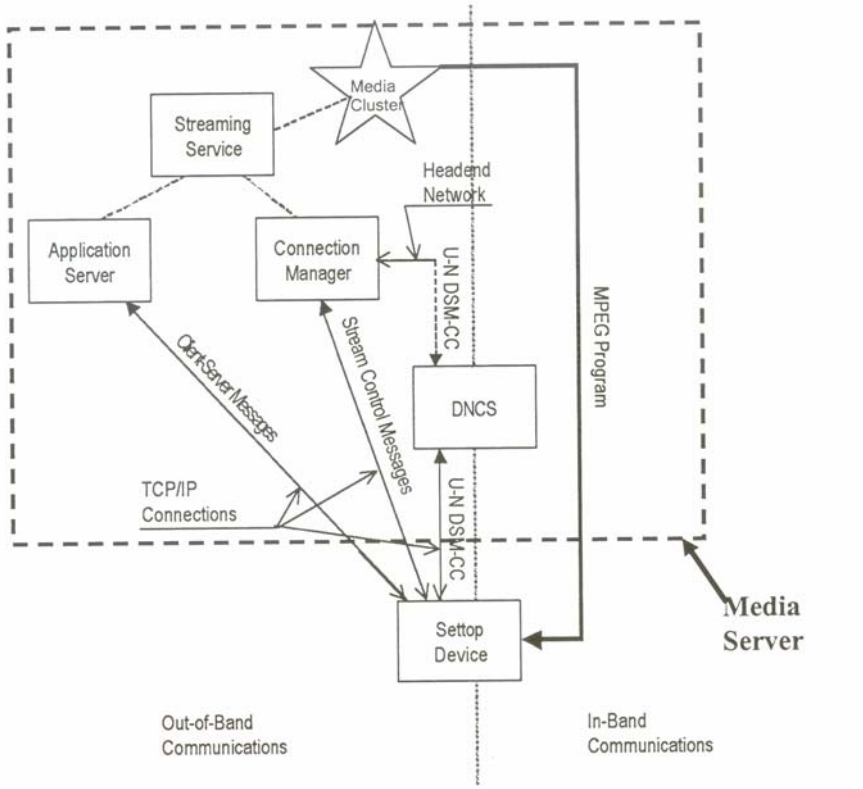
functions of the units. Figures 1, 2, and 6 of the specification show that the paths from the client to the upstream manager are unidirectionally upward, and from the downstream manager to the client unidirectionally downward, and the text of the specification reflects this asymmetry. (Col. 3, ll. 21-22.) However, the specification describes only one embodiment of the invention, and encompasses divergence from that embodiment: "[i]t may be the case that some server process, under the direction of an external network control node, actually establishes contact with the client." (Col. 17, ll. 24-26). Thus, the district court correctly stated that the claims encompass this form of communication.

The trial court's construction of "upstream manager" also correctly reflects that this element may route messages using either logical or physical addresses. In the embodiment described in the specification "all routing is accomplished based on logical addresses, not physical addresses." (Col. 23, ll. 1-4). Thus, "packets (and therefore messages) only contain logical addresses of the sender and receiver." Id. The logical address of a client is used to establish a unique "virtual circuit" for connection with that client. (Col. 17, ll. 28-48). However, the upstream manager of claim 1 is broader than the upstream manager of this embodiment. The creation of a virtual circuit, or "virtual connection," appears only in dependent claim 2 as a "further" function of the connection service. The use of a client logical address first appears specifically only in claim 4. The embodiment described in the specification, in which the service request message includes the client's downstream logical address and a service destination logical address, is specifically described in unasserted claims 5 and 11. Claim 1 does not describe an upstream manager that requires routing only with logical addresses. To

read a requirement for use of logical addresses into claim 1 would impermissibly read the "virtual connection" limitation of claim 2 into claim 1, making these claims redundant. See, e.g., LizardTech, Inc. v. Earth Res. Mapping, Inc., 424 F.3d 1336, 1344 (Fed. Cir. 2005). In this case, the claim term "upstream manager" is not "so amorphous that one of skill in the art can only reconcile the claim language with the inventor's disclosure by recourse to the specification." Comark Commc'ns, Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed. Cir. 1998). It is clear that the upstream manager of claim 1 routes messages. This court need not interpret what the patentee meant by "upstream manager" in this claim by importing the limitation of claim 2 into this term. See E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co., 849 F.2d 1430, 1433 (Fed. Cir. 1988) (holding that it is improper to read a limitation "into a claim from the specification wholly apart from any need to interpret what the patentee meant by particular words or phrases in the claim."). The prosecution history does not contradict the district court's interpretation. During prosecution, the inventor differentiated the invention from the prior art of Mizuhara in several ways: not only by describing the uniqueness of its use of logical addresses, but also by demonstrating that Mizuhara did not teach a partitioned architecture, separating the functions of upstream and downstream managers, and connection service.

B. Infringement

SeaChange's systems, used by cable TV networks, are illustrated below.



In these systems, the hardware is part of a uniform network although the physical connections within the network may be of various physical types, such as coaxial cable or optical fiber. Addressing protocols are uniform throughout these systems. To receive a particular program, a client requests the program from the CM block through the block labeled DNCS. The CM then finds a free transmission channel, assigns the desired program to the free channel, and instructs the client to "tune" to that channel. In SeaChange's Cable TV systems, the only message received (and "routed") from the client is the request for service, which the DNCS routes to the CM. The client may

interact with the service, to start, stop, rewind, etc., but that interaction is directly with the service provider.

nCube asserted at trial that the DNCS "functions as" an upstream manager, the media cluster (the star in the Figure) "operates as" the downstream manager, and the connection manager and streaming service "constitute a single component" which "ties" all the resource elements together. The jury agreed, finding that SeaChange literally infringed the '804 patent. SeaChange contends that its DNCS is not an upstream manager as that unit was construed by the district court.

The jury heard extensive evidence on infringement. The evidence included the testimony of nCube's expert, Dr. Schonfeld, who opined that the DNCS routes messages to services on the server. This expert specifically stated that the upstream manager in the SeaChange system is the DNCS, which receives messages from the set-top device, and sends messages over the network. Dr. Schonfeld further opined that the DNCS routes a service request from a client to watch a specific movie. Thus, he identified the DNCS as the upstream manager. On cross-examination, Dr. Schonfeld repeated his opinion that the DNCS is an upstream manager. The jury was also presented with evidence from SeaChange's technical documents which, it could have concluded, confirmed Dr. Schonfeld's opinion that SeaChange's DNCS receives messages and performs routing. SeaChange does not cite any expert or other testimony presented to the jury that contradicts Dr. Schonfeld's opinion.

Seachange argues to this court that this expert opinion is contradicted by the factual record and thus cannot support the jury's verdict. See Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 242 (1993) ("When an expert

opinion is not supported by sufficient facts to validate it in the eyes of the law, or when indisputable record facts contradict or otherwise render the opinion unreasonable, it cannot support a jury's verdict."). However, Dr. Schonfeld supported his opinion by relying on SeaChange's own technical documents. Although the jury was not required to accept that opinion, even if it was not contradicted, U. S. Philips Corp. v. Windmere Corp., 861 F.2d 695, 704 (Fed. Cir. 1988), it found Dr. Schonfeld credible. This court declines to "second guess" the jury's determinations. Comark, 156 F.3d at 1192 ("It is not the province of an appellate court to second guess the jury's credibility determinations or to reevaluate the weight to be given the evidence.") The district court accorded the jury appropriate deference. See Fuji Photo Film Co., Ltd. v. Jazz Photo Corp., 394 F.3d 1368, 1379 (Fed. Cir. 2005). Therefore, this court sustains the district court's denial of JMOL on the jury's verdict of literal infringement.

B. Willful Infringement

The jury also found willful infringement. Willfulness requires a showing that the totality of the circumstances evince the egregious conduct that constitutes willful infringement. Imonex Servs., Inc. v. W.H. Münzprüfer Dietmar Trenner GMBH, 408 F.3d 1374, 1377 (Fed. Cir. 2005).

Actual notice of another's patent rights triggers an affirmative duty of due care to avoid infringement. See Rolls-Royce Ltd. v. GTE Valeron Corp., 800 F.2d 1101, 1109 (Fed. Cir. 1986). Willful infringement in this case hinges on when the defendants had actual knowledge of plaintiff's patent rights, and their actions after that time. nCube does not argue that SeaChange knew of the '804 patent before it filed suit, but rather attacks Seacube's reliance on the opinion letter it obtained after suit was filed. nCube

asserts that the opinion letter, which counsel shared with SeaChange management, was flawed because SeaChange manipulated the information given to counsel to ensure an opinion of non-infringement. nCube also casts doubt on the trustworthiness of the letter because SeaChange produced early drafts of the letter only after trial.

The record shows that at least one important technical document was not supplied to SeaChange's opinion counsel. Thus, "the best information [was] intentionally not made available to counsel during the preparation of the opinion, [so that] the opinion can no longer serve its prophylactic purpose of negating a finding of willful infringement." Comark, 156 F.3d at 1191. Therefore, the record contains substantial evidence upon which a jury could have found willful infringement under the clear and convincing evidence standard.

C. Indirect Infringement

SeaChange sold systems without the DNCS component to Scientific-Atlanta Corp. because Scientific-Atlanta cable systems contained their own equivalents of this component. The court's unopposed jury instructions stated that SeaChange "would be an infringer if it actively and knowingly aided or abetted someone to make, use, sell, or offer to sell the entire product covered by the claims of the patent in suit. This is called inducing infringement." See Hewlett-Packard Co. v. Bausch & Lomb, Inc., 909 F.2d 1464, 1469 (Fed. Cir. 1990) (stating that "proof of actual intent to cause the acts which constitute the infringement is a necessary prerequisite to finding active inducement" under 35 U.S.C. § 271(b).). However, the jury verdict form did not distinguish these systems from others sold by SeaChange. Thus, the jury's verdict that SeaChange was

guilty of inducing infringement for sales of these systems was subsumed into its overall verdict of infringement.

On appeal, SeaChange argues that sales of its systems to customers using Scientific-Atlanta network equipment could not constitute indirect infringement. SeaChange asserts that there is no evidence that it knew that these sales would result in actual infringement of the patent, so that SeaChange could not have intended to induce infringement.

To show intent for indirect infringement, "a patentee must be able to demonstrate at least that the alleged inducer had knowledge of the infringing acts." MercExchange, LLC v. eBay, Inc., 401 F.3d 1323, 1332 (Fed. Cir. 2005). SeaChange argues that it did not have such knowledge because it did not know of nCube's infringement allegations until this lawsuit was filed, and at that time it consulted counsel, who advised that the design of its system did not infringe the '804 patent. In its finding of willfulness, however, the jury found otherwise.

A patentee may prove intent to induce infringement through circumstantial evidence. Metabolite Labs. Inc. v. Labs. Corp. Am., 370 F.3d 1354, 1365 (Fed. Cir. 2004). The record contains sufficient circumstantial evidence to support the jury's verdict of induced infringement. This evidence included SeaChange's documents, as well as the testimony of SeaChange's vice-president of engineering, which showed that the SeaChange system operated with a customer's own DNCS component. The record shows that SeaChange sold ITV systems for use with Scientific-Atlanta equipment with the intent that customers would use them to perform the patented method, thus supporting the jury's incorporation of these systems in its verdict of literal infringement.

D. Enhanced Damages and Attorney Fees

Defendants dispute the finding by the trial court that this case is exceptional. In an exceptional case, a court may award attorney fees. 35 U.S.C. § 285 (2000). Further, "the trial court has broad discretion in the criteria by which it determines whether to award attorney fees." Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1582 (Fed. Cir. 1992).

The trial court awarded enhanced damages on the basis of the jury's willfulness finding and the Read factors for enhancing damages. See Read Corp. v. Portec, Inc., 970 F.2d 816 (Fed. Cir. 1992). Most importantly, the court found that the case for literal infringement was not close. Moreover, SeaChange deliberately copied the invention in its products without investigating the scope of the patent. Thus, SeaChange had not formed a good faith belief excusing its conduct. Accordingly, the trial court declared this an exceptional case under 35 U.S.C. § 285 and awarded attorney fees. This court detects no clear error in any of the court's subsidiary factual findings leading to its conclusion that this was an exceptional case. Further, this court perceives no abuse of discretion in the trial court's award of attorney fees.

E. Denial of Motion for New Trial

As discussed above, the weight of the evidence was sufficient for the jury's verdicts on literal infringement, willfulness, and indirect infringement. Therefore, this court sustains the district court's denial of a new trial.

F. Cross-Appeal on Infringement under the Doctrine of Equivalents

The jury held that SeaChange's systems infringed the '804 patent under the doctrine of equivalents. The trial court granted nCube's JMOL motion on this decision.

During trial nCube did not raise separate and distinct arguments for infringement under the doctrine of equivalents, and elicited no expert testimony on this subject. nCube argues nevertheless that the record contains substantial evidence supporting the jury's verdict, because the evidence supporting literal infringement of claim 10 also supports a finding of infringement under the doctrine of equivalents.

To the contrary, this court has articulated distinct rules for the evidence showing infringement under the doctrine of equivalents. See Texas Instruments, Inc. v. Cyprus Semiconductor Corp., 90 F.3d 1558, 1566-68 (Fed. Cir. 1996). "The party asserting infringement must present 'evidence and argument concerning the doctrine and each of its elements.' The evidence and argument on the doctrine of equivalents cannot merely be subsumed in plaintiff's case of literal infringement." Lear Siegler, Inc. v. Sealy Mattress Co. of Mich., Inc., 873 F.2d 1422, 1425 (Fed. Cir. 1989) (Internal citations omitted) (Emphasis in original). Not having satisfied this evidentiary burden, nCube's arguments do not persuade this court.

Conclusion

For the reasons stated above, this court affirms the trial court's denials of JMOL on literal infringement and willfulness for all of the systems it sold, its award of enhanced damages and attorney fees, its grant of JMOL on the jury verdict of infringement under the doctrine of equivalents, and its denial of defendant's motion for a new trial.

COSTS

Each party shall bear its own costs.

AFFIRMED

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DYK, Circuit Judge, dissenting.

While I agree with much of the majority opinion, I respectfully dissent from the majority's decision upholding the verdict of infringement. In my view there was insufficient evidence that the requirement of an "upstream manager" was satisfied. The majority has broadened a poorly drafted patent to cover an invention that was not actually claimed or described in the specification.

I

The '804 patent claims a "Method and Apparatus for Scalable, High Bandwidth Storage Retrieval and Transportation of Multimedia Data on a Network." It relates to an "information storage and transport system[]" which delivers "data streams over a network," from a server to client devices. Col. 1 ll. 10-11. The system supports various types of client devices, including "set-top boxes" (which permit consumers to download video and view it on their television sets), personal digital assistants, and video phones. Col 2 ll. 18-20; Col 3 ll. 23-28. Claim 1 of the '804 patent recites:

> 1. A high bandwidth, scalable server for storing, retrieving, and transporting multimedia data to a client in a networked system, said server comprising:
>
> an upstream manager receiving messages from said client and routing said messages to an appropriate service on said server, said upstream manager being coupled to a first network;
>
> a downstream manager sending a stream of said multimedia data from said appropriate service on said server to said client, said downstream manager being coupled to a second network; and
>
> a connection service for maintaining information to connect said client, said upstream manager, said downstream manager, and said appropriate service on said server.

Col. 25 ll. 1-16 (emphases added). The server stores and manages various types of data, including audio and video, and sends that data to client devices upon request. Col. 2 ll. 31-38. The component of the server that sends the data to the clients is called a "service."

The client and server communicate via components called the "upstream manager" and "downstream manager." "The upstream manager 220 (USM) accepts messages from [client devices] and routes them to services on the media server 100." Col. 16 ll. 11-13. The media server then supplies the requested service to the client device via the "downstream manager," which "sends a stream of data [from the services on the media server] to a [client device]." Col. 16 ll. 17-18.

The key innovation of the '804 patent relates to how the upstream and downstream data are "addressed" to their recipients. Col. 13 ll. 11-16. In computer networks, data is sent between the client and server in the form of "data packets," each of which contains its own destination address. Col. 16 ll. 24-39. The '804 innovation provided an approach that did not utilize the "physical" address of the recipient of the data packets. The physical address is "[t]he actual, machine address of an item or device." A. Freedman, The Computer Glossary (9th ed. 2001). It "reflects the physical

topology of the network . . . ." Dictionary of Computing 9 (4th ed. 1996) (defining "addressing"). However, keeping track of physical addresses is complicated when data packets must be sent between different types of networks that use different physical addressing schemes. Col. 13 ll. 11-15. The present invention resolves this problem by "defin[ing] its own independent address space," called a "logical" address space. Id.; see generally Col. 12 l. 31 – Col. 15 l. 56. A logical address "reflect[s] the administrative or functional relationships [among the addressed entities]." Oxford, supra at 9.[1] Data packets that are sent between the server and client are routed using this logical addressing scheme. The specification states that "[i]t is important to note that all routing is accomplished based on logical addresses, not physical addresses." Col. 23 ll. 1-2 (emphasis added).

The "upstream manager" is a key component in this system, and is required by every claim in the '804 patent. The district court construed the term "upstream manager" as "a computer system component that (a) accepts messages from a client bound for services on a server; (b) routes messages from a client to services on a server; and (c) is distinct from the downstream manager." nCube Corp. v. SeaChange Int'l, No. 01-11-JJF, slip op. at 9 (N.D. Del. May 23, 2002). Under this claim interpretation, it sustained the jury's verdict that Seachange infringed claims 1-4, 6, 7, 9, 10, 12, and 14 of the '804 patent. The majority upholds the district court's claim construction. Seachange argues, and I agree, that this claim construction erroneously

[1] A telephone number is an example of a logical address, while the port to which the telephone is connected is a physical address. Newton's Telecom Dictionary 645 (21st ed. 2005). "A logical address . . . may have no fixed physical address." Id. That is, a person might move from one home to another, keeping the same telephone number.

omitted the further requirement that the upstream manager route messages bound for services on the server using logical addresses. Under the proper claim construction, there was insufficient evidence to support the verdict of infringement because there is no evidence the accused device uses logical addresses for any purpose.

II

Under Phillips, "the words of a claim 'are generally given their ordinary and customary meaning,' [which] . . . is the meaning that the [words] would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.'" Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal citations omitted). The specification plays a key role in determining this meaning: "the specification is 'always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." Id. at 1315 (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Ultimately, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Id. at 1316; see also V-Formation, Inc. v. Benetton Group SpA, 401 F.3d 1307, 1311 (Fed. Cir. 2005) (restricting the meaning of the claim term "releasably attaching" to require that the attached components be easily removed and replaced). Here, the construction of "upstream manager" that most naturally aligns with the '804 patent's description of the invention requires the use of logical addressing.

The use of logical addressing is a critical part of the invention embodied in the '804 patent. A section of the patent entitled "The Network Protocol of the Present Invention" describes logical addressing, and explains why routing by logical addressing

is important: "[b]ecause a packet may travel through several different types of underlying networks, each with their own [physical] addressing schemes, the network protocol of the present invention defines its own independent [logical] address space. This technique hides the many different types of addresses in use for each type of data link." Col. 13 ll. 11-16; see also Col. 12 l. 31 – Col. 15 l. 56. Hence, "[t]he [logical addressing scheme] of the present invention provides the communication backbone that allows services scattered across heterogeneous, asymmetric networks to communicate with each other transparently." Col. 12 l. 32-35. It "enables [services] to communicate transparently across the complex asymmetrical networks . . . ." Col. 15 ll. 50-53.

As noted above, "[t]he upstream manager 220 (USM) accepts messages from [client devices] and routes them to services on the media server 100." Col. 16 ll. 11-15. The specification reveals that the upstream manager accomplishes this routing using logical addressing. The patent describes the upstream manager and downstream manager as a "gateways that bridge . . . different types of networks." The upstream manager bridges these different types of networks by routing messages (which contain only logical addresses) from clients to their server destinations. Col. 16 ll. 24-25. The downstream manager completes the bridge by directing the downstream data stream to its ultimate destination. As noted above, the use of the independent, logical addressing scheme "hides the many different types of [physical] addresses in use" in the underlying networks. Col. 13 ll. 14-15. Because these physical addresses are hidden, the client device is relieved of the burden of identifying the upstream physical destinations of the messages it sends; it relies on the upstream manager to perform this routing function.

Nowhere does the ‘804 patent disclose or suggest that the upstream manager routes messages from a client using physical, as opposed to logical addresses. Indeed, if the upstream manager could not route messages from the client using logical addresses, then the purpose of the invention--to substitute logical for physical addresses--would be defeated. See col. 13 ll. 14-15. The patentee here offered no expert testimony suggesting that those skilled in the art would not read the patent to include a device using logical addresses.

III

The majority relies on three theories in support of the proposition that “the [upstream manager] may route messages using either logical or physical addresses.” Maj. Op., ante, at 6-7.

First, although the majority appears to recognize that there is no reference in the specification to the use of physical addresses, the majority suggests that the specification’s explicit statement that “all routing is accomplished based on logical addresses, not physical addresses” applies only to the preferred embodiment. Col. 23 ll. 1-2.

Of course, that a patent describes only a single embodiment does not mean the claims of the patent must be construed as limited to that embodiment. See, e.g., Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed. Cir. 2004). However, the claims will be read restrictively if the patentee has demonstrated a clear intention to limit the claim scope. Id.; see also Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1327 (Fed. Cir. 2002). Moreover, “the characterization of [a limitation] as part of the ‘present invention’ is strong evidence that the claims should not be read to encompass the

opposite structure." SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1343 (Fed. Cir. 2001); see also Wang Labs., Inc. v. America Online, Inc., 197 F.3d 1377, 1383 (Fed.Cir.1999); Modine Mfg. Co. v. U.S. Int'l Trade Comm'n, 75 F.3d 1545, 1551 (Fed.Cir.1996).

Here, the patentee clearly demonstrated that the upstream manager accomplishes routing by logical addressing. The specification characterizes the "present invention" as including the logical addressing limitation:

> "[b]ecause a packet may travel through several different types of underlying networks, each with their own [physical] addressing schemes, the network protocol of the present invention defines its own independent [logical] address space. This technique hides the many different types of addresses in use for each type of data link."

Col. 13 ll. 11-16 (emphasis added). Under SciMed, the use of the term "present invention" is strong evidence that the use of logical addressing applies to the invention as a whole, not just the preferred embodiment. Moreover, as noted above, if the client could not send messages using logical addresses, the purpose of the "present invention"--to substitute logical for physical addresses--would be defeated.

Second, the majority urges that reading claim 1 to include a logical addressing limitation would "impermissibly read the 'virtual connection' limitation of claim 2 into claim 1, making these claims redundant." Maj. Op. at 6-7. Claim 2 recites: "The server in claim 1 wherein said connection service further creates a virtual connection between an upstream address and a downstream address for said client." Col. 25 ll. 17-20. Even assuming that logical addressing is sufficient to create a virtual connection, reading claim 1 to include logical addressing does not make the two claims redundant, because claim 1 does not contain a requirement that the connection service create a

virtual connection. Claim 2 adds simply that requirement. There is thus no inconsistency in reading "upstream manager" in claim 1 to require logical addressing.

Third, the majority points out that unasserted claims 5 and 11 specifically refer to logical addresses. Maj. Op. at 6-7. In contrast, the asserted claims do not. The majority suggests that the presence of the references to logical addresses in the unasserted claims indicates that the omission of logical addresses from the asserted claims was intentional; hence, the asserted claims do not require logical addressing. Id.

In my view the majority misreads claims 5 and 11 to add the requirement that routing be accomplished by logical addressing. Id. Rather, these claims simply recite a specific means of using logical addresses that are already required by the upstream manager. Claim 5 recites:

> 5. The computer-implemented method in claim 4 wherein further comprising the steps of:
>
> receiving a service request message from said client to said server via said upstream manager, said service request corresponding to said service on said server, said service request message including said client downstream logical address and a service destination logical address;
>
> generating a response message from said server to said client, said response message including said client downstream logical address; and
>
> sending said response message to said client via said downstream manager.

Col. 25, ll.43-55 (emphases added). Claim 5 describes a method of handling logical addressing when a specific type of message--a service request message--is sent by the client device. It describes a situation in which the client logical address and downstream logical address are provided in the service request message, and a response is generated which includes the downstream logical address. The purpose of the claim is to claim that particular method, not to add a requirement for logical addressing. Therefore the omission of the term "logical address" from the asserted

claims does not reflect the claimant's intent that logical addressing not be part of those claims. The same analysis applies to Claim 11, which rewrites Claim 4 in means-plus-function form.[2]

In my view the upstream manager includes a requirement that the upstream manager route messages using logical addresses. Because nCube presented no evidence that the alleged upstream manager in the accused device uses logical addresses to send messages to any service on the server, I would reverse the verdict of infringement. I thus would not reach the question--addressed by the majority--whether all client communications must be routed through the upstream manager.

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[2] Claim 11 recites:

> 11. The server as claimed in claim 10 further including:
> means for receiving a service request message from said client via said upstream manager, said service request corresponding to said service on said server, said service request message including said client downstream logical address and a service destination logical address;
> means for generating a response message to said client, said response message including said client downstream logical address; and
> means for sending said response message to said client via said downstream manager.

Col. 26, ll. 32-46. Claim 11 describes a server which includes several means directed to the handling of logical addressing when a specific type of message is sent by the client device. The purpose of the claim is to claim those particular means, not to add a requirement for logical addressing.