IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

NUANCE COMMUNICATIONS INC. and PHONETIC SYSTEMS LTD.,	)))	
Plaintiff,	)))	
v.	)	Civ. No. 06-105-SLR
TELLME NETWORKS INC.,	)))	
Defendant.	)	

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MEMORANDUM OPINION

Dated: April 20, 2010
Wilmington, Delaware

ROBINSON, District Judge

I. INTRODUCTION

Plaintiff Nuance Communications Inc. ("Nuance") is the owner of U.S. Patent No. 5,033,088 ("the '088 patent"), entitled "Method and Apparatus for Effectively Receiving Voice Input to a Voice Recognition System," which is directed to methods and systems for processing spoken information. Nuance asserts that defendant Tellme Networks, Inc. ("Tellme") has directly and indirectly infringed, inter alia, the '088 patent through the provision of telephonic directory assistance services. (D.I. 1 at ¶ 8) Tellme denies these allegations and asserts various affirmative defenses, including the noninfringement and invalidity of the '088 patent. (D.I. 34 at ¶¶ 19, 20) The parties have proposed constructions for the disputed claim limitations of the '088 patent. Concurrently pending before the court are Tellme's motions for summary judgment of noninfringement (D.I. 141) and invalidity for anticipation or obviousness (D.I. 139) of the '088 patent. The court has jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a). For the reasons that follow, the court grants in part and denies in part the motions.

II. BACKGROUND

A. The Parties

Nuance is a corporation formed under the laws of the State of Delaware and with its principal place of business in Burlington, Massachusetts. (D.I. 1 at ¶ 2) Nuance is engaged in the business of designing, developing, marketing and providing speech and imaging products and related services. (*Id.*) Plaintiff Phonetic Systems Ltd. ("Phonetic") is a corporation organized under the laws of the nation of Israel, having its principal place of business in Petach Tikva, Israel. (*Id.* at ¶ 3) Phonetic is a wholly-

owned subsidiary of Nuance. (*Id.*)

Tellme is a Delaware corporation having a principal place of business in Mountain View, California. (D.I. 34 at ¶ 4) A wholly-owned subsidiary of Microsoft Corporation, Tellme's business is directed to voice technologies. Specifically, Tellme provides speech recognition services to several commercial providers of directory assistance services.

B. The Prior Art

1. Reliable computerized speech recognition

This dispute concerns the field of computerized speech recognition and, within this field, the application of speech recognition to telephone-based systems. Research in this field began in the 1930s when researchers at AT&T Bell Laboratories focused on using computers to recognize human speech. Because the computerized recognition of speech was inherently less accurate than human recognition, programmers sought to develop computerized systems characterized by more reliable and accurate speech recognition capabilities.

A May 5, 1981 article by two researchers at AT&T Bell Laboratories, entitled "Isolated and Connected Word Recognition - Theory and Selected Applications" ("the Rabiner article"), provides "a tutorial on the concepts and theories underlying modern speech-recognition systems, both practical and experimental." (D.I. 143, ex. 2 at 621) The Rabiner article describes both the importance and availability of reliable computerized speech recognition. (*Id.*) In this regard, the authors emphasize that "[t]he art and science of speech recognition have been advanced to the state where it is now

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possible to communicate reliably with a computer by speaking to it in a disciplined manner using a vocabulary of moderate size." (*Id.*) The authors further opine that "the power of speech recognition lies in its ability to perform a given task reliably." (*Id.* at 635)

With respect to existing speech recognition systems, the Rabiner article refers to the known practice of incorporating a reliability check. This practice is exemplified by a "canonic pattern-recognition model," in which the "final decision of what was actually spoken" by the user (i.e., a reliability check) is often handled by a "higher level of processing in the recognition system." (*Id.* at 622) One such recognition model entails the calculation of a distance score between an utterance and a template stored in the system. (*Id.* at 638) A "correct" recognition results from the distance score meeting a predetermined threshold. Conversely, an utterance "is not recognized correctly" if the distance score fails to meet this threshold. (*Id.*)

The importance and availability of reliable computerized speech recognition is confirmed in a 1983 article by Mark Jones ("the Jones article"). (*Id.*, ex. 4) The Jones article teaches a reliability check incorporating a high threshold - a system characterized by accurate positive identifications, but also by increased rejections due to recognition failures. (*Id.* at 66) According to Jones, the threshold for a given system is a relative value and can "differ with varying environment, speakers, and applications." (*Id.*)

2. The Hitachi patent

The Hitachi patent, entitled "System for Receiving Extension Connection

Information," is a Japanese patent application that was published on July 22, 1981. (*Id.*, ex. 2 at 6091) The Hitachi patent concerns an automated system directed to the task of connecting telephone callers with extension numbers that they verbally request.[1] (*Id.* at 6113)

The parties do not dispute that the invention described by the Hitachi patent functions in the following manner: (1) the system receives and answers a call; (2) the system prompts the caller to provide the name or extension number of the party with whom the caller wishes to speak; (3) the system records the information provided by the caller and attempts to automatically recognize the caller's speech; (4) the caller's speech is compared to a group of stored patterns representing each of the possible responses; (5) if the system is able to "optimally correlate" the caller's speech, it automatically routes the caller to the requested extension number;[2] (6) if the system is not able to "optimally correlate" the caller's speech, it re-prompts the caller; and (7) if a recognition failure occurs (i.e., the system is unable to subsequently "optimally correlate" the caller's speech), the system plays the recording for an operator, who assists in connecting the call by entering the extension number with a keypad. (*Id.* at 6116-20)

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[1] This invention is described in the context of a private branch exchange, to wit, a telephone exchange that serves a particular business or office. (*Id.*)

[2] The court rejects Nuance's new proposed translation of the Hitachi patent that would exclude the terminology "optimally correlate." (D.I. 153 at 504-11) The parties have traveled under the "optimally correlate" language since July 2007. The first notification of Nuance's contending translation appears in its opposition brief, filed on September 15, 2009. This untimely proffer, which has not been vetted in the discovery process, will not be considered by the court.

C. The '088 Patent

The invention of the '088 patent arose from the efforts of sole inventor David Shipman ("Shipman") to interface the innovations in speech recognition technologies with telephone-based applications. (D.I. 153 at 34) Initially, Shipman sought to avoid the need for human operators. However, the telephone-based speech recognition applications contemplated by Shipman encountered many purported unique challenges, including the background noise and poor audio quality associated with a telephone transmission, as well as the practical inability to train the recognition system to a single user's voice. (*Id.*) Despite Shipman's efforts to address these issues through an enhanced automated speech recognition algorithm, the reliability of a fully-automated system could not contend with the superior speech recognition capabilities of a human operator. (*Id.* at 35) Consequently, Shipman's fully-automated products were not a viable alternative to human operators for certain applications in which recognition mistakes could not be tolerated, to wit, the capture of credit card numbers or prescription information.

Instead of continuing his efforts to devise a fully-automated solution, Shipman sought to bridge the gap in reliable speech recognition through the use of his "invisible corrector." (*Id.*) The "invisible corrector," Shipman's internal designation for the invention of the '088 patent, refers to a two-path approach in which the speech recognition system will attempt to recognize spoken information through an automated process and, if not reliably recognized, seek assistance from a human attendant. ('088 patent at col. 1:37-52) If the system recognizes the spoken information with sufficient

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reliability, the system will automatically complete its task (such as a directory lookup) using the recognized information. (*Id.* at col. 2:41-44) If the system does not recognize the spoken information with sufficient reliability, it will silently transmit a recording of the spoken information to a human attendant.[3] (*Id.* at col. 2:57-64) The human attendant can then confirm or correct the system's automated recognition, allowing the system to complete the requested task. (*Id.*)

Shipman alleges that this configuration results in several improvements over the prior art. The dual-path approach purportedly allows for telephonic speech recognition that rivals purely manual systems, while simultaneously cutting down on the number of operators, as well as the salary and equipment costs associated with large operator banks. Likewise, it obviates the need for multiple user confirmations present in fully automated systems.

During prosecution, the examiner rejected the application leading to the '088 patent as rendered obvious by U.S. Patent No. 4,618,984 to Das et al. ("the Das patent"), which disclosed, inter alia, "determining if the information was reliably recognized." (D.I. 143, ex. 12 at 38-39) Shipman did not take issue with this characterization of the Das patent. Instead, he repeatedly distinguished the claimed invention from the prior art by arguing that the latter did not disclose "dual paths" for completing a task including the act of recording the user's response and playing the recording for an operator if necessary.[4] (*Id.* at 48-49, 77-78) The examiner eventually

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[3]This silent transmission is referred to as "whisper" functionality.

[4]In response to rejections made by the examiner in the first office action, Shipman argued that

allowed the '088 patent on this basis, noting in the Reasons for Allowance that

> [the Binkerd patent] does show transferring the user to an attendant (phone operator) if the voice recognition system cannot recognize the utterance spoken. However, neither [the Binkerd patent] nor [the Das patent] teach recording the user[']s speech and **playing it back** to the attendant (phone operator). [The Binkerd patent] teaches connecting the user directly to the attendant without the **recording** and **playback** steps noted above.

(*Id.* at 82) (emphasis in original)[5]

The '088 patent, which issued from an application that was filed on June 6, 1988, expired on July 16, 2008. It describes "a method and apparatus for processing spoken information so that an automated system is able to complete a task with minimal contact with a caller." (*Id.* at col. 1:37-40) Claim 1, representative of the method claims of the '088 patent, reads as follows:

A method of processing verbal information received by an automated voice

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> there is no teaching [in the prior art] of a method for processing verbal information having the ability to choose between one of two paths to carry out a desired task . . . . The first path is the most direct path in which verbal information supplied by a human input source is recognized by a speech recognition system and subsequently used to complete the task desired. The second path is taken when the verbal information supplied by the human input source is not recognized by
> the speech recognition system.

Shipman reemphasized this aspect of his invention in his traversal of a subsequent rejection over the patent to Binkerd et al. ("the Binkerd patent"), noting that this reference

> is silent as to the steps of (1) recording the verbal response and (2) transmitting the recorded verbal response of a human customer to a human attendant other than the human customer if it is determined that the recorded information was not reliably recognized.

(*Id.*)

[5]Shipman did not respond to the Reasons for Allowance.

recognition system from a customer and completing a task on the basis of the information received, the method comprising the steps of:

prompting a verbal response from a human customer as an input source;

receiving information in the verbal response from the input source generated by the human customer, said information corresponding to a desired task to be complete;

recording the verbal response;

attempting to recognize said information through automation;

determining by automation if the information was reliably recognized;

transmitting the recorded verbal response of the human customer to a human attendant other than the human customer if it is determined that said information was not reliably recognized;

inputting correct information by the human attendant so as to enable the completion of the desired task through automation; and

completing the desired task with the automatically recognized information if it is determined that said information was reliably recognized or with the human attendant inputted information if it is determined that said information was not reliably recognized.

Claims 3 and 5 are apparatus claims directed to "an apparatus for processing verbal

information" from "a human customer." Exemplary claim 3 discloses:

An apparatus for processing a verbal response from a customer to complete a task comprising:

means for prompting a verbal response from a human customer as an input source;

a speech recognizer including means for recognizing information in the verbal response and means for determining if the information was reliably recognized;

recording means for recording verbal response;

means for enabling information to be manually input into the speech recognition system; and

means for completing the task automatically if the information was reliably recognized by said speech recognizer, said means for completing the task completes the task with the recognized information, and including means for manually completing the task if the information was not reliably recognized by said speech recognizer, said means for completing the task completes the task with the information inputted by a human attendant other than the human customer after reviewing the recorded verbal response.

D. Tellme's Accused Infringing System

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Tellme provides a variety of hosted directory services ("the hosted services") that

are used in connection with the directory assistance services of AT&T Mobility, AT&T

Toll-free Directory Assistance ("AT&T TFDA") and Verizon (collectively, "the customer

services"). Numerous contracts[6] between Tellme and the directory assistance providers

("the customer contracts") govern the scope, implementation and maintenance of the

hosted services. The hosted services provide the customer services with access to

equipment and applications that are physically located at Tellme data centers.[7]

However, the hosted services are directed to a fully automated platform and, as such,

do not include any operator support. (D.I. 143, ex. 7 at 7) The hosted services and the

customer services (collectively, "the accused services") continue to provide directory

assistance services. (D.I. 153 at 198-201)

A call from a consumer initiates the hosted services, which prompt[8] the

consumer for a verbal response. (*Id.*, ex. 8 at 46) The consumer may request

information relating to, e.g., a locality, a business listing, or a white pages listing. (D.I.

153 at 204) The consumer's response is then recorded by the hosted services. (D.I.

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[6]Tellme generally establishes a contractual relationship with its customers prior to the provision of any services. (D.I. 143, ex. 8 at 238) In exemplary contracts, Tellme has: (1) granted nonexclusive licenses to access certain features of the Tellme data centers (D.I. 153 at 55, 219); and/or (2) agreed to develop directory assistance platforms (*Id.* at 238). The contracts likewise grant a right to inspect the Tellme data centers. (*Id.* at 48, 57-58, 235-36)

[7]The Tellme data centers consist of substantial computer equipment dedicated to the directory assistance call flow, voice recognition, and audio playback aspects of the directory assistance applications, as well as Tellme's internal networks and multiple direct connections to nationwide fiber-optic networks. (D.I. 153 at 91-93)

[8]A VoiceXML audio tag plays a prompt to the caller. (*Id.* at 47)

143, ex. 8 at 49) In addition to recording the response, Tellme's speech recognition software[9] will attempt to recognize the response. During the recognition process, the speech recognition algorithm will compare the consumer's response to several possible candidates and assign a confidence score to each that indicates the likelihood that a given candidate corresponds to the consumer's response. (*Id.* at 58) The confidence scores are then compared to a threshold value in order to assess the likelihood of an accurate recognition.[10] (*Id.* at 60)

If the algorithm determines that it is likely that it has accurately recognized the consumer's response, it will attempt to complete the requested task by providing the requested directory assistance information. (*Id.* at 62) However, Tellme does not connect the consumer for a given listing. Rather, the hosted services transfer the requested listing and the consumer to VoltDelta, a Tellme commercial partner, where VoltDelta equipment may connect the call. (*Id.* at 63) When Tellme's speech recognition algorithm does not accurately recognize the consumer's response, the hosted services will ultimately transfer the call to an operator[11] unaffiliated with Tellme's hosting services. As part of the transfer, the hosted services will play a recording of the

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[9]While Nuance and Tellme were commercial partners, Nuance provided Tellme with speech recognition software pursuant to a license. After the dissolution of this relationship, Tellme switched to an IBM speech recognizer. (*Id.* at 54)

[10]The method of comparison and subsequent reliability assessment vary amongst the several services offered by Tellme. (*Id.* at 61)

[11]The steps for transferring the call vary according to the given service. For example, certain Tellme services will re-prompt the caller for a second response before making a final determination that an inaccurate recognition necessitates operator assistance. (D.I. 153 at 456-57)

consumer's response to the operator. (D.I. 153 at 457, 463) The operator will then input the correct information, allowing the customer services to provide the requested information. (*Id.* at 205-06, 457)

III. STANDARD OF REVIEW

A court shall grant summary judgment only if "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). The moving party bears the burden of proving that no genuine issue of material fact exists. *See Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586 n.10 (1986). "Facts that could alter the outcome are 'material,' and disputes are 'genuine' if evidence exists from which a rational person could conclude that the position of the person with the burden of proof on the disputed issue is correct." *Horowitz v. Fed. Kemper Life Assurance Co.*, 57 F.3d 300, 302 n.1 (3d Cir. 1995) (internal citations omitted). If the moving party has demonstrated an absence of material fact, the nonmoving party then "must come forward with 'specific facts showing that there is a genuine issue for trial.'" *Matsushita*, 475 U.S. at 587 (quoting Fed. R. Civ. P. 56(e)). The court will "view the underlying facts and all reasonable inferences therefrom in the light most favorable to the party opposing the motion." *Pa. Coal Ass'n v. Babbitt*, 63 F.3d 231, 236 (3d Cir. 1995). The mere existence of some evidence in support of the nonmoving party, however, will not be sufficient for denial of a motion for summary judgment; there must be enough evidence to enable a jury reasonably to find for the nonmoving party on that issue. *See*

Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249 (1986). If the nonmoving party fails

to make a sufficient showing on an essential element of its case with respect to which it

has the burden of proof, the moving party is entitled to judgment as a matter of law.

See Celotex Corp. v. Catrett, 477 U.S. 317, 322 (1986).

IV. DISCUSSION

A. Infringement

A patent is infringed when a person "without authority makes, uses or sells any

patented invention, within the United States . . . during the term of the patent." 35

U.S.C. § 271(a). A two-step analysis is employed in making an infringement

determination. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir.

1995). First, the court must construe the asserted claims to ascertain their meaning

and scope. *Id.* Construction of the claims is a question of law subject to de novo

review. *See Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998). The

trier of fact must then compare the properly construed claims with the accused

infringing product. *Markman*, 52 F.3d at 976. This second step is a question of fact.

See Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353 (Fed. Cir. 1998).

"Direct infringement requires a party to perform each and every step or element

of a claimed method or product." *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373,

1378 (Fed. Cir. 2007). "If any claim limitation is absent from the accused device, there

is no literal infringement as a matter of law." *Bayer AG v. Elan Pharm. Research Corp.*,

212 F.3d 1241, 1247 (Fed. Cir. 2000). If an accused product does not infringe an

independent claim, it also does not infringe any claim depending thereon. *See*

Wahpeton Canvas Co. v. Frontier, Inc., 870 F.2d 1546, 1553 (Fed. Cir. 1989). A product that does not literally infringe a patent claim may still infringe under the doctrine of equivalents if the differences between an individual element of the claimed invention and an element of the accused product are insubstantial. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 24 (U.S. 1997).

Under both contributory and induced infringement theories, there must be evidence showing direct infringement. *See Linear Technology Crop. v. Impala Linear Corp.*, 379 F.3d 1311, 1326 (Fed. Cir. 2004). In addition to proving the existence of direct infringement, establishing active inducement of infringement requires proof "that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement . . . ." *Broadcom Corp. v. Qualcomm, Inc.*, 543 F.3d 683, 699 (Fed. Cir. 2008) (quoting *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006)). Contributory infringement also requires proof of defendant's knowledge that its sale of "a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, [was] especially made or especially adapted for use" in the course of another's infringement. 35 U.S.C. § 271(c); *see also Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990).

The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

1. Direct infringement

Nuance asserts that the accused services directly infringe the systems described by claims 3 and 5 of the '088 patent. In its motion for summary judgment of noninfringement, Tellme does not argue that the accused services do not read upon the limitations of the '088 patent. Instead, Tellme alleges that there can be no direct infringement because there is no infringing "use" within the meaning of 35 U.S.C. § 271(a). By contrast, Nuance contends that such "use" occurs in several instances: (1) when a consumer calls and engages the accused services; (2) when Tellme's employees call and engage the accused services; and (3) when Tellme's customers use the accused services.

The "user" of a system under § 271(a) must put the system as a whole into service, i.e., he or she must exercise control over and receive beneficial use of the system. *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1317 (Fed. Cir. 2005).[12] While Tellme generally disputes that consumers exercise any appreciable control over the accused services, the main thrust of its argument is that consumers do not use "each and every element" of the claimed apparatus. *BMC*, 498 F.3d at 1382. Consistent with this position, Tellme argues that consumers can not "use" several elements of the systems embodied by claims 3 and 5, to wit, means for "recognizing information in the verbal response," "recording . . . the verbal response," "manually input[ting] information into the speech recognition system," "completing the task

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[12]The court acknowledges that *NTP* specifically dealt with the location of the use, and not the existence of a use. *Id.* at 1317 n.13. Insofar as the establishment of a § 271(a) use is inherent in the determination of a location of such use, the test enunciated in *NTP* remains apposite to such an inquiry. *See Inline Connection Corp. v. AOL Time Warner, Inc.*, 472 F. Supp. 2d 598, 600 (D. Del. 2007).

automatically if the information was reliably recognized by said speech recognizer," and

"complet[ing] the task with the information inputted by a human attendant other than the

human customer after reviewing the recorded verbal response."

Tellme's arguments in this regard, which employ a limitation-by-limitation

analysis,[13] are inconsistent with the Federal Circuit's emphasis that an infringing use

must engage the system as a whole. *NTP*, 418 F.3d at 1317. The *NTP* Court

emphasized the "fundamental[] difference" between the § 271(a) use of a process and

the use of a system, noting that,

> [b]ecause a process is nothing more than the sequence of actions of which it is
> comprised, the use of a process necessarily involves doing or performing each of
> the steps recited. This is unlike use of a system as a whole, in which the
> components are used **collectively**, not individually.

Id. at 1318 (emphasis added). In that case, the defendant sold the accused BlackBerry

system, "which allows out-of-office users to continue to receive and send electronic mail

. . . using a small wireless device." *Id.* at 1289. The accused BlackBerry system

comprised several components: (1) the BlackBerry handheld unit; (2) email redirector

software; and (3) access to a nationwide wireless network. *Id.* at 1290. Moreover,

each electronic message sent from or received by the BlackBerry handheld unit was

routed through a portion of the defendant's wireless network located in Canada. *Id.*

Despite (1) the multinational location of the accused system (which spanned the U.S.

and Canada), (2) the divided ownership of the accused system's components, and (3)

the user's likely ignorance of the inner workings of the accused BlackBerry system, the

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[13]Such an analysis would be more appropriately applied to whether the accused services themselves contain each limitation of claims 3 and 5 of the '088 patent. Tellme has chosen not to challenge this aspect in its motion for noninfringement.

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Court concluded that the defendant's customers used the **system** by sending

messages. *Id.* at 1317. The Court arrived at this conclusion after determining that the

customers controlled the transmission of information and benefitted from the exchange

of information. *Id.*

Applying the systemic analysis of *NTP* to the case at bar, a similar conclusion

may be reasonably reached.[14] The parties do not dispute that a consumer who calls

the accused services puts the system into operation. Neither do they dispute that the

consumer receives a clear benefit when the accused services supply the requested

listing information. Moreover, a reasonable jury could conclude that a consumer exerts

control over the system by specifying the information that the accused services must

retrieve to complete the task (residential listing, business listing, driving directions,

movie times, etc.), as well as the format in which the task will be completed (text

message, recorded playback, connected call, etc.).

Tellme argues that the facts of the case at bar more closely align with *epicRealm

Licensing, LLC v. Autoflex Leasing, Inc.*, a case which applied teachings of *NTP* and

concluded that web site visitors did not "use" the accused system. 492 F. Supp. 2d 608

(E.D. Tex. 2007). The patent at issue in *epicRealm* was directed to software that

managed incoming web page requests. *Id.* at 615. In finding no infringing use, the

epicRealm Court explained that "the claimed system in *NTP* was directed to a system

for the transmission of messages, and that is exactly the function that the defendant's

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[14]Defendant's citation to *Cross Med. Prods. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293 (Fed. Cir. 2005), a case which considered whether the defendant **made** a claimed apparatus, is inapposite to the question at bar.

customers controlled." *Id.* (internal citations omitted). By contrast, the web site visitors in *epicRealm*, "who send requests to a web server and receive a response[,] do not control the operations of [the accused software] in managing incoming web page requests." *Id.*

As previously noted, claims 3 and 5 are directed to an "apparatus for processing verbal information for completing a task." The completion of a task is the reason that a caller engages the accused services. And insofar as the caller exercises control over the accused services by dictating the format and manner in which the task is accomplished, the court finds that the case at bar is distinguishable from *epicRealm*. At a minimum, significant issues of material fact exist with respect to whether calling the accused services described by claims 3 and 5 constitutes an infringing use.

Having determined that calling the accused services may constitute an infringing use, the court turns next to Nuance's theory that Tellme itself is liable for direct infringement based on the actions of Tellme's employees. In support of this theory, Nuance relies solely on the deposition testimony of a single employee, Steve Kerns ("Kerns"), Tellme's manager of client engagements. Since the beginning of his employ in 2005, Kerns has supervised the delivery of Tellme's directory assistance platform to AT&T Mobility. (D.I. 153 at 395) Kerns gave the following deposition testimony:

Question: Have you ever actually called the 411 number that Cingular has?

Answer: Yes.

* * *

Question: Approximately how many times have you called the Cingular 411 number?

Answer: Hundreds.

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(*Id.* at 401) Kerns did not provide, nor was he asked about, the context in which he made these calls.

In response, Tellme argues that Nuance's theory lacks critical evidentiary support. Specifically, Tellme points to an absence of evidence as to whether: (1) Kerns made the calls pursuant to his role as a Tellme employee; and (2) Kerns made the calls prior to the expiry of the '088 patent in July 2008. The court agrees. The record is closed. The recited testimony is insufficient to support Nuance's theory of direct infringement in this regard.

Finally, Nuance asserts that Tellme's customers directly infringe the '088 patent by controlling Tellme through the customer contracts such that together, they perform all of the steps of claims 3 and 5 of the '088 patent. (D.I. 143, ex. 5 at ¶¶91, 105) When a single entity does not perform all the steps of a patent claim, direct infringement will not exist unless "one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, i.e., the 'mastermind.'" *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008) (citing *BMC*, 498 F.3d at 1380-81). Here, a reasonable jury could conclude that, due to the level of contractual control present, Tellme's actions should be attributable to its customers.[15] Accordingly, the combined performance of the elements of claims 3 and 5 of the '088 patent may constitute direct infringement attributable to Tellme's customers.

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[15]Tellme does not argue that direct infringement cannot exist under this theory. (*See* D.I. 142 at 17-18) Rather, Tellme's only objection in this regard, addressed *infra*, stems from Nuance's reliance upon this source of direct infringement to support its allegation that Tellme induced this infringement.

2. Indirect infringement

Nuance advances several theories that hold Tellme liable for the indirect infringement of the '088 patent. According to Nuance, Tellme induced infringement by its customers as well as the consumers of the accused services. Nuance also alleges that Tellme contributed to infringement by its customers and the consumers. The court addresses each theory in turn.

a. Inducement claims

Nuance argues that Tellme's acts since learning of the '088 patent have induced infringement. In support of this position, Nuance points to the continued operation of the accused services, as well as Tellme's efforts to maintain and update its directory assistance platforms since February 17, 2006. Nuance generally avers that the court can infer from Tellme's conduct the requisite specific intent and knowledge that its actions would induce another's direct infringement. *See Broadcom Corp.*, 543 F.3d at 699.

Tellme does not dispute that it knew of the '088 patent upon the filing of this action. Rather, Tellme emphasizes that each of the customer contracts governing the accused services was entered into well before 2006. (D.I. 143, ex. 5 at ¶¶ 64, 71, 78) According to Tellme, because it "innocently" entered into the customer contracts without knowledge of the '088 patent, performance under these contracts cannot constitute inducement of patent infringement. (D.I. 142 at 19) Tellme relies on two cases in support of this proposition.

In *Keplinger v. De Young*, 23 U.S. 358 (1825), the Supreme Court decided a

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claim of direct infringement more than 100 years before induced infringement was codified into Title 35 in 1952. That case concerned a defendant who entered into an output contract to purchase all of the watches manufactured by a third party infringer according to the patented process at issue. *Id.* at 362-63. The defendant knew that the patentee sought patent protection for the watch-making process, but did not learn of the patent until well after it had entered into this contract. *Id.* After learning of the patent, the defendant continued to purchase watches according to the output contract. *Id.* In absolving the defendant of liability, the Supreme Court explained that it would "be an extravagant construction of the patent law" to find that the defendant violated the plaintiff's patent rights. *Id.* at 364-65.

Keplinger does not apply, as Tellme contends, to claims of inducement. Rather, *Keplinger* "works to prevent . . . the mere purchaser of a product created by [infringing] apparatuses, from being liable for direct infringement." *Gammino v. Cellco P'ship*, 527 F. Supp. 2d 395, 398 n.2 (E.D. Pa. 2007). Even assuming that *Keplinger* holds precedental value with respect to claims for inducement, an output contract for the **purchase** of watch chains made by an infringing process is clearly distinguishable from the customer contracts in which Tellme and its customers **offer** the accused infringing services. Indeed, in the former scenario, the absence of liability is implicit in the fact that the purchaser did not use the claimed process for producing watch chains. *Keplinger*, 23 U.S. at 364-66. There is no corresponding clear defense to liability in jointly offering an accused infringing service.

The patent at issue in *Goodwall Constr. Co. v. Beers Constr. Co.*, 216 U.S.P.Q.

1006 (N.D. Ga. 1981), was directed to a method for texturing concrete. The patentee asserted claims of inducement against a building owner whose contractor directly infringed the method during the construction of the building. *Id.* at 1008. The building owner did not know of the patent-in-suit before entering into the building contract or the amended building contracts. *Id.* at 1009. Indeed, the patent-in-suit did not issue until four months after the texturing had begun. *Id.* Moreover, once the building owner learned of the patent, the *Goodwall* court found that the only act performed with this knowledge was stating to its contractor, "If the building is to be ready on time, surfacing must continue." *Id.* at 1010. The court found this knowledge an insufficient predicate to a claim of inducement and concluded that the building owner was "free to enforce the provision of its contract with [the direct infringer]." *Id.* at 1011.

Goodwall is distinguishable from the case at bar. Unlike the single application of the accused texturing, Tellme has continued to operate, maintain, and update its directory assistance platform. Tellme has evinced no intention of ceasing such activity. Most significantly, evidence of record demonstrates that, after February 2006, Tellme has revised, amended and extended its contractual obligations to provide its hosted services. (D.I. 153 at 237, 476-79) Unlike the texturing process which the *Goodwall* court characterized as a "unified process which is inherently less amendable to substantial modification once begun," 216 U.S.P.Q. at 1010, Tellme has, under certain contacts, a right to modify its hosted services to avoid infringement. (D.I. 153 at 60, 233) Accordingly, the court does not regard Tellme's conduct as the result of a contract "innocently" entered into.

With respect to Nuance's claim that Tellme induced infringement by its customers, Tellme argues that such a claim is "confusingly recursive" in that "Tellme's actions are inducing the infringement of entities that control Tellme's actions . . . ." (D.I. 142 at 17) In support of the purported legal inadequacy of such a claim, Tellme cites to an article directed to divided infringement which posits, without direct citation, that "legal theories that seek to attribute acts of one entity to another based on inducement by quasi-agents rest on questionable legal grounds." Mark A. Lemley et al., "Divided Infringement Claims, " 33 AIPLA Q.J. 255, 271-72 (2005). Despite this conclusory statement, Tellme has identified no case law which requires, as Tellme seems to suggest, that the inducer act as the mastermind behind the infringement. While such a relationship may be indicative of inducement, "control is not a necessary condition for a finding of inducement liability." *Trs. of Columbia Univ. v. Roche Diagnostics GmbH*, 272 F. Supp. 2d 90, 106 (D. Mass. 2002).

Moreover, it is not legally inconsistent to determine, on one hand, that Tellme's customers wield sufficient control such that Tellme's actions are attributable to its customers and, on the other hand, that Tellme possesses the requisite knowledge and specific intent to encourage the direct infringement of its customers. Indeed, even though the customer contracts demonstrate that Tellme's customers control many aspects of Tellme's hosted services, Tellme still has the discretion to modify, amend and renew these contracts. It is reasonable to infer that Tellme's knowledge and specific intent becomes evident each time it chooses to continue, by renewal or otherwise, a contractual relationship with a customer who directly infringes the '088 patent.

To the extent that the court has previously determined that consumers of the accused services "use" the claimed apparatus within the meaning of 35 U.S.C. 271 § (a), Tellme has offered no argument that it does not induce consumers to infringe the '088 patent. However, due to the apparent lack of contact between Tellme and consumers of the accused systems,[16] the court briefly considers whether Tellme's acts can be properly characterized as encouraging the direct infringement of the consumers.

Active inducement requires an affirmative act. *Tegal Corp. v. Tokyo Electron Co.*, 248 F.3d 1376 (Fed. Cir. 2001). The Federal Circuit has acknowledged that an extensive scope of affirmative acts may suffice to create liability for inducement, in that "the term is as broad as the range of actions by which one in fact causes, or urges, or encourages, or **aids** another to infringe a patent." *Id.* At the other end of the spectrum, "evidence of mere inaction [does not] constitute inducement" *Id.* at 1379. As previously noted, Tellme's hosted services form an integral portion of the accused services. Without Tellme's automated platform, the accused services would lack critical elements of the '088 patent and consumers could not be held liable for direct infringement. Even if Tellme's provision of services does not, in fact, aid or facilitate the infringement by consumers, it certainly "perpetuates the infringing use." *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 484 (U.S. 1964).[17] Accordingly, this affirmative

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[16]Presumably, Tellme's customers provide all of the advertising for the accused services.

[17]*Aro* dealt with the question of whether the act of repairing an infringing article constitutes infringement. Holding in the affirmative, the Court explained that "[n]o doubt . . . a patented article may be repaired without making the repairer an infringer, . . . but not where it is done for one who is." *Id.* (citing *Union Special Mach. Co. v. Maimin*, 161 F. 748, 750 (C.C.D. Pa. 1908), aff'd, 165 F. 440 (3d Cir. 1908). This is so because the

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act can sustain Nuance's theory that Tellme induced infringement by the consumers.

On this record, Tellme's knowledge and specific intent to encourage the infringement of both its customers and consumers of the accused system can be reasonably inferred from its conduct.

b. Contributory infringement claims

Nuance contends that Tellme contributes to the infringement of its customers and consumers of the accused services. Tellme argues principally in response that, because it provides a service and not a component, material or apparatus, it cannot be held liable for contributory infringement.

Claims for contributory infringement are governed by 35 U.S.C. § 271(c), which states:

> Whoever offers to sell or sells within the United States or imports into the United States a **component** of a patented machine, manufacture, combination or composition, or a **material** or **apparatus** for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

(emphasis added). The Federal Circuit has explained that a patentee cannot predicate allegations of contributory infringement upon the defendant's provision of a service. *See Pharmastem Therapeutics, Inc. v. Viacell*, Inc., 491 F.3d 1342, 1357 (Fed. Cir. 2007) (finding that "none of [the activities governed by 35 U.S.C. § 271(c)] refer to the

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repair of an infringing item "perpetuates the infringing use." *Id.* After *Aro*, the actions of repair and maintenance have been included among the list of affirmative acts which may lead to liability for inducement. *See Symbol Technologies, Inc. v. Metrologic Instruments, Inc.*, 771 F. Supp. 1390, 1405 (D.N.J. 1991).

provision of a service."). Nuance does not identify any sale made by Tellme; instead Nuance argues, citing to *In re Kollar*, 286 F.3d 1326 (Fed. Cir. 2002), that the licenses in the customer contracts are "tantamount to a sale." (D.I. 152 at 22-23) In *Kollar*, the Court considered the relationship of a license to a sale within the context of a § 102(b) on-sale bar:

> We use the term "license" here to refer to rights under a patent, not to describe a commercial transaction arranged as a "license" or a "lease" of a product or a device that may or may not have been patented. . . . In certain situations, a "license" in the latter sense of the word may be tantamount to a sale (e.g., a standard computer software license) . . . because the product is . . . just as immediately transferred to the 'buyer' as if it were sold.

Id. at 1331. While the customer contracts grant the customers a right to use Tellme's hardware and software, as well as a right to inspect Tellme's data centers, there is no apparent transfer of property to Tellme's customers. And it would be unreasonable to equate Tellme's hosted services with the transfer of a "standard computer software license." *Id.* Accordingly, Tellme's provision of hosted services brings this case within the ambit of *Pharmastem*, precluding any liability for contributory infringement.

B. Invalidity

The standard of proof to establish the invalidity of a patent is "clear and convincing evidence." *Golden Blount, Inc. v. Robert H. Peterson Co.*, 365 F.3d 1054, 1058 (Fed. Cir. 2004). In its motion for summary judgment of invalidity, Tellme contends that the '088 patent is anticipated by, or rendered obvious in light of, the Hitachi patent.[18]

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[18]The PTO did not consider the Hitachi patent during the prosecution of the '088 patent.

1. Anticipation

An anticipation inquiry involves two steps. First, the court must construe the claims of the patent in suit as a matter of law. *See Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 714 (Fed. Cir. 1998). Second, the finder of fact must compare the construed claims against the prior art. *See id.*

Proving a patent invalid by anticipation "requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation." *Advanced Display Sys. Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000) (citations omitted). The Federal Circuit has stated that "[t]here must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention." *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). The elements of the prior art must be arranged or combined in the same manner as in the claim at issue, but the reference need not satisfy an ipsissimis verbis test. *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. Mar. 26, 2009) (citations omitted). "In determining whether a patented invention is [explicitly] anticipated, the claims are read in the context of the patent specification in which they arise and in which the invention is described." *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply, Inc.*, 45 F.3d 1550, 1554 (Fed. Cir. 1995). The prosecution history and the prior art may be consulted "[i]f needed to impart clarity or avoid ambiguity" in ascertaining whether the invention is novel or was previously known in the art. *Id.* (internal citations omitted).

A prior art reference may anticipate without explicitly disclosing a feature of the claimed invention if that missing characteristic is inherently present in the single anticipating reference. *See Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991). The Federal Circuit has explained that an inherent limitation is one that is "necessarily present" and not one that may be established by "probabilities or possibilities." *See id.* at 1268-69. That is, "'[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *Id.* at 1269 (emphasis in original) (citations omitted).

Tellme argues that the Hitachi patent anticipates the '088 patent. Having construed the claims in its order of the same date, the court considers Tellme's arguments in this regard.

a. Claim 1

> **i. A method of processing verbal information received by an automated voice recognition system from a customer and completing a task on the basis of information received, the method comprising the steps of:**

The parties do not dispute that Hitachi contains this limitation. The system disclosed by the Hitachi patent consists of an automated voice recognition system directed to the specific task of connecting a caller to a requested extension. (D.I. 143, ex. 2 at 6114)

> **ii. [P]rompting a verbal response from a human customer as an input source;**

The parties do not dispute that Hitachi contains this limitation. The Hitachi patent discloses an "audio response unit" for prompting a verbal response from a caller,

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which plays a "reception message (e.g., 'You have reached Company ABC; please state your name along with the name or extension number of the party to whom you wish to speak.')" to the caller. (*Id.* at 6116)

iii. [R]eceiving information in the verbal response from the input source generated by the human customer, said information corresponding to a desired task to be completed;

The parties do not dispute that the Hitachi patent discloses a "reception trunk" which receives "the desired extension connection information (e.g., extension number, person, or workplace name)" spoken by the caller. (*Id.*)

iv. [R]ecording the verbal response;

It is also undisputed that the Hitachi patent discloses a "voice recording unit" which "records audio signals from the party requesting to be connected to the extension." (*Id.* at 6117)

v. [A]ttempting to recognize said information through automation;

The Hitachi patent discloses a speech recognizer (identified as a "voice recognition unit") which attempts to automatically recognize the extension connection information spoken by the caller. (*Id.* at 6116)

vi. [D]etermining by automation if the information was reliably recognized;

The parties' primary dispute centers on this limitation and, specifically, whether the system disclosed by the Hitachi patent "reliably recognizes" information. As noted in the court's claim construction order, the limitation "reliably recognized" means "meets the recognition criteria of the particular system." With respect to this functionality, the

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Hitachi patent describes the speech recognition process:

> Extension connection information relating to the extension number is stored in a pattern. The voice recognition unit 12 **compares** and **matches** the stored pattern information with the audio signals of the extension connection information having been input, and sends the extension number that **optimally correlates** with the stored patterned information to the control unit 5 via the voice recognition unit control link 16.
>
> If a **recognition failure** occurs, information indicating that the recognition failed will be sent.

(*Id.*) Dr. Nathaniel Polish ("Dr. Polish"), Nuance's expert, opines in his expert report that the Hitachi recognition process is, in reality, a single step of "comparing the received audio signals with stored pattern information . . . to recognize speech information." (D.I. 153 at 447) To this extent, Nuance argues that the Hitachi patent teaches a system that "will take the best match, regardless of how reliable the best match." (D.I. 151 at 15) According to this interpretation, Nuance argues that "reliably recognized" does not contemplate a "best match" system.

Irrespective of the number of steps that the Hitachi system employs according to its speech recognition protocol, the court cannot accept Nuance's characterization. To the extent that the Hitachi system contemplates the possibility of a "recognition failure," it does not disclose a simple "best match" system. Dr. Polish concedes that a recognition failure will occur if the step of optimally correlating the utterance with the stored templates does not meet "some threshold limit."[19] (D.I. 143, ex. 9 at 195:3-9)

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[19]Nuance takes issue with its expert's identification of a "threshold" in the Hitachi patent. According to Nuance, the Hitachi patent does not necessarily disclose a "threshold," arguing that "one of skill in the art could also assume the system described in the [Hitachi] patent accepts the best match without applying any threshold at all." (D.I. 151 at 16) The lack of a "threshold" of recognition, however, is inconsistent with the explicit presence of both an "optimal correlation" and a "recognition failure" in the

Put another way, if the measured distance between the utterance and the stored template is outside of the threshold, a recognition failure occurs. On the other hand, if the distance is within the threshold, the match meets the recognition criteria of the particular system disclosed by Hitachi and is "reliably recognized." No reasonable jury could determine otherwise.

Alternatively, the expansive meaning of the term "reliably recognized" does not mandate the presence of a threshold. The mere presence of a recognition failure demonstrates a standard of recognition within the Hitachi system - a criteria that precludes the automatic and nondiscriminating recognition of any utterance received by the system. Pursuant to this separate understanding, the Hitachi system demonstrates both the presence and accomplishment of a recognition criteria.

> **vii. [T]ransmitting the recorded verbal response of the human customer to a human attendant other than the human customer if it is determined that said information was not reliably recognized;**

The parties do not dispute that, in the event the information spoken by the caller is not reliably recognized "after the first attempt of a prescribed number of re-attempts have been preformed," the system disclosed by the Hitachi patent issues a request for operator assistance and transmits the recording to the operator. (D.I. 143, ex. 2 at 6120)

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speech recognition system of the Hitachi patent. It is likewise inconsistent with the pattern matching technique (i.e.,"The voice recognition unit 12 **compares** and **matches** . . . ") disclosed by the Hitachi patent. Tellme's expert Ivan Zatkovich ("Zatkovich") opines that thresholds are standard in pattern matching techniques. (D.I. 160 at ¶¶ 125-31)

viii. [I]nputting correct information by the human attendant so as to enable the completion of the desired task through automation; and

Nuance does not dispute that the Hitachi patent discloses an example of an operator establishing a connection by inputting the extension number that the caller requested in the recording with a numeric keypad. (*Id.* at 6113) However, Nuance argues that once the call is transferred to the operator and the operator connects the call, "the caller never interacts with the automated system again." (D.I. 151 at 19) Moreover, Nuance takes issue with the operator's announcement of the call prior to the desired connection (e.g., the operator says "Ms. Smith, Mr. Jones is calling for you."). Nuance concludes that, because of the operator's involvement in completing the desired task, the system disclosed by the Hitachi patent does not complete the task through automation.[20]

The court disagrees that the connection to the desired extension is "completed solely by the operator." (D.I. 151 at 20) Figure 2 of the Hitachi patent discloses a system in which the operator's keypad is connected to the remainder of the automated system. (D.I. 143, ex. 2 at 6125) Once the operator keys in the desired extension, the **system** connects the call. As Tellme notes, "the operator does not get up out of his seat and walk the phone over to the office of the person being called . . . ." Nuance's arguments regarding the operator's announcement are equally unavailing. This announcement function finds its genesis in the formal Japanese culture of the 1970s rather than in any technical limitation of the system. In his deposition, Dr. Polish

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[20]The court has construed "automation" to mean "without using a human attendant."

admitted that there is no technical requirement present in the Hitachi patent for such an announcement, and that the operator "could enter an extension and hang up and let the call transfer through without any kind of intervention." (D.I. 160, ex. 1 at 123:6-17)

> **ix. [C]ompleting the desired task with the automatically recognized information if it is determined that said information was reliably recognized or with the human attendant inputted information if it is determined that said information was not reliably recognized.**

The parties do not dispute that this limitation is disclosed by the Hitachi patent. Along the purely automated path, if the system is able to optimally correlate the utterance, the connection to the desired extension is performed wholly by the system and without any operator assistance. (D.I. 143, ex. 2 at 6117-18) And, as explained above, in the instances where the utterance is not optimally correlated, the operator completes the desired task by inputting the correct information.

b. Claim 2

Claim 2 of the '088 patent, dependent upon claim 1, reads as follows:

A method as defined by claim 1 and further comprising the step of: prompting a repeated verbal response from the human input source.

The parties do not dispute that the Hitachi patent describes a re-prompting of an utterance if a recognition failure occurs. (*Id.* at 6116-17) Upon recognition failure, "[t]he control unit 5 will accordingly be prompted to control the audio response unit 11 once more to send an audio signal of a message requesting the extension connection information to be re-sent . . . ." (*Id.*)

c. Claim 3

The analysis of claim 3, an apparatus that embodies the method of claim 1,

largely tracks the analysis of claim 1. However, the "means for determining if the information was reliably recognized" limitation of claim 3 results in a narrower construction than its "reliably recognized" counterpart in claim 1. The court briefly addresses this difference.

The court has construed "means for determining if the information was reliably recognized" in accordance with 35 U.S.C. § 112 ¶ 6 to refer to the three disclosed algorithms of the '088 patent. The specification of the '088 patent discloses three algorithms: (1) assigning a probability of correctness to the estimate of the utterance spoken by the caller; (2) if the utterance is a digit string, computing a check-sum of digits; or (3) making an error assumption if the recognition device proposes a word that does not conform to the expected caller responses or equivalents thereof.

Tellme has not demonstrated that Hitachi contains any of the three requisite algorithms. Moreover, the court is not inclined to adopt Tellme's conclusory statement that the use of a "threshold setting determines the . . . probability of correctness of the result." (D.I. 140 at 17) Tellme has failed to demonstrate the explicit or inherent presence of this limitation in Hitachi and, accordingly, is not entitled to judgment as a matter of law that Hitachi anticipates claim 3 of the '088 patent.

d. Claim 4

Claim 4 is a method claim similar to claim 1, but does not require a determination that information is "reliable recognized." Rather, claim 4 requires a modified step of "determining if said information is either recognizable or unrecognizable by said voice recognition system . . . ." Nuance contends that the system disclosed by Hitachi accomplishes only the single step of recognizing the speech information, and does not

disclose the require step of evaluating the recognition. This argument is unconvincing for the same reason that the court rejects Nuance's characterization of the Hitachi system as making a simple "best match" determination without any semblance of recognition. The Hitachi patent specifically evaluates the recognition of the utterance as evidenced by the potential for recognition failure.

e. Claim 5

Claim 5 is an apparatus claim that contains many of the limitations of claims 1, 3 and 4. Instead of requiring a "means for determining if the information was reliably recognized" as in claim 3, claim 5 requires "means for determining if said information is recognizable or unrecognizable." The court has construed the means language of claim 5 as identical to the corresponding language in claim 3. Accordingly, because Tellme has failed to identify the presence of any of the three disclosed algorithms in the Hitachi patent, Tellme has failed to demonstrate that it is entitled to judgment as a matter of law that Hitachi anticipates claim 5.

2. Obviousness

"A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a). Obviousness is a question of law, which depends on several underlying factual inquiries.

> Under § 103, the scope and content of the prior art are to be determined;
> differences between the prior art and the claims at issue are to be ascertained;
> and the level of ordinary skill in the pertinent art resolved. Against this
> background the obviousness or nonobviousness of the subject matter is

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determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the patented.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)). "Because patents are presumed to be valid, see 35 U.S.C. § 282, an alleged infringer seeking to invalidate a patent on obviousness grounds must establish its obviousness by facts supported by clear and convincing evidence." *Kao Corp. v. Unilever U.S., Inc.*, 441 F.3d 963, 968 (Fed. Cir. 2006) (citation omitted).

"[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550 U.S. at 418. Likewise, a defendant asserting obviousness in view of a combination of references has the burden to show, by clear and convincing evidence, that a person of ordinary skill in the relevant field had a reason to combine the elements in the manner claimed. *Id.* at 418-19. The Supreme Court has emphasized the need for courts to value "common sense" over "rigid preventative rules" in determining whether a motivation to combine existed. *Id.* at 419-20. "[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 420.

In addition to showing that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, a defendant must also demonstrate, by clear and convincing evidence, that "such a person would have had a reasonable expectation of success in doing so."

PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1360 (Fed. Cir. 2007).

The patent and the prosecution history make explicitly clear that the only inventive aspect of the '088 patent, as understood by both Shipman and the examiner, was the "dual paths" for completing a task including the act of recording the user's response and playing the recording for an operator if necessary. As indicated above, the Hitachi patent explicitly discloses these elements. In its opposition to Tellme's motion for summary judgment of invalidity, Nuance recasts Shipman's invention as the reliability determination of the '088 patent. In this regard, it must be emphasized that Shipman did not contribute to innovation in the field of reliable recognition. The prosecution history, in which very little attention is given to the term "reliably recognized," is consistent with the deposition testimony of Dr. Polish, who confirmed that Shipman did not invent any of the recognition algorithms disclosed by the '088 patent.[21] (D.I. 160, ex. 1 at 41:20-22; 92:22-93:18) The record demonstrates that such

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[21]Q: Do you believe [Shipman] invented the concept of reliable recognition?
A: No, I don't think so.

Q: We established that [Shipman] didn't invent any speech recognizer.
A: That's right.

Q: He didn't invent statistical language models?
A: That's right.

Q: He didn't invent Hidden Markov Models.
A: That's right.

Q: He did not invent fully automated telephone based speech recognition systems.
A: That's right.

Q: He didn't invent confidence scores.
A: Right.

algorithms were well known prior to the filing of the '088 patent. Both the Rabiner article and the Jones article disclosed several methods with respect to this functionality.

The addition of a reliability check in the form of one of the disclosed algorithms does not lead to unpredictable results. The court disagrees that it was unexpected to obtain a high rate of accurate recognition upon combining an automated service with a human operator. It is axiomatic that a human operator will demonstrate superior speech recognition abilities to that of the existing computerized recognition systems. Thus, the use of a human operator could only improve the accuracy rate of a purely automated system.

Moreover, the Hitachi patent discloses an automated voice recognition system in which an utterance may be "reliably recognized." Even assuming that the threshold determination of Hitachi is manifestly different from a probability of correctness as Nuance contends, both were viable options as of the filing date of the '088 patent and Nuance has submitted no evidence that one skilled in the art would avoid such a substitution.[22] Given the identified problem of reliable recognition and the available

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Q: He didn't invent probability of correctness.
A: Right.

Q: He didn't invent the concept of checking the check[-]sum of a digit string?
A: That's right.

[22]Nuance argues that one skilled in the art would not combine the Hitachi reference with other art because of the simplistic and limited application of the Hitachi system - a branch exchange that serves a business. The subject matter of the Hitachi patent, simple as it may be, does not teach away from the potential substitution of the recognition failure functionality with one of the disclosed algorithms of the '088 patent. Nor does the court agree that the prior art teaches away from a reliability check using high thresholds, as evidenced by the high threshold disclosed by the Jones article.

algorithmic solutions, the substitution of the Hitachi system's recognition failure with one of the aforementioned disclosed algorithms would result in a simple and predictable arrangement of old elements (i.e., the Hitachi patent, the Rabiner article, the Jones article and common knowledge). *See KSR*, 550 U.S. at 419-20.

The Federal Circuit has maintained that "evidence of secondary considerations does not always overcome a strong prima facie showing of obviousness." *Asyst Techs., Inc. v. Emtrak, Inc.*, 544 F.3d 1310, 1316 (Fed. Cir. 2008). Tellme has presented exactly this showing of obviousness. Irrespective of Nuance's allegations of long-felt need, commercial success, and praise by others, Nuance does not attribute these hallmarks of nonobviousness to the "means for determining . . ." element that distinguishes the Hitachi reference from the '088 patent. Accordingly, Nuance has failed to rebut Tellme's prima facie case of obviousness. Hitachi renders claims 3 and 5 of the '088 patent obvious in view of the demonstrably available techniques for reliable recognition.

V. CONCLUSION

For the foregoing reasons, the court: (1) grants Tellme's motion for summary judgment of noninfringement of the '088 patent (D.I. 141) with respect to Nuance's allegations that Tellme directly infringed, or contributed to the direct infringement of, the '088 patent, and denies it with respect to Nuance's allegations that Tellme induced infringement of the '088 patent; and (2) grants Tellme's motion for summary judgment of the invalidity of the '088 patent (D.I. 139) insofar as the Hitachi patent anticipates claims 1, 2 and 4 and renders claims 3 and 5 obvious. An appropriate order shall

issue.