United States Court of Appeals for the Federal Circuit

99-1257

NETWORD, LLC,

Plaintiff-Appellant,

v.

CENTRAAL CORPORATION,

Defendant-Appellee.

Maxim H. Waldbaum, Pryor Cashman Sherman & Flynn LLP, of New York, New York, argued for plaintiff-appellant. With him on the brief were Lora A. Moffatt, and Xuan-Thao N. Nguyen.

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Appealed from: United States District Court for the Eastern District of Virginia

Judge Leonie M. Brinkema

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DECIDED: March 14, 2001

Before NEWMAN, Circuit Judge, ARCHER, Senior Circuit Judge, and CLEVENGER, Circuit Judge.

Opinion for the court filed by Circuit Judge NEWMAN. Dissenting opinion filed by Circuit Judge CLEVENGER.

NEWMAN, Circuit Judge.

Network, LLC, appeals the summary judgment of the United States District Court for the Eastern District of Virginia, ruling that claim 1 of Network's United States Patent No. 5,764,906 (the '906 patent) is not infringed by Centraal Corporation's RealNames system, either literally or under the doctrine of equivalents.[1] We affirm the judgment of non-infringement.

I

CLAIM CONSTRUCTION

An infringement analysis entails two steps. In the first step the court "construes" the patent claims by establishing the scope and boundaries of the subject matter that is patented, as a matter of law, and in the second step the trier of fact applies the construed claims to the accused device. See Markman v. Westview Instruments, Inc., 52 F.3d 967, 976, 34 USPQ2d 1321, 1326 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). The court's construction of the claims often decides the question of infringement, whether literal infringement or under the doctrine of equivalents. See Vivid Technologies, Inc. v. American Science & Engineering, Inc., 200 F.3d 795, 803, 53 USPQ2d 1289, 1294 (Fed. Cir. 1999) ("It is well recognized that the construction of the claims may resolve some or all of the issues of infringement.")

The district court's claim construction, and the grant of summary judgment based thereon, receive plenary review on appeal. See EMI Group North America, Inc. v. Intel Corp., 157 F.3d 887, 891, 48 USPQ2d 1181, 1184 (Fed. Cir. 1998). If disputed questions of material fact underlie the summary judgment "[t]he evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 254 (1986). The appellate tribunal must assure itself that the nonmovant could not prevail on any reasonable version of the facts as presented on the summary judgment record. See id. at 250 (the purpose of the summary judgment procedure is to avoid an unnecessary trial).

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1 Network, LLC v. Centraal Corp., No. 98-1023 (E.D. Va. Jan. 12, 1999).

The '906 patent, entitled "Universal Electronic Resource Denotation, Request and Delivery System," describes and claims a system for locating and retrieving information on a distributed computer system or network, such as the Internet, using so-called "aliases" (informal or incomplete designations) to denote resources whose retrieval is sought. The accused Centraal system, having the brand name RealNames, also locates and retrieves Internet information using aliases. In both systems, when a user enters an informal designation (e.g. "IBM") the systems direct the user's computer to the corresponding resource (e.g. the web site of "International Business Machines, Inc.") The dispute concerns how these systems are structured and operate.

The '906 patent system is directed to a computer network as set forth in claim 1:

> 1. An electronic resource denotation, request and delivery system within a network which shares information resources among its user community, comprising:
>
> a central registry computer whose action is directed by software components,
>
> one or more local server computers whose actions are directed by software components and linked to the central registry computer;
>
> one or more client computers whose actions are directed by software components, and linked to a local server computer;
>
> wherein the software components in these computers operate in concert as a distributed entity to allow client computers to denote resources with aliases that are unique across said server computers and said client computers, and further allow client computers to retrieve information corresponding to said aliases; and
>
> wherein said aliases are maintained in at least said central registry computer and one or more of said local server computers.

As described in the '906 patent, the central registry computer and local server computer maintain aliases and associated information such as resource addresses or Uniform Resource Locators (URLs), descriptions of designated resources, and update information. The specification states that the local server database "contains only certain of the

Resource Aliases and their records" and that the central registry computer "maintains the entire collection of Resource Aliases in its database." Relying on this and other descriptive text in the specification and explanations presented by an expert witness, the district court construed claim 1 as directed to a system wherein the local server computer maintains a "cache" or limited database of aliases, and "pulls" information when needed from the central registry computer. On this claim construction, the district court granted Centraal's motion for summary judgment of non-infringement.

A

Network argues that the functions of "caching" and "pulling" information by the local server are not required by claim 1, and that the district court impermissibly imported limitations into claim 1 from the specification and from claims 6 and 7. Centraal responds that the specification and the prosecution history stress the role of the local server as an intermediary computer with a limited database that stores frequently accessed alias records; the central registry computer updates this limited database on request from the local server. Centraal states that the district court correctly construed claim 1 as requiring that software components in the local server computer perform these functions.

Network's argument that the district court improperly limited the scope of claim 1 by importing the caching and pulling functions from the specification misperceives the role of "claim construction" in infringement analysis. The role is neither to limit nor to broaden the claims, but to define, as a matter of law, the invention that has been patented. The claims are always construed in light of the specification, of which they are a part. See Slimfold Mfg. Co. v. Kinkead Indus., Inc., 810 F.2d 1113, 1118, 1 USPQ2d 1563, 1566 (Fed. Cir. 1987). The role of the specification includes presenting a description of the technologic

subject matter of the invention, while the role of claims is to point out with particularity the subject matter that is patented. See 35 U.S.C. §112 ¶¶1,2. The claims are directed to the invention that is described in the specification; they do not have meaning removed from the context from which they arose. Thus the claims are construed to state the legal scope of each patented invention, on examination of the language of the claims, the description in the specification, and the prosecution history. See Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250, 48 USPQ2d 1117, 1122 (Fed. Cir. 1998) ("[T]he interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim."). Although the specification need not present every embodiment or permutation of the invention and the claims are not limited to the preferred embodiment of the invention, see Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1186, 48 USPQ2d 1001, 1005 (Fed. Cir. 1998), neither do the claims enlarge what is patented beyond what the inventor has described as the invention. "Claim construction" is the judicial statement of what is and is not covered by the technical terms and other words of the claims. See United States Surgical Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568, 41 USPQ2d 1225, 1236 (Fed. Cir. 1997).

The '906 specification states that the local server computer functions to "cache" or locally store frequently accessed alias records, to obtain updates from the central registry computer, and to transmit records from the cache to the client computer. The specification states that the client computer first searches its own limited database and, if the alias is not stored therein, then requests the information from the local server computer, which in turn has a limited database that may be updated by request to the central registry database. In

the '906 system the local server computer only queries the central registry computer when the resource alias can not be found in the local server's database. The specification explains caching as encompassing the storage of Resource Alias-related information for a period of time or while this information continues to be accessed at a reasonable rate. That such storage is inherently limited is shown in the '906 specification's statement that "the aggregate of Resource Alias-related information at such a site directly reflects the level of use or access of a particular subset of the totality of Resource Aliases by Client computers and users which connect to such a site." Col. 6, lines 26-31. Thus the local server computer is a site containing a limited database of aliases reflecting the level of use or access of the totality of aliases maintained in the central registry.

Network argues that the district court erred when it construed claim 1 to require the local server computer to maintain a cache of aliases, for claim 1 does not state this limitation. Network argues that a broader construction is warranted by the '906 specification, pointing to a version that is described in the specification as a smaller-scale implementation wherein both the local server software and the central registry software can be located in a single machine, enabling the client computer to be directly serviced by a single computer performing the functions of both the local server and the central registry computers. Thus Network argues that the specification does not require that the local server computer maintain a limited database of aliases separate from that of the central registry computer, and that claim 1 was incorrectly construed.

Centraal responds that the '906 specification defines the local server computer as an intermediary computer that caches frequently accessed alias records, transmits cached alias records to the client computer, and requests updates from the central registry.

Centraal points to various statements to this effect during prosecution of the '906 claims. Although the specification indeed shows the alternative system which simultaneously performs both central registry and local server functions, we agree with the district court that even in that system the distinct local server functions must be present and be performed as described in the specification.

We conclude that the district court correctly construed claim 1 as requiring a local server computer that has a limited database of aliases and that may request updates from a central registry computer. The district court's construction of the claimed element "local server computer" as requiring performance of these functions is affirmed.

B

Network also argues that the district court erred by reading into the claim term "client computer" the required performance of the function of caching as described in the specification, as well as the function of downloading and storing alias records that is specific to dependent claim 7. We do not reach this issue, for the construction of "local server computer" resolves the question of infringement, as we next discuss.

II

INFRINGEMENT

To support a summary judgment of noninfringement it must be shown that, on the correct claim construction, no reasonable jury could have found infringement on the undisputed facts or when all reasonable factual inferences are drawn in favor of the patentee. See Fed. R. Civ. P. 56(c); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986) ("[A dispute is genuine] if the evidence is such that a reasonable jury could return a verdict for the nonmoving party.") Our review of a grant of summary judgment is plenary.

See Cole v. Kimberly-Clark Corp., 102 F.3d 524, 528, 41 USPQ2d 1001, 1004 (Fed. Cir. 1996).

A

To establish literal infringement, all of the elements of the claim, as correctly construed, must be present in the accused system. See Cole, 102 F.3d at 532, 41 USPQ2d at 1007.

Network did not dispute the Centraal expert's description of the accused RealNames system. This expert's technical explanation was the only expert evidence provided by either party. The expert explained that the Centraal system creates and maintains metadata in the form of XML metadata database entries.[2] Each entry represents a resource and its associated URL. The metadata are kept on the computers that host the subscribers' World Wide Web pages and therefore are distributed across the Internet, forming a decentralized database. The RealNames system, according to the Centraal expert, does not use local server computers; instead, the subscribers' computers communicate directly with computers that are called "Resolver" computers and store all of the RealNames metadata entries.

The district court concluded that the '906 system and the RealNames system are fundamentally different in how they are structured and how they operate. In the RealNames system its two groups of Resolver computers, one on the east coast and one on the west coast of the United States, do not function as intermediary local servers between the client

2 "XML" is a textual language that is used to describe data. Here, XML describes the characteristics of the electronic resource stored on the subscriber's computers. "Metadata" is a term for data that, in turn, describe other data.

computers and a central computer, as in the '906 system. Instead, each Resolver group has a complete copy of the RealNames database, and does not function as an intermediary dissemination point. As a further distinction, the Resolver computers do not request updated RealNames metadata from a central computer if the information is not in the Resolvers' memory, the function that the district court described as "pulling" information by the local servers in the '906 system. Instead, the Centraal central computer "pushes" updates to the Resolvers, periodically transmitting unsolicited data to the Resolvers and directing them to update the metadata in their memory. The Resolver computers possess all of the information available through this system, and do not query a central registry.[3]

The district court concluded that the RealNames computers do not perform all of the functions of the local server computer in accordance with the correct construction of claim 1. We agree that the RealNames computer system does not contain a local server counterpart of the limited database "caching" function of the '906 local server and the "pulling" of information by the local server from a central registry. On the correct construction of the claim element "local server computer" and the undisputed facts of the operation of the RealNames system, the summary judgment that the RealNames system does not literally infringe the '906 patent must be affirmed.

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3 The dissent suggests that the Netword system functions in the same way. That is inaccurate. The '906 specification describes updating of root servers without "pulling" or querying, whereas the only mechanism described for updating the local server requires a query. Client computers may access the entire database by querying local servers which then retrieve the requested information from either their local cache, the root servers (if present) or from the central registry. Col. 8, lines 1-6, cited by the dissent, refers to updates of the root server, not the local server computer.

B

Network argues that even if there is not literal infringement, the RealNames system infringes in terms of the doctrine of equivalents. For infringement by equivalency, all of the elements of the claimed invention or an equivalent thereof must be present in the accused system. See Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40, 41 USPQ2d 1865, 1875 (1997) (the all-elements rule reinforces the notice function of patent claims). The Centraal system does not contain any element that is the same as or equivalent to the local server of claim 1. Instead, the Centraal system Resolver computers serve as copies of a central registry (or a central registry and a root server[4]), but do not serve as a local server computer or the equivalent thereof. Thus the all-elements rule is not satisfied by the Centraal system.

The summary judgment that claim 1 is not infringed under the doctrine of equivalents is affirmed.

III

EVIDENTIARY MATTERS

A

Network criticizes the district court's reference to a conversation that was recorded between one of the '906 inventors and his patent attorney about two months before the patent application was filed. Network argues that the district court improperly relied on this conversation in construing the claim.

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4 The specification defines root servers as "computers which contain essentially the same information as the Central Registry and provide this information to other computers so as to distribute the load which would otherwise fall on the Central Registry Computer."

Network is correct in its position that an inventor's communication to his patent attorney is not dispositive of the scope of a later-filed patent and the construction of the claims. Many factors can affect the description of an invention as it is presented in the specification and as it is claimed. This description, as well as the scope of the claims as ultimately granted after examination, may differ significantly from that of an inventor's early communication to his attorney. However, an inventor's communication to his attorney, if not asserted as privileged, may be received by the court and given whatever weight its content and the circumstances warrant. See Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983) ("It is jurisprudentially inappropriate to disregard any relevant evidence on any issue in any case, patent cases included.") See generally Charles McCormick, 1 McCormick on Evidence §53, 234 (John W. Strong, ed., 5th ed. 1999) (discussing the role of the judge in determining admissibility). Admissible evidence is weighed in accordance with its evidentiary value.

No objection to the inventor's communication as privileged appears in the record provided. See In re Spalding Sports Worldwide, Inc., 203 F.3d 800, 53 USPQ2d 7747 (Fed. Cir. 2000) (the attorney-client privilege applies to communications between an inventor and his patent attorney). It was not reversible error for the district court to refer to it as supporting the court's view of the scope of the '906 invention.

B

Network also criticizes the district court's reliance on the Centraal expert's explanation of the structure and operation of the system of the '906 patent and of the Centraal system. The technical correctness of the expert's explanation of these systems was not challenged by Network, although Network strongly disagrees with the expert's

conclusions as they relate to claim construction and infringement.

Network argues that the expert "contradicts the functions of local server and client computers as claimed in claim 1." This criticism, however, is directed to the legal conclusion concerning the scope of the claim, not to the expert's explanation of how the patented system works. We discern no procedural error in the district court's reliance on the expert's technologic explanations. See Pitney-Bowes v. Hewlett-Packard Co., 182 F.3d 1298, 1309, 51 USPQ2d 1161, 1168 (Fed. Cir. 1999) (expert evidence may assist the trial judge in understanding the invention as viewed by persons in the technologic field). See generally Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456, 46 USPQ2d 1169, 1174 (Fed. Cir. 1998) (en banc) (limiting judicial reliance on expert testimony in construing claims).

The district court can not be faulted for relying on the only expert explanation of the technology that was presented. Evidence concerning the technological aspects of a patented invention may be of assistance to the court when dealing with complex technologies or those outside of the court's expertise. See Fed. R. Evid. 702 ("If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise."); Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 589 (1993) (the court shall determine the reliability and thus the relevance of expert testimony).

Although the district court's claim construction is consistent with the opinion of Centraal's expert as to the limits of the '906 invention, the specification and prosecution history also lead to the district court's construction. We do not discern error in the district

court's receipt of and citation of the expert's technical explanations in reaching and in explaining its conclusions.

IV

MOTION TO STRIKE

Centraal moves to strike pages 19 through 34 of Netword's reply brief, that is, the text that responded to Centraal's arguments of noninfringement in Centraal's responding brief.

Netword had directed its appeal of this summary judgment to asserted errors in the district court's claim construction. Thus the thrust of Netword's appellant's brief was that the district court's claim construction was incorrect; Netword argued that the Federal Circuit, on adopting Netword's proposed correct claim construction, should remand for determination of the disputed factual issues of infringement. That was not an improper approach to the appeal of an adverse summary judgment based on claim construction.

Centraal responded, inter alia, that infringement could not be found even on Netword's proposed claim construction. This was not an issue on which summary judgment had been rendered, or on which the district court had made a finding or expressed an opinion. This was a new issue, one not decided by the district court. Thus this issue was not required to be raised and discussed in Netword's opening brief. Nor, however, was Netword required to remain silent after Centraal raised this argument.

When a potentially material issue or argument in defense of the judgment is raised for the first time in the appellee's brief, fundamental fairness requires that the appellant be permitted to respond, lest the appellate court deem the point conceded. See, e.g., North v. Madison Area Ass'n for Retarded Citizens-Developmental Centers Corp., 844 F.2d 401,

405 n.6 (7th Cir. 1988) (when the appellee raises an issue not addressed by the appellant in its opening brief, appellant is entitled to reply). See generally Michael E. Tigar & Jane B. Tigar, Federal Appeals Jurisdiction and Practice 469-70 (3d ed. 1999) (purpose of reply brief is to respond to arguments presented by appellee).

The motion to strike is ill founded, and is denied.

Costs

Each side shall bear its costs.

AFFIRMED; MOTION TO STRIKE DENIED

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Defendant-Appellee.

CLEVENGER, Circuit Judge, dissenting.

The majority holds that the district court correctly interpreted claim 1 to require a local server computer that has a limited database of aliases and that requests updates from a central registry computer. The majority also agrees with the district court's decision that the accused RealNames system lacks those functions.

I respectfully disagree with the majority. It certainly is true that dependent claims of the '906 patent, such as claim 6, define a local server computer that has a limited database of aliases and that requests updates from a central registry computer. Netword does not assert those claims against the RealNames system. The question before us is whether the admitted limitations found in the dependent claims are also present in claim 1, quoted in the majority opinion, which on its face does not restrict a local server computer to a limited database of aliases, and which does not specify the manner in which a local server receives the database of aliases that it maintains.

According to claim 1, the claimed system must include a central registry computer

and at least one local server computer "wherein said aliases are maintained." Nothing in the claim language specifies that a local server computer cannot maintain the same database as is maintained by central registry computer, and nothing in the claim language precludes a local server computer from receiving its database of aliases by periodic communication from the central registry computer. In short, the mandatory limitations imposed on a local server computer in claim 1 by the district court and by the majority--a limited database of aliases and maintenance of aliases by the local server computer as a result of requests made by it to the central registry computer--are not present in the claim.

Those two mandatory limitations are also not present in the written description, which only states that the mechanisms for keeping the local server up to date "may include" (not must include) requests made by the local server to the central registry computer. The file history of the patent clearly indicates that the update function can also be provided without such "bottom up" requests, by using "top-down" communication: the applicant describes the claimed system as "a centralized, top-down hierarchy of maintaining the alias database." And the specification describes the same manner of updating the database, i.e., "push down" of information by periodic updating from the central registry to other computers in the system that meet the definition of a local server computer. See column 6, lines 15-20; column 8, lines 1-6.

At another point in the file history, the same point is made, as well as the point that the local server computer may maintain the entire database that is maintained by the central registry computer. That part of the file history, included by the applicant as a "General Comment," reads:

The system is maintained and operated using a single master database,

> and various distributed copies of all or part of that database which can be accessed by clients. The databases at various levels are interactively updated by obtaining changes from the master database. These changes can be obtained both on a periodic basis, and whenever the requested alias name is not located in a client's local database.

(Emphasis supplied.)

These features of the specification and of the file history are not credited by either the district court or the majority. I have no quibble with the fact that the file history and the specification disclose a local server computer that has a limited database of aliases and that achieves its updating function by making requests of the central registry computer. Unlike the majority and the district court, I would treat those disclosures as explanations of the dependent claims to which they clearly relate. In short, I detect nothing in the specification or the file history that requires a local server computer in claim 1 to have a limited database of aliases that is updated only by requests made to the central registry computer. Indeed, the file history and the specification, as demonstrated above, actually teach that claim 1 does not carry the limitations imposed on it by the district court and the majority.

Because the correct interpretation of local server computer in claim 1 includes a local server that maintains a database equal to that of the central registry computer and that achieves its updating by periodic updates pushed down to the local server by the central registry computer, the summary judgment of noninfringement must be reversed, insofar as it relates to the question of whether the accused system meets the local server computer limitation of claim 1.

By affirming the district court on the infringement issue relating to the local server computer limitation, the majority did not reach the question of whether the district court also

erred in deciding that the "client computer" limitation of claim 1 is also not met by the accused RealNames system. I think the district court erred in its interpretation of "client computer," and that under the correct interpretation, the judgment of noninfringement must be reversed.

Claim 1 specifies that a client computer must be (1) directed by software components and linked to a local server computer, (2) capable of denoting resources using aliases that are unique throughout the network of server and client computers, and (3) able to retrieve information corresponding to the aliases used to denote desired resources. That such is the correct definition of a client computer is proven by the specification, wherein the patentee expressly defined the term as stated above. See column 5, lines 59-60; column 6, lines 54-56.

The district court erred by adding further limitations to the definition of a client computer. In particular, the district court added the limitations that a client computer must be able to (1) cache information and search the cache on its own machine (in order to check its own cache of alias records before seeking access to a local server computer), (2) download and store the full alias record (as opposed to downloading the bare alias), and (3) retrieve information corresponding to an alias (as opposed to retrieval of the bare alias).

There is no reason to add these three limitations to the definition of a client computer. The specification makes quite clear that those added limitations are merely permissive, that is to say, they may or may not be associated with the client computer that is clearly defined in the specification. See column 8, lines 25-45. The reference to a "caching" function in a client computer made in a pre-filing invention disclosure meeting at

the patent office also describes the functions as permissive. The "caching" function of the client computer is indeed claimed in dependent claim 7, and the references to that function in the specification are properly limited to the express claim of the function in claim 7. As with the errors made by the district court in coping with the local server computer limitation in claim 1, so too did the district court err when it analyzed the client computer limitation, for purposes of interpretation and infringement by the accused system.

The district court found noninfringement of the client computer limitation because the client computer in the accused system does not perform the functions incorrectly added to the meaning of client computer. Once those incorrect functional limitations are removed from the definition of client computer, it is clear that the district court's judgment of noninfringement must be reversed.