United States Court of Appeals for the Federal Circuit

00-1562, -1588

CHARLES E. HILL & ASSOCIATES, INC.,

Plaintiff-Appellant,

v.

COMPUSERVE, INC. and COMPUSERVE INTERACTIVE SERVICES, INC.,

Defendants-Cross Appellants.

DECIDED: April 10, 2002

Before MICHEL, RADER, and BRYSON, Circuit Judges.

BRYSON, Circuit Judge.

Charles E. Hill & Associates, Inc., filed a patent infringement action against CompuServe, Inc., and CompuServe Interactive Services, Inc., (collectively, "CompuServe") in the United States District Court for the Southern District of Indiana. The district court granted summary judgment of noninfringement, holding that CompuServe's on-line shopping service did not infringe the asserted claims of Hill's U.S. Patent No. 5,528,490 ("the '490 patent"). On CompuServe's counterclaim of patent invalidity, the court denied CompuServe's motion for summary judgment and entered judgment for Hill.

On appeal, Hill challenges the summary judgment of noninfringement, arguing that the district court erred in its claim construction and infringement analysis. CompuServe cross-appeals, contending that the district court should not have entered judgment against it on its invalidity counterclaim. We affirm in part and reverse in part the summary judgment of noninfringement, we vacate the dismissal of CompuServe's counterclaim, and we remand this case to the

district court for further proceedings.

I

A

The ’490 patent discloses an electronic catalog shopping system that uses software on both the customer’s computer and the vendor’s computer to provide the customer with updated catalog information each time the system is used. The invention contemplates the use of two kinds of catalog data: "variable data" and "constant data." The patent defines variable data as data that is stored on the vendor’s computer and that can change at any time. Constant data is stored on both the vendor’s computer and the customer’s computer. Whenever the constant data is updated, the updated version is assigned a revision number.

When a customer using the invention of the ’490 patent seeks information about a particular product in the catalog, the customer selects that product from a list on his computer. The software on the customer’s computer causes the system to compare the revision status of the constant data on the customer’s computer with the revision status of the constant data on the vendor’s computer. If the constant data on the customer’s computer is out of date, the vendor’s computer automatically updates it.

Once the constant data has been updated, the vendor’s computer transmits to the customer’s computer the variable data that relates to the selected product along with instructions that allow the customer’s computer to integrate the variable data with the constant data stored on the customer’s computer. The customer’s updated constant data and the incoming variable data are then integrated to create a data sheet containing the most current information available about the desired product.

B

CompuServe operates an on-line shopping service through browser software that allows a customer’s personal computer to send and retrieve information over the Internet. The browser retrieves information from the Internet and places it in the personal computer’s cache memory. Data in the cache is subject to being automatically deleted by the browser if deletion is necessary to make room for more recently accessed data. The browser chooses which data to remove based on an algorithm designated by the software programmer. One such algorithm is the "Least Recently Used" algorithm, which deletes those files least recently accessed by the browser.

When a person using a browser visits a web page for the first time, certain files containing the information within that web page are placed in the cache of the user’s computer. The next time the person uses the browser to access that web page, the browser compares the header information in the file in the computer’s cache with the header information in the corresponding file stored on the server, or main computer.

One of the potential headers is "Last Modified: [date]." In a file with a "Last Modified: [date]" header, the "date" indicates the last time that file was changed. If the "date" in the header is "None" or "Unknown," the file will automatically be sent every time the browser accesses a web page containing that file, thereby requesting that the server send an updated file to the user’s computer. If the "Last Modified: [date]" header contains an actual date, the browser will

compare the date of the cached file with the date of the corresponding file stored on the main computer. When the "Last Modified" dates are the same, the browser recognizes that the data in the file has not changed since the file was last visited. In that event, the browser displays the information from the cached file rather than requesting that the same information be transmitted from the main computer to the remote computer. When the "Last Modified" date has changed, however, the browser recognizes that the cached data is no longer current, so it requests that the main computer transmit the updated data to the remote computer, deposits the updated copy in the remote computer's cache, and displays the web page with the information from the updated file.

C

Independent method claims 1 and 15 of the '490 patent recite "storing constant data . . . in a memory of a remote computer." Independent claims 30 and 35 are directed to "an electronic catalog system," but like the method claims they require a remote computer with a memory for "storing constant data."

The district court construed the term "storing" to mean "recording in a storage device so that [the data] will not be involuntarily removed or deleted." The district court found that although a web browser places constant data in the cache of a remote computer, the data is subject to involuntary deletion when the web browser determines that the computer's cache is full. Accordingly, the district court concluded that CompuServe's on-line shopping service did not infringe any of the asserted claims.

Each of the asserted claims also includes limitations related to "constant data" and "variable data." The district court defined "variable data" as "product information classified as capable of changing at any time," and it defined "constant data" as "product information classified as likely to change less often than variable data." Because Hill failed to introduce evidence that the CompuServe on-line shopping service classified data according to the relative likelihood that the data would change, the court held on that ground as well that the accused shopping service did not infringe any of the asserted claims. Finding no evidence of any direct infringement of the '490 patent, the court also concluded that CompuServe did not induce infringement. Finally, the district court denied CompuServe's motion for summary judgment on its counterclaim of invalidity. Because the court concluded that the summary judgment of noninfringement provided "adequate grounds for entering a judgment in favor of CompuServe," the court concluded that it could enter a final judgment in CompuServe's favor without needing to decide the merits of CompuServe's counterclaim. In effect, then, the court dismissed CompuServe's counterclaim for a declaratory judgment of invalidity as moot in light of its decision on infringement.

II

A

The first issue in this case is whether the district court was correct to conclude that "storing," as that term is used in the claims of the '490 patent, does not occur in a system in which there can be involuntary deletions of data. CompuServe argues that because its software deletes data from the cache memory of a user's personal computer when the cache is full and space is needed for newer data, the data that is copied into the cache is not "stored" within the meaning of the '490 patent. Hill responds that just because data is removed from the user's cache when

the user's cache is full and removing some data is necessary to make space for newer material does not mean that there is no "storing" of data in the cache.

We agree with Hill. The '490 patent expressly contemplates that some constant data stored on the remote computer will be deleted automatically by the system, and such deletions are clearly involuntary from the user's perspective. The patent recites that when a user logs on to the remote computer and clicks on a particular product, the remote computer sends the revision number of its constant data to the main computer, and the software compares that number with the revision number of the constant data stored on the main computer. If the revision number on the remote computer indicates that its constant data related to the product is not current, the constant data files on the remote computer are automatically updated, which means that the outdated information is deleted and replaced with current information. The deletion process is automatic and involuntary; there is no indication in the patent specification or in the claims that the user is asked for permission, consulted, or even notified that outdated product information is being deleted.

CompuServe argues that "storing" is compatible with automatic updating but not with the involuntary removal of material from a personal computer's cache. That argument is not persuasive, as it is based on an artificial distinction between data that is automatically removed by updating and data that is automatically removed to make room for more data. If data is "stored" even though it is subject to automatic removal upon updating, it is hard to see why it is not "stored" simply because it is subject to automatic removal when removal is required by space limitations in the user's cache.

The ordinary meaning of the term "stored" does not require that "stored" material will never be subject to involuntary removal. For example, goods that are retained in a warehouse for retrieval would be considered to be "stored" in the warehouse even if the goods were subject to being discarded if they were not retrieved within a year. The fact that CompuServe's system uses a system such as the "Least Recently Used" algorithm to remove some data when necessary to make space in the cache does not mean that data is not "stored" in the cache prior to its removal. As long as data remains in the user's cache for a period long enough that it could be retrieved in accordance with the retrieval system described in the '490 patent, that data can be said to be "stored" within the meaning of the patent. The fact that some data may be removed from the user's cache and therefore not be available to be compared with the corresponding data in the main computer means that the comparison and updating process would no longer work with regard to the deleted data, but the remainder of the data in the cache would still be subject to comparison and updating, and thus would be "stored" as that term is used in the '490 patent.

Because the district court's summary judgment of noninfringement was based in part on its construction of the term "stored," and because we disagree with the court's construction of that term, we cannot uphold the court's ruling on that ground.

B

We next turn to the district court's ruling that Hill failed to point to a disputed issue of material fact as to whether the accused CompuServe system reads on the "constant" and "variable" data limitations of the method and system claims of the '490 patent. Hill argues that it introduced sufficient evidence that the product data on the CompuServe on-line shopping service includes both constant and variable data.

1

It is undisputed that the web pages within the CompuServe on-line shopping service include at least some files that have "Last Modified: [date]" headers and that the "date" entry in the headers for some of the files contains particular dates, while the "date" entry in the headers for other files reads "None" or "Unknown." The report submitted by Hill's expert, Dr. Dunsmore, explains that when a customer's computer contacts the vendor's main computer, the browser will always reload from the main computer those files designated "Last Modified: Unknown," while the browser will not reload those files having an actual date in the "Last Modified: [date]" entry unless the date of the entry is later than the date of the corresponding file in the customer's cache memory. According to Dr. Dunsmore, the files that have actual dates in their "Last Modified: [date]" entry are likely to change less often than the files with "Last Modified: Unknown" in their headers. For that reason, he stated, those files are treated as containing constant data, while the files designated "Last Modified: Unknown" are treated as containing variable data.

Hill also relied on excerpts from the depositions of two CompuServe employees, who described different aspects of CompuServe's on-line shopping system. One employee described CompuServe's "Electronic Mall" display page, the top of which contains 12 buttons for different shopping categories, and the bottom of which is a rotating mall marquee with an advertisement for a company. He testified that the marquee information would change more frequently than the other information on the screen. Based on that testimony, Hill argued that the page contained some data that was "constant" and some that was "variable." A second CompuServe employee described CompuServe's "Deals of the Week" page, which contained a "Deals of the Week" logo that could stay constant while the text and image files containing the actual details of the offered "deals" would change every week.

The district court concluded that Hill's evidence was insufficient to avoid summary judgment. According to the district court, infringement requires that the accused system classify different data files on the basis on their relative likelihood of changing and that it then treat those data files consistently with the way the Hill patent treats constant and variable data. The district court dismissed Hill's proffered evidence as proving merely that "there is data on any given Web page that changes at a relatively faster pace than other data on the page" and observed that the evidence

> fails to provide the necessary connection between the meaning of constant data and variable data . . . and the alleged classification on the accused system. In other words, Hill has no evidence that a file is designated "Last Modified: Unknown or None" because it contains data that is likely to change at any time.

The district court correctly ruled that the accused CompuServe system would infringe the method claims of the '490 patent only if the CompuServe system performed the claimed steps with respect to data based on the relative likelihood that the data would be changed. That is the necessary consequence of the district court's construction of the term "constant data" as "product information classified as likely to change less often than variable data," a construction with which Hill does not take issue. Thus, as the district court correctly pointed out, it was not enough for Hill to show that some product data files had headers with particular last modified

dates and others had headers designated "Last Modified: Unknown." Of course, a page designer might choose to assign the different headers to files based on the frequency with which the data in those files is likely to change. But Hill was required to produce evidence that the CompuServe system distinguished between constant and variable data on that basis. That is, Hill was required to show that the data with particular last modified dates was "constant data," i.e., less likely to change than the variable data, and that the data with "Last Modified: Unknown" designations was "variable data," i.e., more likely to change than the constant data.

The evidence to which Hill directs us does not establish a linkage between the use of particular header designations and the frequency with which data is changed. The two CompuServe employees whose testimony Hill cites simply noted that particular portions of certain CompuServe web pages were changed more frequently than others. They did not testify that the portions that changed less frequently were assigned "last modified" dates and the portions that changed more frequently were marked "Last Modified: Unknown" or "Last Modified: None."

In addition to the evidence from the two CompuServe employees and the evidence relating to the CompuServe web pages, Hill relies on an article by Nancy Cluts, a Microsoft Corporation employee. The article states that "[m]ost Web pages combine content that is static with content that is dynamic," and adds that

> it would certainly make sense that you could speed up your Web site's responsiveness by downloading only the content that changed (i.e., the dynamic content). The content that changes infrequently would be stored in the client's memory cache. That way, the static content would not have to be downloaded every time the page was displayed; instead, it would be retrieved swiftly from the cache. . . . In fact, many [Microsoft] sites . . . have taken the time to cache their static items and have repeated the benefit of a noticeable performance increase.

Hill argues that the Cluts article summarizes the method that CompuServe employs. But Hill points to no evidence that the method Ms. Cluts describes is practiced by CompuServe. Hill in effect asks us to infer that because Ms. Cluts describes the method as efficient and widespread, we should assume that CompuServe's shopping system employs it. That request would have us substitute speculation for evidence.

Nor is Dr. Dunsmore's report sufficient to raise a genuine issue of material fact on the critical question of the linkage between the header designations for particular files and the frequency with which the data in those files is changed. The relevant portion of Dr. Dunsmore's report states that certain textual information with a "Last Modified: Unknown" denotation "is treated as variable data. It can be changed at any time, and should be updated each time when visited by the Web browser." The report further states that particular files that were assigned with specific "Last Modified" dates "are treated as constant data" and are "likely to change less often than the previously discussed textual information." Those files "can still be changed, but are less likely to need to be updated each time when visited by the Web browser."

The problem with the cited portion of Dr. Dunsmore's report is that it fails to establish a linkage between the revision status assigned to particular files and the frequency with which those files

are changed. The report asserts that what Dr. Dunsmore terms the "variable data" can be changed at any time, but that is beside the point because, as Dr. Dunsmore later admits, the same thing is true of the data that he terms "constant data." He also asserts that data carrying a "Last Modified Date: Unknown" header is updated each time it is visited by the web browser, while data with a header containing a revision status with a particular date will not necessarily be updated each time it is visited by the web browser. That point, however, merely speaks to the frequency with which files are updated when they are visited by the browser; it does not speak to the frequency with which the data in the files is changed by the page designer. Accordingly, we agree with the district court that Hill failed to demonstrate a triable fact issue on the "constant-variable" limitation of the method claims of the '490 patent.

Hill argues in passing that even if we sustain the district court's summary judgment ruling as to literal infringement based on the "constant-variable" limitation of the method claims, we should overturn the summary judgment order as to infringement under the doctrine of equivalents. We disagree. The district court granted summary judgment because Hill failed to introduce evidence that CompuServe practiced a method that included steps relating to the claimed use of constant and variable data, as the district court defined those terms. That failure is just as fatal to Hill's doctrine of equivalents case as it is to Hill's case on literal infringement, because Hill's evidence not only failed to show that CompuServe practiced the claimed method, but also failed to show that CompuServe employed a method insubstantially different from Hill's. The district court therefore properly granted summary judgment of noninfringement as to the method claims.

2

The analysis that applies to the method claims, such as independent method claims 1 and 15, does not automatically apply to the system claims, such as independent system claims 30 and 35. Unlike the method claims, the system claims do not contain steps of storing constant and variable data in the main computer, storing constant data in the remote computer, and updating the constant data in the remote computer when that data is different from the constant data in the main computer. Instead, the system claims recite a main computer for storing variable data and constant data, and a remote computer for storing constant data. In addition, the system claims contain a series of means-plus-function limitations that provide for the comparison of the constant data in the main computer (or its revision status) with the constant data in the remote computer (or its revision status) and the transmission of updated portions of the constant data from the main computer to the remote computer.

Because the district court ruled against Hill on the definition of the term "storing," which is common to all the claims of the '470 patent, it was not necessary for the court to provide a detailed construction of the system claims. In light of our disagreement with the district court as to the proper definition of the term "storing," the issue of the proper construction of the system claims becomes more important. The proper construction of those claims is not obvious, both because of the ambiguity inherent in the term "computer . . . for storing" that is found in all of the system claims, and because of the need to determine the scope of the several means-plus-function limitations in each of those claims, something that can be done only by consulting the specification, as dictated by 35 U.S.C. § 112, para. 6. Because the district court has not yet construed the critical language of the system claims, we are unable to review the court's construction of those claims. See Southwest Software, Inc. v. Harlequin Inc., 226 F.3d 1280, 1298, 56 USPQ2d 1161, 1175 (Fed. Cir. 2000); Graco, Inc. v. Binks Mfg. Co., 60 F.3d 785, 791, 35 USPQ2d 1255, 1259 (Fed. Cir. 1995). We therefore remand for the district court to

construe the system claims and determine in light of that construction whether it should reconsider its grant of summary judgment to CompuServe on those claims.

C

The district court granted summary judgment against Hill on its claim of induced infringement on the ground that Hill had not presented any evidence of direct infringement and therefore CompuServe could not be found liable for having induced infringement by others. Because we have sustained the court's conclusion that there was no evidence that the CompuServe on-line shopping system was used in a manner that infringed the method claims, we uphold the court's ruling as to indirect infringement on those claims. However, in light of our order vacating the summary judgment as to the system claims, the district court's rationale for rejecting the claim of indirect infringement no longer applies. We therefore vacate the district court's grant of summary judgment as to indirect infringement on those claims.

III

The final issue involves CompuServe's cross-appeal of the entry of final judgment against it on its invalidity counterclaim. Because we have reversed in part the district court's grant of summary judgment of noninfringement, and in particular because we have done so based on a different claim construction, it is necessary for the district court to revisit the invalidity issue. Hill has persuaded us to give the '490 patent a much broader construction than the district court gave it. While our construction of the critical claim language eases Hill's burden on the infringement issues, it also raises new questions on the issue of validity, which the district court should address anew on remand. We therefore vacate the portion of the district court's judgment that dismissed CompuServe's counterclaim of invalidity.