

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE LLC,

PETITIONER,

v.

SONGBIRD TECH, LLC,

PATENT OWNER.

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Case No. IPR2024-01096

U.S. Patent No. 8,825,787

Issue Date: September 2, 2014

Title: Audio Message Driven Customer Interaction Queuing System

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**PETITION FOR *INTER PARTES* REVIEW**

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**LIST OF EXHIBITS**

| <b>Exhibit</b>  | <b>Description</b>                                                                                                                      |
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| <b>Ex. 1001</b> | U.S. Patent No. 8,825,787 to Hazy (“the ’787 patent”)                                                                                   |
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| <b>Ex. 1003</b> | Declaration of Henry Houh, Ph.D. (“Houh”)                                                                                               |
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| <b>Ex. 1005</b> | U.S. Patent No. 6,687,877 to Sastry et al. (“Sastry”)                                                                                   |
| <b>Ex. 1006</b> | U.S. Patent Application Publication No. 2001/0056351 to Valentine et al. (“Valentine”)                                                  |
| <b>Ex. 1007</b> | U.S. Patent Application Publication No. 2002/0065759 to Boies et al. (“Boies”)                                                          |
| <b>Ex. 1008</b> | Excerpts from Greg Barish, <i>Building Scalable and High-Performance Java Web Applications Using J2EE™ Technology</i> (2002) (“Barish”) |
| <b>Ex. 1009</b> | Excerpts from Andrew S. Tanenbaum, <i>Computer Networks</i> (3d ed. 1996) (“Tanenbaum”)                                                 |
| <b>Ex. 1010</b> | <i>Application, Newton’s Telecom Dictionary</i> (8th ed. 1994)                                                                          |
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## **I. INTRODUCTION**

The '787 patent describes well-known systems and methods for transmitting audio messages between users and customer service agents. The patent's ten claims recite conventional functionality and components that were disclosed long before the patent's earliest priority date.

Independent claim 10 is the broadest claim in that it is directed only to user-side communications, reciting an electronic device, a microphone, and a client application that is used to locally record and store an audio query message and then transmit it. The examiner allowed the claims based on the applicant's argument that the prior art did not teach recording, storing, and transmitting a message. However, Petitioner's two primary references, Sastry and Valentine, demonstrate that claim 10 is unpatentable.

For example, Sastry discloses a customer terminal that includes a browser plug-in that is used to record a customer voice query, store it on the terminal, and then transmit it to a server. Valentine similarly discloses an initiating device (e.g., PC or cell phone) with a browser-based recorder applet that is used to record user audio through a microphone, store the audio on the device, and transmit it to a server.

The remaining independent claims—claims 1, 8, and 9—also recite only conventional limitations. Compared to claim 10, these claims add (i) enabling the user to review the recorded message before transmission, (ii) a host server that

receives the message, assigns it to a customer service agent, and distributes it to the agent, and (iii) agent-side communications that substantially mimic the user-side communications recited in claim 10.

Sastry discloses these additional limitations—as it discloses a web-based call center with servers that receive a user’s audio query, assign the query to an agent based on a skills determination, and distribute the audio query to the agent for review. The agent then responds to the query using software on an agent terminal.

The dependent claims recite conventional details of web communications, including using common protocols (such as HTTP or FTP), conventional Java concepts, graphical user interfaces, “standard” encoding and decoding techniques, and a “browser-resident” user application. As explained below, the prior art discloses or renders obvious each of these additional limitations. Petitioner therefore requests that the Board institute *inter partes* review (“IPR”) of the ’787 patent and find all claims unpatentable based on the grounds presented herein.

## **II. STANDING**

The ’787 patent is available for IPR. Petitioner is not barred or estopped from requesting IPR of the ’787 patent and challenging the claims on the presented grounds.

## **III. RELIEF REQUESTED FOR EACH CLAIM**

Petitioner requests IPR of claims 1-10 based on the following:

| Ground | Claim(s) Challenged | Reference(s)                               |
|--------|---------------------|--------------------------------------------|
| 1A     | 1, 2, and 4-10      | Sastry (anticipation)                      |
| 1B     |                     | Sastry (obviousness)                       |
| 1C     |                     | Sastry and Valentine (obviousness)         |
| 2A     | 3                   | Sastry and Boies (obviousness)             |
| 2B     |                     | Sastry, Valentine, and Boies (obviousness) |
| 3A     | 10                  | Valentine (anticipation)                   |
| 3B     | 10                  | Valentine (obviousness)                    |

#### IV. '787 PATENT

##### A. Overview

The '787 patent “relates to software systems ... designed to deliver customer service over the worldwide web.” '787 patent, 1:19-21. It provides “a voice message driven customer interaction queuing system,” *id.*, 4:54-56, that “allows web page visitors to utter questions into a browser-resident recorder application” and customer service agents to respond. *Id.*, 4:38-45, 1:29-37. The customer’s “questions are queued with originating web page information and user data and distributed to [the] customer service agents” who respond “with an audio message.” *Id.*, 4:40-45; Houh ¶¶49-52.

Figure 1 describes exemplary system components, including a “Customer PC” (or “Blurt Client”), a “Service Host Agent PC” (or “Blurt Agent” or “Agent’s Client”) and a “Service Host Server” (or “Blurt Server”). '787 patent, FIG. 1, 6:38-40, 7:5-32. The “Blurt Client resides in a standard browser on a Personal

Computer (PC),” *id.*, 8:7-8, and may appear “embedded in web pages ‘enabled’ with the Blurt technology.” *Id.*, 8:17-18. The Blurt Server “manag[es] the availability of agents and assignment of user-originated messages” as well as “audio responses from the Agent, routing[] and then delivering [the responses] to the originating User’s Blurt Client for playback on the User PC.” *Id.*, 9:15-22, FIGS. 1-2.

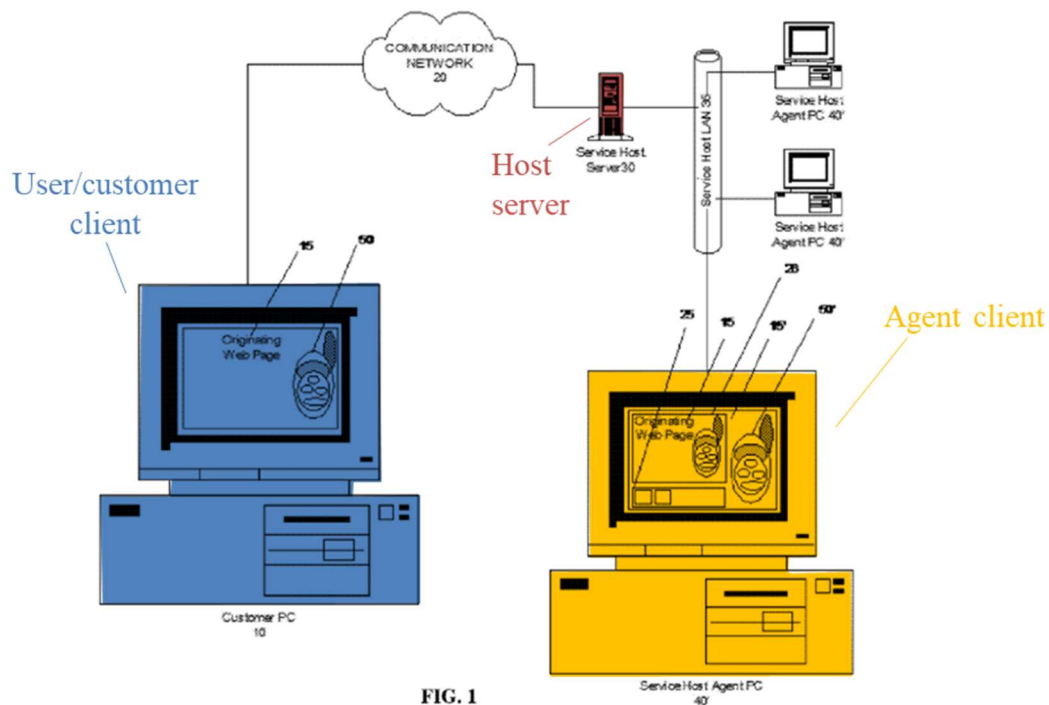


FIG. 1

*Id.*, FIG. 1 (annotated).

A user “visiting a blurt-enabled website” may create “an audio message” and send it to the Blurt Server using the Blurt Client. *Id.*, 7:6-10. The Blurt Server then determines whether an agent is available, “selects” an agent to “field the message,” “and distributes the message to the [a]gent.” *Id.*, 7:10-12. The agent may record

responses to the user's question and send responses to the Blurt Server, which "sends the response on to the User's Blurt Client for playback." *Id.*, 7:15-20, FIG. 1.

## **B. Prosecution History**

In response to an obviousness rejection, the applicant argued that the prior art did not teach "locally recording an audio message[,] followed by storing the recorded audio message and further sending the audio message via a communications network." Ex. 1002, 90. The Examiner subsequently allowed all claims stating, in the "Reasons for Allowance," that the "applicant's reply makes evident the reason for allowance." *Id.*, 121; Houh ¶¶53-55.

## **C. Level of Skill**

A POSITA would have had a bachelor's degree in Computer Science or Electrical Engineering or an equivalent engineering discipline, and at least two years of experience in the field of software systems for web-based communications. Houh ¶¶60-62. Lack of professional experience could be remedied by additional education, and lack of education could be remedied by additional professional experience. *Id.*

## **V. CLAIM CONSTRUCTION**

No terms require express construction because the prior art's disclosures are commensurate with the '787 patent disclosures; thus the prior-art mappings cover the claims under any construction consistent with *Phillips*. Petitioner analyzes the

claim terms under their plain and ordinary meaning in light of the specification and prosecution history. Houh ¶¶56-59.

## **VI. PRIOR ART**

### **A. Sastry**

Sastry was filed on February 17, 1999 and is prior art under 35 U.S.C. § 102(e). Sastry discloses “a web-based call center coupled to a call center agent terminal and a customer terminal.” Sastry, 2:32-34; Houh ¶¶63-66. The customer can “formulate a query” to send to an agent “[b]y entering a dynamic annotation data into a web page,” and the agent can “formulate ... a response to a query” to send to the customer in the same manner. Sastry, 8:29-32. The dynamic annotations “integrate voice” messages from the customer and agent. *Id.*, 8:32-35, 2:20-31.

Both terminals “include a web browser for accessing web documents from [a] web server and annotation plug-in software for recording ... dynamic annotations on web documents.” *Id.*, Abstract, FIG. 2, 6:35-40. The annotation plug-in software “is designed to operate with a commercial web browser.” *Id.*, 6:35-45. The “agent and customer terminals” upload the formulated queries and responses to a server at the call center over a network. *Id.*, Abstract, FIG. 2, 3:11-13, 6:48-57, 7:33-35, 7:65-8:1, 8:29-35. Figure 2 illustrates the pathway through which electronic web documents containing dynamic annotations (including voice) may be transmitted between a customer and a call center agent. *Id.*, FIG. 2, 2:20-25, 7:65-8:1.

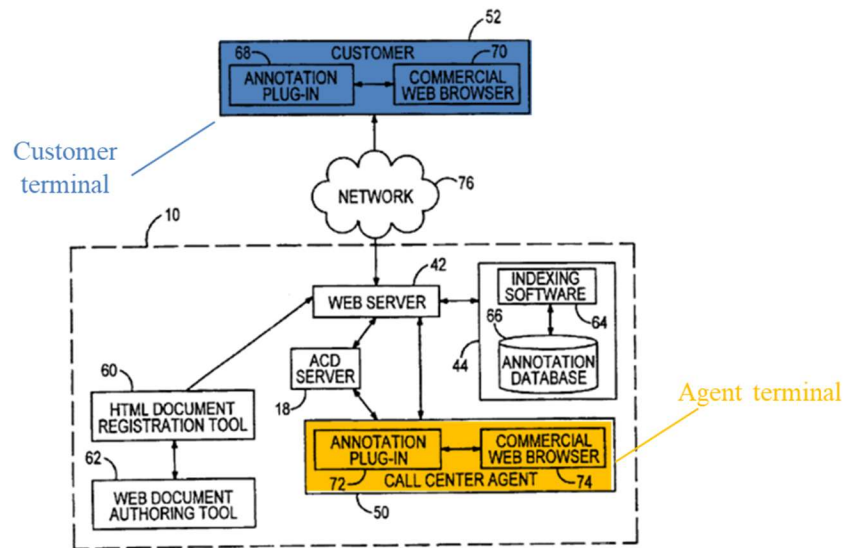


FIG. 2

*Id.*, FIG. 2 (annotated).

Sastry's call center agent is encompassed within call center 10, which also encompasses web server 42, annotation server 44, and ACD server 18. *Id.* These servers cooperate to perform various functions, including receiving and storing the transmitted request from the customer terminal, *id.*, 5:62-66, identifying a “qualified” agent to “handle” the request (*id.*, 8:11-14, 6:25-34), routing the request to a qualified agent, *id.*, 8:14-17, 6:16-17, and transmitting the qualified agent's response back to the customer. *Id.*, 7:16-19, 7:32-43, 7:28-31, Abstract. Figure 4 illustrates a process for transmitting an information request to an agent.

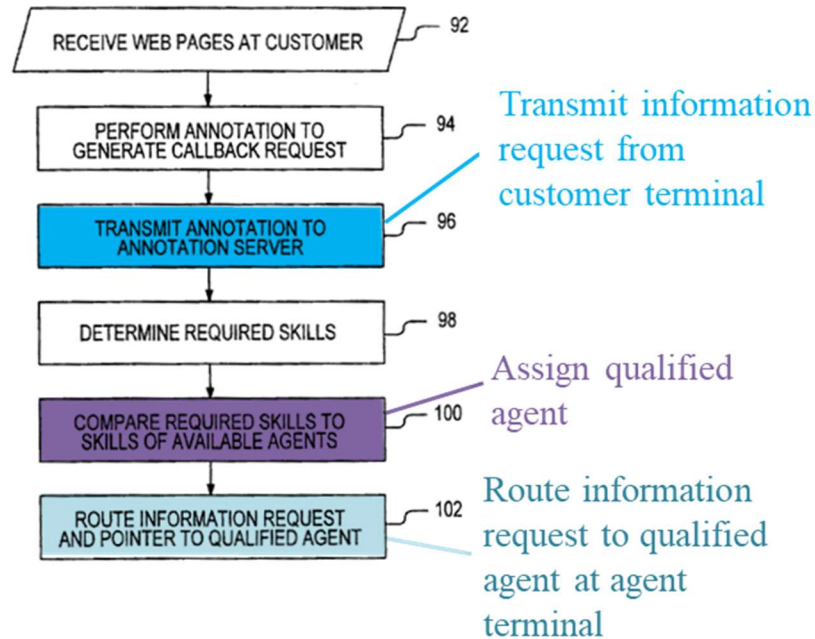


FIG. 4

Sastry, FIG. 4 (annotated).

## B. Valentine

Valentine was published on December 27, 2001 and filed on June 26, 2001 and is prior art under 35 U.S.C. §§ 102(a), (e). Valentine's system allows users to create and post audio files to a central server. Valentine ¶¶16, 8; Houh ¶¶67-69. Valentine describes "a threaded discussion group" where "one user can post an audio message to the group" and another user can "listen to the audio message and reply to it by creating another audio message." Valentine ¶20. Valentine's system may also be "utilized for auctions" or "presenting items for sale." *Id.* ¶48.

Users record audio messages via a “recorder applet” on an “initiating device.” *Id.* ¶33, FIG. 1. The applet allows the user to “record, stop, preview, pause, and save a spoken audio clip or audio data that the user can record by speaking into a microphone.” *Id.* ¶21. The audio message is “store[d] ... in a temporary file 28 in local memory of the initiating device 21” and “transmit[ted]” to the central server, *id.* ¶¶33-34, 28, which can “include one or more servers.” *Id.* ¶30.

### **C. Boies**

Boies was filed on November 29, 2000 and is prior art under 35 U.S.C. § 102(e). Boies discloses a coordination server that acts as an intermediary between users and service providers and “maintains a queue of service requests or buyer offers.” Boies, Abstract, ¶11; Houh ¶¶70-73. The service providers and users exchange templates, Boies ¶36, which “are electronic files created by the provider and the user that define attributes or values in categories for goods and services available from a provider and requested by a user.” *Id.* ¶¶34-35. First, “[e]ach [service] provider prepares an electronic template for available services and transmits them to the server,” which “receives, sorts[,] and stores the standard terms.” *Id.* ¶36. “Users obtain [provider templates] descri[bing] [] provider services” and “prepare templates for services responsive to the provider templates,” which are “transmitted to the server” for processing. *Id.* ¶¶36, 34.

Boies' coordination server uses "Java Servlets" and an "Enterprise Java Bean (EJB)" component. *Id.* ¶¶19, 21, 24. The EJB "is a software component architecture" of the server and embodies "object oriented software program components," including facilitating messaging between providers and users, servicing business processes, and supporting transaction processing. *Id.* ¶¶24-26.

## **VII. CLAIMS 1-10 ARE UNPATENTABLE**

### **A. Grounds 1A/1B/1C: Sastry Anticipates or, Alone or in Combination with Valentine, Renders Obvious Claims 1, 2, and 4-10**

Sastry anticipates or renders obvious claims 1, 2, and 4-10 (Grounds 1A/1B). Houh ¶¶74-75. Moreover, Sastry in combination with Valentine renders obvious claims 1, 2, and 4-10 (Ground 1C). *Id.*

#### **1. Motivation to Combine**

A POSITA would have found it obvious to combine Sastry and Valentine, which disclose complementary systems/methods for controlling network communications that provide connectionless exchange of audio query messages (and responses) between users. Houh ¶76.

In Sastry, customers formulate voice query messages to send to customer service agents, and agents provide voice responses. Houh ¶77; Sastry, 8:29-35, FIGS. 1-2; *see id.*, Abstract, 2:20-31, 2:54-58. Customers and agents "access[]" web documents via browsers and annotate them using "plug-in software" on the browser.

Sastry, Abstract, 6:35-42; *see* Sastry, 7:49-8:1, 7:15-28, 2:27-28. The customers and agents use a graphical user interface (“GUI”) that facilitates recording, playing back, and uploading voice queries. *Id.*, 6:48-57, 6:35-45, 8:35-47. The servers at the call center receive and store the annotated web documents (*id.*, 5:62-66, Abstract, 2:54-58, 4:41-42), assign an agent based on a skills-based determination (*id.*, 6:25-34), and distribute the documents to the agent for review (*id.*, 3:6-22, 2:20-25, 6:16-25, 8:17-23).

Valentine similarly describes the connectionless exchange of audio query messages between two users using an intermediary server. Houh ¶78. The users create and exchange audio messages through the Internet on threaded discussion groups: one user posts an audio message, and another listens to it and posts a reply. Valentine ¶¶20, 48, Abstract. Valentine’s users record the audio messages via a microphone and a recorder applet on the web page that includes a GUI to play, stop, and preview the audio data. *Id.* ¶¶33, 21, 24, 26, 32. A “system server” receives and stores the recorded messages (*id.* ¶¶33, 41), associates audio data with identifiers (*id.* ¶¶8, 30-31), and distributes audio messages to other users (*id.* claim 1, ¶16). The user can also “manipulate” the audio data before transmitting it to a system server, which posts the audio message for other users to review and respond. *Id.* ¶¶33, 21, 34.

Thus, Sastry and Valentine are analogous art to each other and the '787 patent because they belong to the same field of endeavor: web-based systems and methods for connectionless messaging using servers as intermediaries. Houh ¶79. Sastry and Valentine are also reasonably pertinent to the problems discussed in the '787 patent. *Id.* ¶80. For example, the '787 patent explains that connection-based messaging systems, like voice over Internet protocol (VoIP), require users to wait in a queue and call centers to employ cumbersome infrastructure. '787 patent, 2:54-58. The patent alleges that its connectionless system eliminates queuing, *id.*, 6:6-10, and “create[s] an architecture easily assimilated ... into the product suite architecture of a vendor in the” customer relationship management (CRM) space (e.g., a call center). *Id.*, 5:27-30.

Sastry and Valentine address similar problems. Houh ¶81. Sastry explains that conventional call centers placed users on hold until an agent became available. Sastry, 1:26-32, 1:56-2:12. Sastry's system allows the user to formulate and submit queries “at the user's own pace,” leading to efficiencies for the caller and call center. Sastry, 8:29-47. Likewise, Valentine's system avoids queuing, instead allowing “one [Internet] user [to] post an audio message to [a discussion] group” and “another user [to] thereafter [retrieve and] listen to the audio message and reply to it by creating another audio message.” Valentine ¶¶20, 16, 48; Houh ¶81. Valentine also provides a simplified architecture, enabling subscriber companies to implement “audio

message board functionality” on their websites “without requiring website software, hardware, or other infrastructure alterations.” Valentine ¶¶23, 21; Houh ¶81.

Given that Sastry and Valentine disclose similar systems that operate in a similar manner and are directed to similar problems, a POSITA would have been motivated to consider their combined teachings. Houh ¶¶82-83. Additional rationale for the combination are provided below for specific claim elements.

## 2. Independent Claim 1

- a. **[1-P]: “A method for connectionless exchange of electronic messages between a user and a host agent of a customer service center, comprising:”**

If the preamble is limiting, Sastry discloses [1-P]. Houh ¶¶84-89. Sastry’s system allows a customer (“user”) to exchange electronic messages with an agent (“host agent”) at a web-based call center (“customer service center”) without a real-time connection between the customer and agent. *Id.* ¶¶84-87.

Sastry discloses “[a] web-based call center,” which “include[s] multiple agent and customer terminals,” and “a method for its operation.” Sastry, Abstract. The customer uses the customer terminal to “transmit an information request in the form of a ... callback request [or query,] which includes an annotated web document” (or annotated web page). *Id.*, Abstract, 2:20-25; *see id.*, 8:29-32, 2:32-37. “An agent terminal can respond to the information request by” sending a response to the

callback request or query, which also includes an annotated web document. *Id.*, Abstract, 8:29-32, 2:20-25.

Sastry's customer uses an Internet browser to "access [] call center web pages" (e.g., "product diagrams") and "execute a [dynamic] annotation session on the web page[] as part of a request for information" (i.e., a query or callback request). *Id.*, 5:29-38, 8:32-35, 6:35-37. During this session, a "customer's multimedia actions," including voice data input, are recorded and synchronized. *Id.*

Figure 2 illustrates the pathway through which the electronic messages between a customer and an agent are transmitted. *Id.*, FIG. 2; *see id.*, 7:65-8:1, 7:16-19.

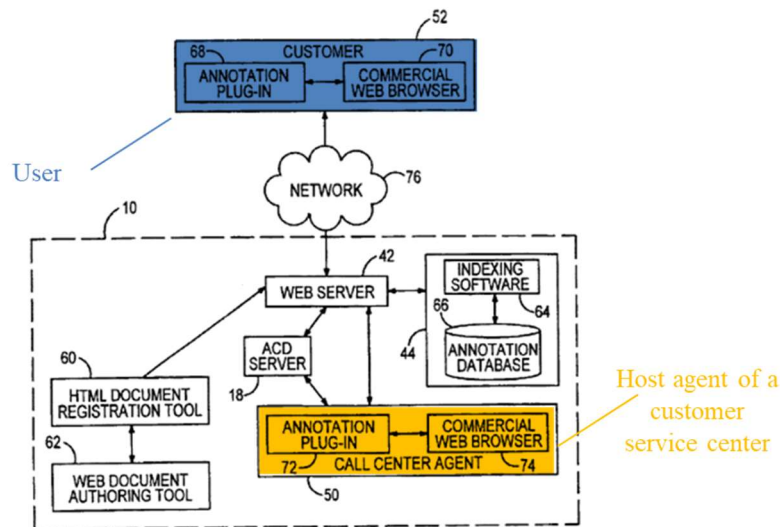


FIG. 2

*Id.*, FIG. 2 (annotated).

Sastry's exchange between the customer and agent is "connectionless." The '787 patent does not define "connectionless exchange," but describes a "connectionless feature" that "reli[es] on messages as a medium of exchange," instead of "*persistent real-time telecom sessions* (connections)." '787 Patent, 3:52-56 (emphasis added); Houh ¶88 (citing Tanenbaum, 23-24). Sastry's customer-agent exchange also does not require persistent real-time telecom sessions because it "*approximates* a live presentation," allowing the user "to integrate voice, graphics and text manipulation, and gestures ... into a recorded dynamic annotation" and "to deliberate over the contents of the dynamic annotation" before sending it to the agent. Sastry, 8:29-38 (emphasis added); Houh ¶¶88-89. This way, the user "can formulate the dynamic annotation at [their] own pace," and the agent is not "tied up" over a "live connection such as a telephone call," allowing the agent to provide the customer "a concise solution to a problem in the form of a dynamic annotation." Sastry, 8:38-47.

**b. [1-a]: "a user client application on a user device, said user client application configured to:"**

Sastry discloses [1-a]. Houh ¶¶90-95. Sastry's customer terminal is a user device because it is used by a customer user. *Id.* ¶90; Sastry, 7:49-8:1. Sastry's customer terminal includes "annotation function[ality]" that is performed by client-side "annotation plug-in software 68," which is "designed to operate with a

commercial web browser 70.” Sastry, 6:35-40, FIG. 2, Abstract, 2:36-41. Sastry’s client-side annotation plug-in software, alone or in combination with the web browser, is a “user client application.” Houh ¶90.

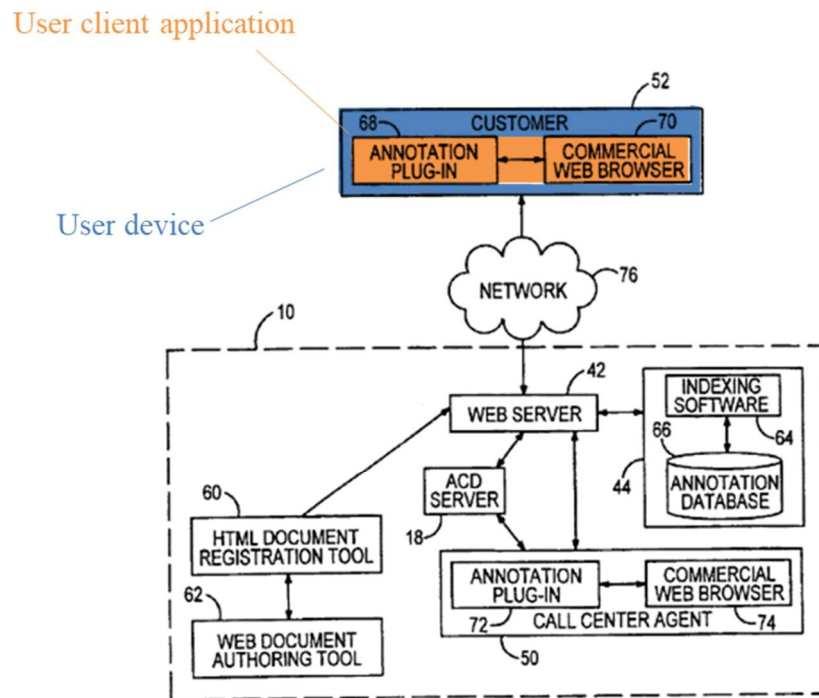


FIG. 2

Sastry, FIG. 2 (annotated).

The '787 patent does not use the phrase “user client application” outside of the claims. Houh ¶91. The specification, however, describes a “browser-resident recorder application” (or a slight variation thereof) used on a customer PC. '787

patent, Abstract, FIG. 1. The recorder application corresponds to the claimed user client application. Houh ¶91.

Sastry's client-side annotation plug-in software is similar to the '787 patent's recorder application. Houh ¶92. For example, Sastry's plug-in software enables the customer terminal to record and play back dynamic annotations, such as voice information, on web documents. Sastry, 6:37-40, 2:27-28, 8:29-32, 6:49-55. The '787 patent's recorder application likewise "provide[s] a voice message driven customer interaction queuing system that enables" customers to record questions to send to agents. '787 patent, 4:57-60, Abstract, FIGS. 1-2, 4:4-10, 4:37-45.

Sastry's client-side annotation plug-in software functions similarly to the '787 patent's recorder application. Houh ¶93. Sastry's client-side annotation plug-in software adds to existing web-browser functionality, enabling the browser to "capture [] user-generated multimedia actions," Sastry, 2:36-44, including "record[ing] ... voice information." *Id.*, 2:49-53, 6:55-57; Houh ¶93. A POSITA would have understood that a "plug-in," as Sastry discloses, is software that is embedded onto another application, such as a web browser, and thus is "browser-resident." Houh ¶93. The '787 patent similarly explains that the recorder application "can be used *to voice-enable* web pages ... , allowing web page visitors to utter questions into a browser-resident recorder/player application akin to a Walkie-Talkie." '787 patent, 4:4-7 (emphasis added), 1:29-34. Thus, Sastry's client side

annotation plug-in software, alone or in combination with Sastry's browser teaches the '787 patent's "browser-resident recorder/player application." Houh ¶93.

Moreover, a POSITA would have understood that Sastry's client-side annotation plug-in software, alone or in combination with the web browser with which it operates, discloses an "application," e.g., a software program for performing a task or function. *Id.* ¶94; Ex. 1010, 76; Ex. 1011, 27; Ex. 1012, 46; Barish, 2; *see also* Ex. 1013. The annotation plug-in software is a software program that performs specific tasks or functions, including those discussed in the following sections. *Infra* Sections VII.A.2.c-VII.A.2.d.

Sastry's client-side annotation plug-in software, alone or in combination with Sastry's browser, is thus a "user client application." Houh ¶95. In the analysis below, Sastry's "customer annotation application" refers to the client-side annotation plug-in software, alone or in combination with its web browser.

**c. [1-a.i]: "locally record and store an audio query message of said user on said user device;"**

Sastry discloses [1-a.i]. Houh ¶¶96-102. Sastry's customers use the customer annotation application to locally record and store voice messages as part of annotating a web document. *Id.* Specifically, the customer annotation application enables the customer to formulate a query by "accessing web documents" and "recording ... dynamic annotations on [the] web documents" using a "RECORD"

button on the application's GUI. Sastry, Abstract, 6:49-55; *see id.*, 3:6-9, 4:35-39, 6:35-48, 7:58-63, 8:29-32, FIG. 4. The customer "record[s] a particular sequence of multimedia actions" on the web document, including "voice" information. *Id.*, 2:20-31, 2:49-53, 6:48-57, 8:32-35. These recordings and the annotated web document of which they are a part include questions and requests for information from the customer and are thus audio query messages. Houh ¶97 (citing Sastry, 5:23-37, Abstract, 8:29-35, 9:30-40). These recordings and annotations form part of Sastry's "callback request," further confirming that they are audio "query" messages. Sastry, 7:49-64. Thus, Sastry's annotated web document includes a customer audio query message that is recorded using the customer annotation application. Houh ¶97 (citing Sastry, 8:29-32. FIG. 4).

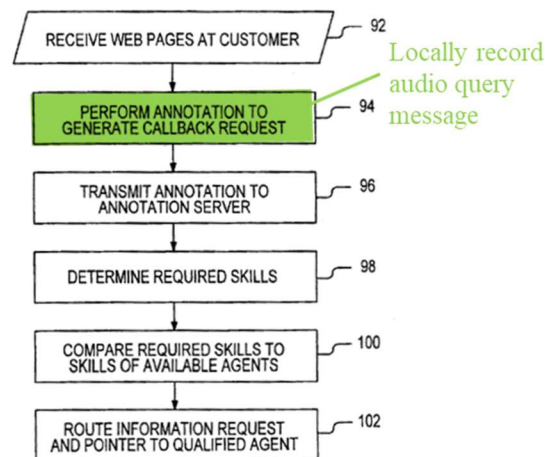


FIG. 4

Sastry, FIG. 4 (annotated).

Sastry also discloses that the annotated web document (with the audio query message) is locally “store[d]” on the customer terminal. Houh ¶¶99; Sastry, 6:48-49, 6:37-40; *see also* Sastry, 2:36-44, 2:65-67, 3:35-38, 3:44-45. For example, Sastry explains that the annotated web document is “stored in memory,” which a POSITA would have understood teaches storing the document in the customer terminal’s memory. Houh ¶¶100; Sastry, 6:45-55. Sastry confirms this by teaching that the user can “deliberate over the contents of the dynamic annotation” to “formulate the dynamic annotation at the [customer’s] own pace.” Sastry, 8:35-40; Houh ¶¶100.

Likewise, a POSITA would have understood that Sastry’s disclosure of “upload[ing]” the annotated web document from the customer terminal to the call center server means the document was recorded and stored locally at the customer terminal before being uploaded. Houh ¶¶98, 101; Sastry, 5:62-6:1, FIG. 2; *see* Sastry, Abstract, 3:11-13, 6:54-55, 7:33-35.

**d. [1-a.ii]: “transmit said recorded audio query message to a host server;”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [1-a.ii]. Houh ¶¶103-120.

**i. Sastry (Grounds 1A/1B)**

After creating the annotated web document (and storing it on the customer terminal), Sastry’s customer uses the customer annotation application to upload (“transmit”) the annotated web document (including the audio query message) to a

host server at the call center. Sastry, 5:62-6:1, FIGS. 1-2, 4; Houh ¶104; Section VII.A.2.c; *see* Sastry, Abstract, 3:11-13, 6:54-55, 7:33-35, 7:65-8:1. For example, Sastry's web server 42 receives the annotated web document from the customer terminal, and Sastry's annotation server 44 stores it. Sastry, 5:62-67. Sastry's web server 42 and annotation server 44 "may be a single unit." *Id.*, 4:41-42.

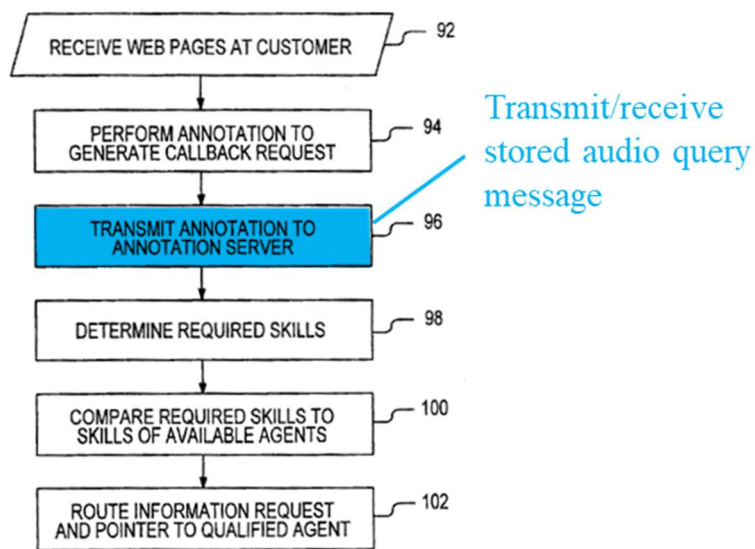


FIG. 4

Sastry, FIG. 4 (annotated). Sastry therefore discloses [1-a.ii]. Houh ¶104.

Moreover, Figure 2 shows web server 42 and annotation server 44 along with ACD server 18. Sastry, FIG. 2. A POSITA would have understood the web, annotation, and ACD servers to be "a host server" because they together perform typical server-side functions that facilitate the connectionless messaging between

customers and agents. Houh ¶105. The web server stores and provides access to the pre-annotated web documents and receives the annotated web documents from the customers and agents. Sastry, Abstract, 5:62-6:1, 2:54-58, FIG. 2, 3:10-12. The annotation server “stor[es]” the annotated web documents and “extracts” information from the documents that indicates the skills required by a call center agent to process a customer’s audio query. *Id.*, Abstract, 3:11-13, 4:39-41, 5:61-6:15. The ACD server identifies the skills of an available agent and communicates with the annotation server to assign and distribute customer audio queries to the agent based on the extracted information and identified agent skills. *Id.*, 6:16-34, Abstract, 3:13-21.

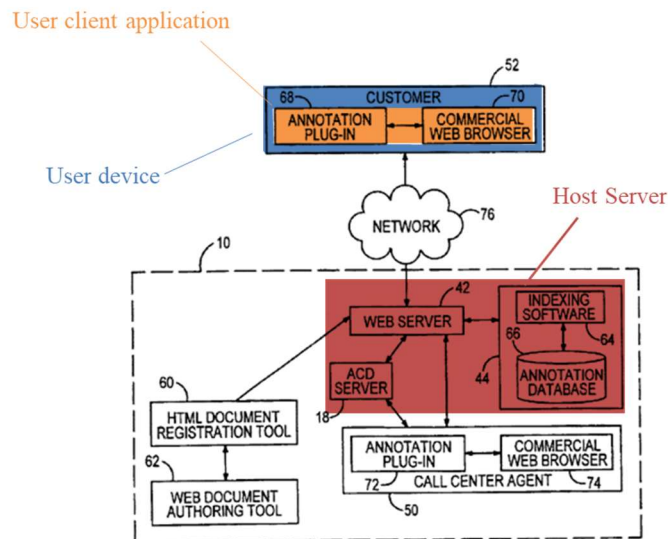


FIG. 2

*Id.*, FIG. 2 (annotated).

Sastry's web server 42, annotation server 44, and ACD server 18 collectively constitute the claimed host server. Houh ¶106. Claim 1 recites "a host server," which means one or more host servers. *See, e.g., Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008); *Convolve, Inc. v. Compaq Computer Corp.*, 812 F.3d 1313, 1321 (Fed. Cir. 2016); *Salazar v. AT&T Mobility LLC*, 64 F.4th 1311, 1315-18 (Fed. Cir. 2023). This is consistent with how a POSITA would have understood a server, which is a combination of software and hardware components whose functionality is often spread across different machines or consolidated into one machine. Houh ¶106. Even in instances where the server-side functionality is implemented over several machines, a POSITA would ordinarily refer to the functionality as "a server" or "the server" when discussing the machines and their functionality. *Id.*

If "a host server" were to require a single server, Sastry discloses or renders obvious implementing the functionality of the web, annotation, and ACD servers on one server. *Id.* ¶107. Sastry discloses consolidating servers, noting that web server 42 and annotation server 44 "may be a single unit." Sastry, 4:41-42. A POSITA would have understood this teaching to apply to ACD server 18 because it operates similarly to and in conjunction with the web and annotation servers to provide Sastry's server-side functionality, as discussed above. Houh ¶107. Thus, a POSITA

would have understood that Sastry discloses implementing the functionality of the web, annotation, and ACD servers into a single server. *Id.*

Alternatively, a POSITA would have found it obvious to incorporate the functionality of three servers into a single server. *Id.* ¶¶108-111. Sastry's combining the web and annotation servers into one unit teaches combining functionality from multiple servers into a single unit and would have suggested implementing all three servers in one unit. *Id.*; Sastry, 4:41-42.

This modification would have been routine because servers include software components running on generic hardware for performing server-side functions. Houh ¶109. Sastry's servers are no different. *Id.* The ACD server operates similarly to the web and annotation servers in providing Sastry's server-side functionality and simply performs different aspects of the operation, as discussed above. *Id.* Thus, a POSITA would have found it straightforward to add the software components for one server (e.g., Sastry's ACD server) onto another server (e.g., Sastry's web/annotation server). *Id.*

A POSITA would have been motivated to modify Sastry in this manner to (i) reduce system costs associated with hardware, maintenance, and storage, (ii) optimize server resource utilization by reducing risk of underutilizing servers, and (iii) streamline system infrastructure to reduce maintenance. *Id.* ¶110.

**ii. Sastry and Valentine (Ground 1C)**

If it is argued that Sastry does not disclose or render obvious combining the web, annotation, and ACD servers into one host server, this would have been obvious in view of Valentine. Houh ¶¶112-120.

In Valentine's system, *supra* Section VII.A.1, a user records audio messages on an "initiating device 21" and "transmit[s] the audio file to the system server 12." *Id.*; Valentine ¶33. Valentine discloses that the system server 12 "include[s] separate servers for different purposes such as a database server, an application server, and a Web presentation server." Valentine ¶28. But Valentine discloses that multiple servers can be "clustered together," *id.*, and that the server 12 can "include *one* or more servers." *Id.* ¶30 (emphasis added). Accordingly, Valentine discloses transmitting the recorded audio file to a system server that is implemented as one server. Houh ¶113.

A POSITA would have found it obvious to combine Sastry's and Valentine's teachings to use one server to perform multiple functions, as Valentine discloses. *Id.* ¶114; Valentine ¶¶28, 30. In the combined system, Sastry's web, annotation, and ACD servers are implemented as one server that receives, assigns, and distributes the audio query message. Houh ¶114; *infra* Section VII.A.2.e.

A POSITA would have found this combined system obvious because both references disclose consolidating servers into single units. Houh ¶115; Sastry,

4:41-42; Valentine ¶¶28, 30. Thus, Sastry and Valentine directly teach that the functionality of multiple servers can be combined into a single unit, and this would have strongly suggested to a POSITA to implement Sastry's three servers as one unit. Houh ¶115.

This combination would have been routine because servers are merely a compilation of software components running on generic hardware for performing server-side functions. *Id.* ¶116. Sastry's and Valentine's servers are no different and provide similar server-side functionality. *Supra* Section VII.A.1. Sastry discloses that the web, annotation, and ACD servers receive and store an audio query message, associate the skills required to review the message with an agent's skills, and distribute the audio query message. *Supra* Section VII.A.2.d.i. Similarly, Valentine's system server receives an audio message (Valentine ¶33), associates the audio data with a generated second identifier (*id.* ¶¶8, 30-31), and distributes the audio message to other users through an online posting (*id.* claim 1, ¶16). Thus, a POSITA would have found it straightforward to install the software components of Sastry's web, annotation, and ACD servers on one server. Houh ¶116; Valentine ¶¶28, 30.

A POSITA would have been motivated to do so to (i) reduce system costs associated with hardware, maintenance, and storage, (ii) optimize server resource utilization by reducing risk of underutilizing servers, and (iii) streamline system

infrastructure to reduce maintenance. Houh ¶117. Moreover, as Valentine explains, this also helps servers handle more traffic. *Id.*; Valentine ¶28.

This combination simply combines prior art elements (Sastry's system and Valentine's use of one server) according to known methods to yield predictable results (using an intermediary server for connectionless messaging between two devices, as both Sastry and Valentine disclose). Houh ¶118; *supra* Section VII.A.1. It is also a simple substitution of one known element (Valentine's consolidation of multiple servers into a single server to perform server-side functionality) for another (Sastry's system using web, annotation, and ACD servers to perform server-side functionality) to obtain predictable results. Houh ¶118. It also uses a known technique (Valentine's clustering or consolidating servers into one server) to improve similar devices (intermediary servers disclosed in Sastry and Valentine) in the same way (to reduce system costs, optimize server resource utilization, streamline system infrastructure, and increase traffic capacity). *Id.*

- e. **[1-b]: "said host server configured to receive, distribute and assign the stored audio query message to said host agent device; and"**

Sastry discloses or, alone or in combination with Valentine, renders obvious [1-b]. Houh ¶¶121-125. Sastry discloses or, alone or in combination with Valentine, renders obvious a host server that receives annotated web documents, assigns agents

to review the documents, and distributes the documents to the agent terminal (“host agent device”) for agent review and response. *Id.*

Sastry’s web, annotation, and ACD servers together disclose or (alone or with Valentine) render obvious the “host server.” *Supra* Section VII.A.2.d; Houh ¶122. Moreover, the annotated web document is transmitted from Sastry’s customer terminal to its host server and, thus, this server is configured to receive the annotated web document. Houh ¶122; *see, e.g.*, Sastry, 5:62-6:1, FIG. 4.

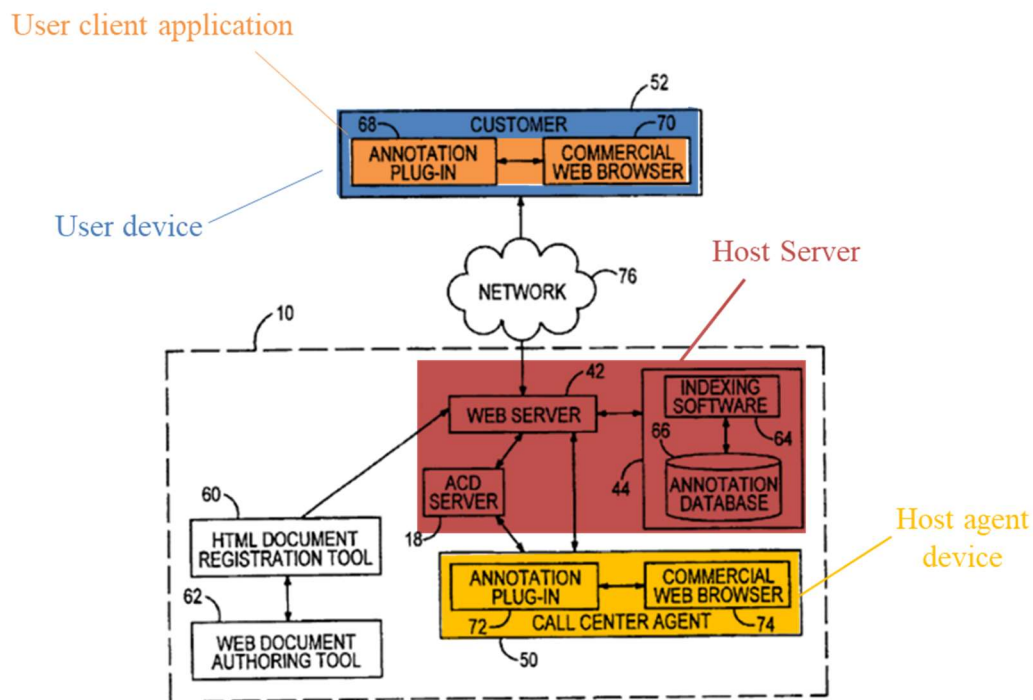


FIG. 2

Sastry, FIG. 2 (annotated).

Sastry's host server assigns the received annotated web document to an agent at the customer call center. Houh ¶123. Sastry's annotation server includes "indexing software 64" that "determines the [agent] skills required" for handling a customer audio query in the annotated web document. Sastry, 7:65-8:10, FIGS. 1-2, 4. Based on this determination, the ACD server "compares the required skills data to the skills sets associated with the call center agents to identify a call center agent qualified to" review the customer audio query on an "agent terminal" ("host agent device"). *Id.*, 8:8-14, FIG. 4, 7:12-15, 3:15-18, 6:22-34. Sastry's host server incorporates the functionalities of the annotation server and ACD server and, thus, performs the determination and identification steps noted above. *Supra* Section VII.A.2.d.

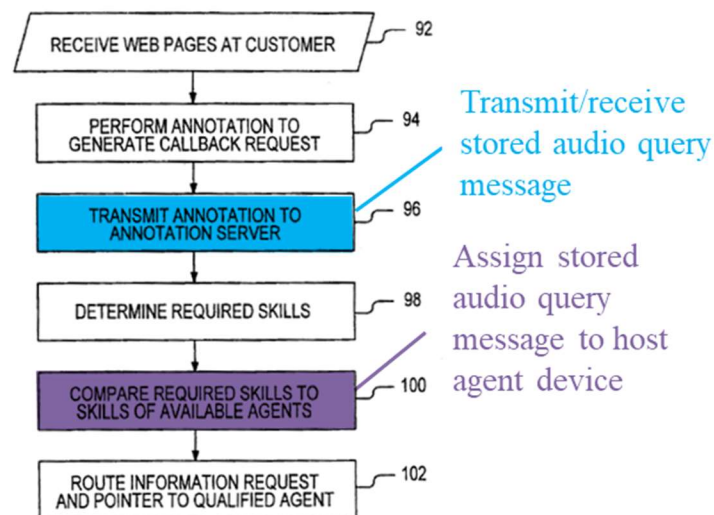


FIG. 4

Sastry, FIG. 4 (annotated).

Sastry's host server distributes the annotated web document to an agent at the customer call center. Houh ¶124. Sastry explains that the annotated web document (that includes the customer audio query) is "transmit[ed] to a second terminal"—for example, the agent terminal. Sastry, 2:20-25, 5:6-10, 9:62-67; *see id.*, 6:65-67, 9:30-40. Specifically, Sastry explains that the annotated web document is "submitted to the annotation server" and the ACD server "routes the annotated web [document] to the agent terminal." *Id.*, 3:6-22, 8:14-17, 7:12-15, FIGS. 2, 4. Thus, the web document is distributed to the agent terminal. Sastry also explains that the agent terminal "obtain[s]" the annotated web document from a server to review and formulate a response. *Id.*, 8:17-23, 2:54-58, 7:16-28, 8:29-32, Abstract; Houh ¶124. A POSITA would have understood that an agent terminal "obtaining" the annotated web document from the server means those documents were distributed from the server to the agent terminal. Houh ¶124; Sastry, 5:5-10. Sastry's host server incorporates the functionalities of the web server, annotation server, and ACD server and, thus, performs the routing and distribution steps noted above. *See supra* Section VII.A.2.d.

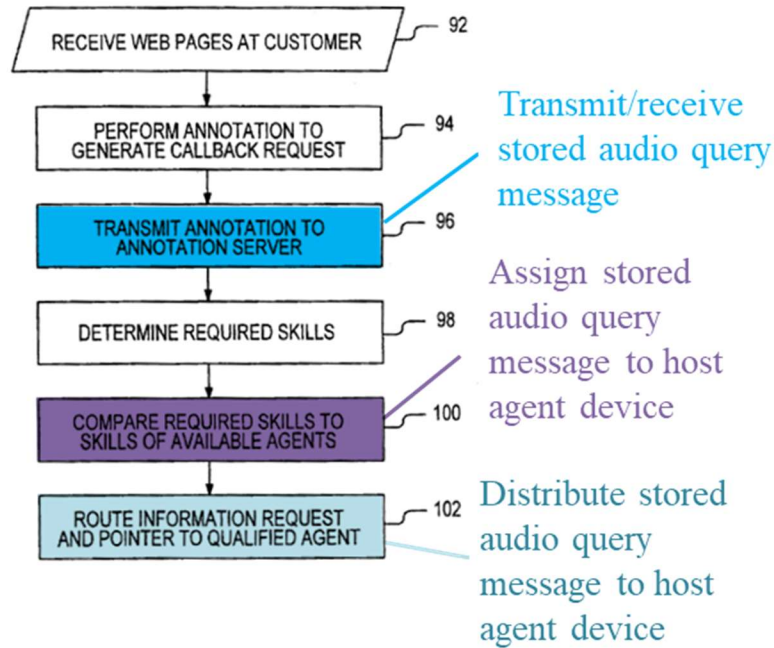


FIG. 4

Sastry, FIG. 4 (annotated).

- f. [1-c]: “an agent client application on said host agent device configured to record and transmit a response to the user client application.”

Sastry discloses or renders obvious [1-c]. Houh ¶¶126-133. Sastry discloses an agent client application on the agent terminal because it discloses agent-side “annotation plug-in software” that is designed to operate on a web browser of the agent terminal and is used “for recording ... dynamic annotations on web documents.” Sastry, Abstract, FIG. 2; *see id.*, 6:40-57, 7:16-28, 8:17-23, 8:29-38. The agent records a “response to a [customer’s] query,” “integrat[ing] voice ... into [the] record[ing].” *Id.*, 8:29-32, 2:20-31, 2:54-58. This response is transmitted to the

customer so the customer can “listen and view the [agent’s] response to the [customer’s] callback request” (i.e., annotated web document with the audio query). *Id.*, 7:28-31; *see id.*, 2:20-25, 2:58-3:5, 6:35-40, 8:44-47; *supra* Section VII.A.2.b.

Sastry’s agent-side annotation plug-in software is similar to its client-side “annotation plug-in software 68.” Houh ¶127; *supra* Section VII.A.2.b. Sastry’s agent-side annotation plug-in software, alone or in combination with the web browser, is an “agent client application,” including for the reasons noted in [1-a] regarding the client-side annotation plug-in software. Houh ¶127; *supra* Section VII.A.2.b.

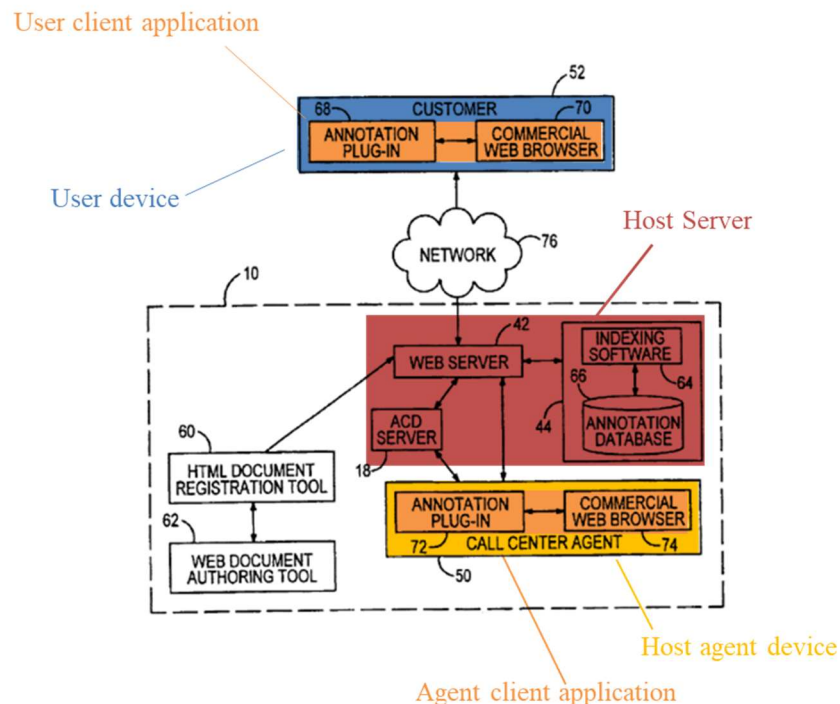


FIG. 2

Sastry, FIG. 2 (annotated).

The '787 patent does not use the phrase “agent client application” outside the claims. Houh ¶128. The specification, however, describes a “browser-resident recorder application” (or variations thereof). *Id.*; '787 patent, Abstract, 1:29-32, FIG. 1, 13:19-33. The '787 patent's Agent PC includes a browser-resident recorder application that corresponds to the claimed agent client application. '787 patent, FIG. 1, 7:5-20, Abstract, 8:5-22, 10:59-63; Houh ¶128.

Sastry's agent-side annotation plug-in software is similar to the '787 patent's recorder application on the Agent PC. Houh ¶129. Sastry's agent-side annotation plug-in software “enable[s] the agent terminal to play back [a customer's] dynamically annotated web documents” and to “record” dynamic annotations on web documents, including voice information. Sastry, 6:40-45, 2:27-28, 6:49-55, 8:29-35. The '787 patent's recorder application likewise “provide[s] a voice message driven customer interaction queuing system that enables” agents to record audio message responses to customer's questions. '787 patent, 4:57-60, Abstract, FIGS. 1-2, 4:4-10, 4:37-45.

Sastry's agent-side annotation plug-in software also functions similarly to the '787 patent's recorder application. Houh ¶130. For example, Sastry's agent-side annotation plug-in software adds functionality to existing web-browser functions so the browser can “capture [] user-generated multimedia actions,” Sastry, 2:34-44, including the ability to “record[]” voice information. *Id.*, 2:49-53, 6:55-57. The '787

patent similarly explains that the customer-side recorder application can “*voice-enable* web pages ... allowing web page visitors to utter questions into a browser-resident recorder/player application.” ’787 patent, 4:4-7 (emphasis added), 1:29-34. A POSITA would have understood that this would have applied to the agent-side operations in the ’787 patent, such that the recorder application on the Agent PC voice-enables “Agent browser” 15’ allowing the agent to record a response to a customer’s questions. Houh ¶130; ’787 patent, FIG. 1, 13:19-23.

Moreover, a POSITA would have understood that Sastry’s agent-side annotation plug-in software, alone or in combination with the web browser, discloses an “application” consistent with its common understanding, which is a software program for performing a task or function. Houh ¶131; Ex. 1010, 76; Ex. 1011, 27; Ex. 1012, 46; Barish, 2; *see also* Ex. 1013.

Sastry’s agent-side annotation plug-in software, alone or in combination with Sastry’s browser, is thus a “agent client application.” Houh ¶132. Below, Sastry’s “agent annotation application” refers to the agent-side annotation plug-in software, alone or in combination with its web browser.

**3. Claim 2: “The method of claim 1, wherein the transfer of query messages over said network occurs using protocols defined by hypertext transfer protocol or file transfer protocol.”**

Sastry discloses or, alone or in combination with Valentine, renders obvious the limitation of claim 2. Houh ¶¶134-144. Sastry’s customer terminal transmits the annotated web document (with the customer’s audio query message) to a host server in the call center. *Supra* Section VII.A.2.d. A POSITA would have understood that this transfer—from a web browser and over a communications network, like the Internet—would have used protocols defined by the hypertext transfer or file transfer protocols. Houh ¶134.

**a. Sastry (Grounds 1A/1B)**

Sastry explains that the customer terminal accesses the server “via a communications network 76,” such as the “Internet.” Sastry, 5:11-22, FIG. 2. A POSITA would have understood that Sastry’s customer and agent terminals use network 76 to transmit the annotated web document to the host server. Houh ¶135; *supra* Sections VII.A.2.d, VII.A.2.f.

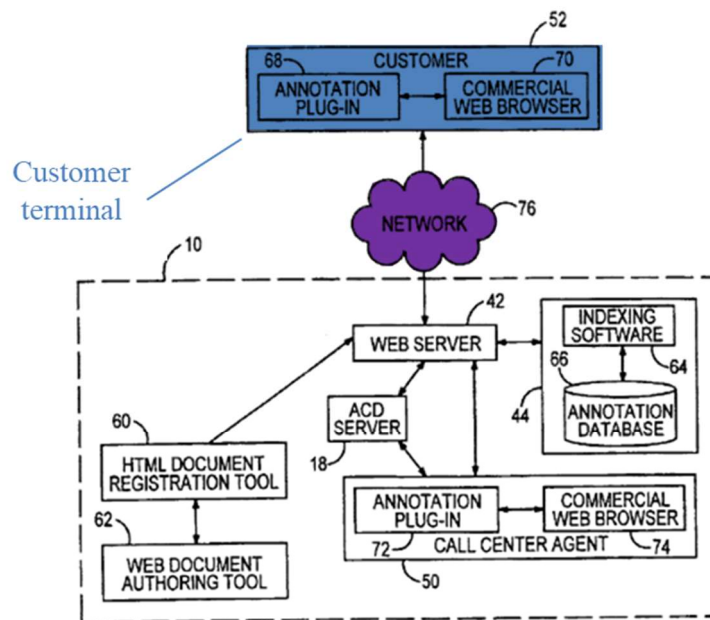


FIG. 2

Sastry, FIG. 2 (annotated).

To enable these transfers over the Internet using a web browser, as Sastry discloses, the transfer must use a communication protocol that defines a set of rules and conventions on how to transmit data, such as the hypertext transfer protocol (HTTP) and the file transfer protocol (FTP). Houh ¶136. A POSITA would have recognized FTP as an extremely common protocol for transferring files (i.e., Sastry's annotated web documents) between a client device (i.e., Sastry's customer or agent terminal) and a server (i.e., Sastry's host server) over the network (i.e., the Internet) at the time of the claimed invention. *Id.*; Tanenbaum, 693, 37, 688-91. A POSITA

also would have recognized that HTTP was *the standard* Web transfer protocol and that it enables communication between web browsers (i.e., Sastry’s browser on the customer or agent terminal) and web servers (i.e., Sastry’s host server), including by defining how communication messages are formatted and transmitted. Houh ¶136; Tanenbaum, 689.

A POSITA reading Sastry’s disclosure of Internet-based transfer of web documents via a browser would have understood that those transfers use HTTP or FTP, or would have found it obvious to implement them using these protocols. Houh ¶137. Those options are two of a finite number of protocols used for such transfers, and a POSITA would have been able to implement them with a reasonable expectation of success, especially given their ubiquity in applications and systems like Sastry’s. *Id.*

**b. Sastry and Valentine (Ground 1C)**

Valentine also discloses the limitation of claim 2. Houh ¶¶139-144. Valentine discloses transmitting an audio message from a user’s initiating device (e.g., a computer or cell phone) to a system server, which then posts the message on the Internet for other users to see. *Supra* Section VII.A.2.d.ii; Valentine ¶26; Houh ¶139. The initiating device connects to a “communications network,” Valentine ¶26, using “wireless communications links and/or protocols.” *Id.* ¶27; Houh ¶139. Valentine’s system implements HTTP conventions (or protocols) to transmit and post the audio

message. Valentine, Abstract, ¶34; Houh ¶139. Accordingly, Valentine discloses transferring audio messages over a network, such as the Internet, using HTTP. Houh ¶139.

A POSITA would have found it obvious to combine Sastry with Valentine to transfer audio messages between the customer or agent terminals and the host server over a network using HTTP, as Valentine discloses. *Id.* ¶140; *see* Valentine, Abstract ¶34. Sastry discloses communicating the messages over a network (e.g., the Internet), Sastry, 5:11-22, but does not specify the protocol being used. Houh ¶140. Valentine discloses sending similar audio messages over the Internet using HTTP. *Id.*, Abstract, ¶¶26, 34; Houh ¶140. A POSITA would have been motivated to use Valentine's HTTP-specific teachings in Sastry. Houh ¶140.

As discussed, HTTP was a ubiquitous protocol for enabling communication between web browsers (i.e., Sastry's browser on the customer or agent terminal) and web servers (i.e., Sastry's host server). Houh ¶141; *supra* Section VII.A.3.a; Valentine ¶¶26-27, 34, 45. Thus, a POSITA would have found the combination to be routine and simple. Houh ¶141.

This is simply the combination of prior art elements (Sastry's system and Valentine's use of HTTP) according to known methods to yield predictable results (using HTTP to transfer messages over the network). *Id.* ¶142. It is also a simple substitution of one known element (Valentine's HTTP-specific messaging) for

another (Sastry's general disclosures of Internet communication) to obtain predictable results (using HTTP to transfer messages in Sastry's system). *Id.* This modification similarly uses a known technique to improve similar devices in the same way (to use the ubiquitous HTTP communication protocol for network communications). *Id.*

**4. Claim 4: “The method of claim 1, wherein the agent client application is embedded in each host agent’s browser interface.”**

Sastry discloses or renders obvious the limitation of claim 4. Houh ¶¶145-149.

Figure 11 of the '787 patent “depict[s] the Blurt Agent browser interface with embedded Blurt Client [50’].” Houh ¶146; '787 patent, 6:58-59, 13:19-33, FIG. 11.

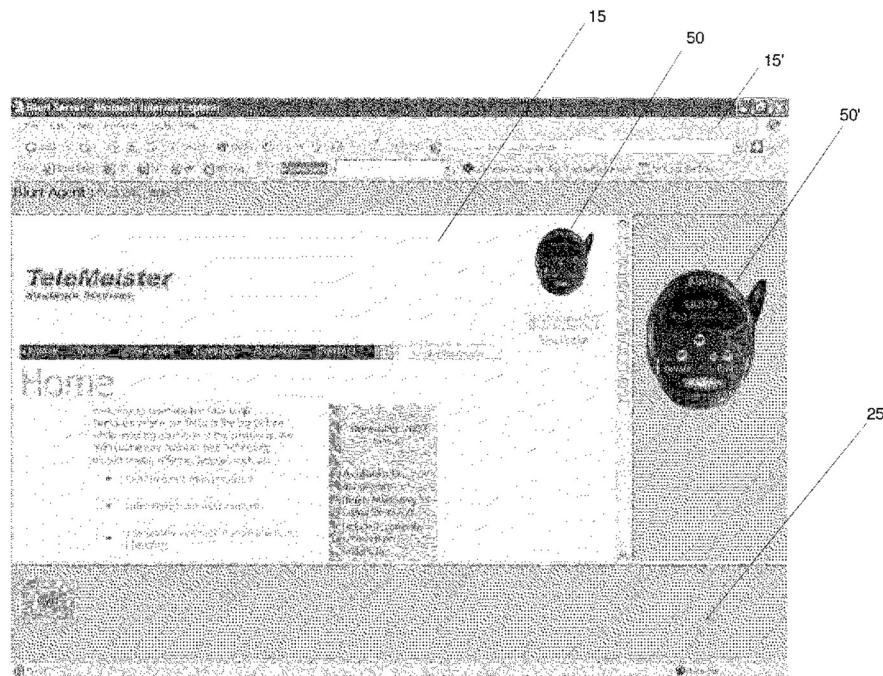


**FIG. 11**

'787 patent, FIG. 11.

Sastry likewise discloses that its agent annotation application, which includes annotation plug-in software, is embedded in each agent's browser. *Supra* Section VII.A.2.f. Sastry explains that the call center may include "multiple agent terminals for handling incoming" requests, Sastry, 5:15-18, and each agent terminal uses an agent annotation application. *Id.*, 6:40-42; *supra* Section VII.A.2.f; Houh ¶147. A POSITA would have understood that Sastry's annotation plug-in software is embedded into each agent's web browser because it was known that "plug-in" software operating on a web browser is integrated into the browser to add user functionality. Houh ¶147; *supra* Sections VII.A.2.f, VII.A.2.b.

This is consistent with Sastry's descriptions of the annotation plug-in software. Houh ¶148. For example, to annotate a web document, the document is "load[ed]" into web browsers. Sastry, 8:64-67, 2:36-44, 5:6-10. Then, the agent can annotate the web document via the plug-in software's GUI buttons, including using RECORD to record an annotation session (i.e., provide dynamic annotations on a web document), PLAYBACK to play back a session, and UPLOAD to transmit an annotation session to the server at the call center. *Id.*, 6:49-55; Houh ¶148. Thus, Sastry's agent annotation application (which includes the plug-in software) is like the '787 patent's Blurt Client 50' that is embedded in the agent's browser and provides various input buttons within the browser interface for an agent to select. Houh ¶148.

**5. Claim 5: “The method of claim 1, wherein the user client application and the agent client application each comprise a graphical user interface and employ standard or custom audio encoding and decoding techniques.”**

Sastry discloses or renders obvious the limitation of claim 5. Houh ¶¶150-156.

Sastry discloses that the user and agent client applications each comprise a graphical user interface. *Supra* Sections VII.A.2.b-VII.A.2.c, VII.A.2.f, VII.A.4.

Sastry also discloses that the user client application and the agent client application receive and play back audio information that requires employing standard or custom audio encoding and decoding techniques. Houh ¶152. Claim 1’s use of “*standard or custom* audio encoding and decoding techniques” captures the entire spectrum of encoding and decoding techniques. *Id.* (explaining that a POSITA would have known of standardized or custom codecs in various audio domains, including ITU standardized audio encoding and decoding formats); Ex. 1014, 13. The ’787 patent’s relevant disclosure likewise presents this option as broadening and not limiting, describing the use of “standard or custom audio encoding/decoding codecs,” in support of enabling operation on a “standard browser” of a generic “PC.” ’787 patent, 8:7-16. A POSITA would have understood that Sastry’s recording, transmitting, processing, and playing back of audio query messages on the customer and agent annotation applications over the network would use audio encoding and decoding techniques. Houh ¶152.

Sastry's customer and agent annotation applications record voice information and transmit annotated web documents with audio data (i.e., a voice recording). *Supra* Sections VII.A.2.b-VII.A.2.c, VII.A.2.f. A POSITA would have understood that, to record a customer's or agent's voice message and later transmit an annotated web document with the voice message, the customer and agent annotation applications use encoding techniques to convert the received audio signals into a digital format that can be stored, processed, and transmitted by digital devices, such as the customer and agent terminals. Houh ¶153.

Sastry also discloses that the customer and agent annotation applications allow the customer and agent to play back the annotated web document that includes a voice message. Sastry, 6:35-45, 6:49-55, 7:28-31, 7:16-23; Houh ¶154. A POSITA would have understood that the voice messages are encoded as digital signals and, to play back the voice message, the customer and agent annotation applications use decoding techniques to convert this encoded audio data back into a playable audio signal to play back. Houh ¶154.

Sastry further discloses that customers transmit the annotated web document using "H.323 device[s]," which a POSITA would have understood to employ ITU standard audio encoding and decoding protocols. Sastry, 7:2-6; Houh ¶155; Ex. 1014, 13. A POSITA would have also understood that agents use similar H.323 devices when transmitting responses to information requests. Houh ¶155; Sastry,

Abstract, Figs. 1-2, 2:20-61. Alternatively, a POSITA would have further understood that the encoding and decoding techniques employed in Sastry were standard techniques because Sastry does not expressly describe any custom encoding or decoding techniques. Houh ¶155.

- 6. Claim 6: “The method of claim 1, wherein the user records an audio query message in a browser-resident recorder/player application on the user device, and wherein a host agent response to said audio query message is played back to the user by said recorder/player application.”**

Sastry discloses the limitation of claim 6. Houh ¶¶157-158. Sastry’s customer records an audio query message on the customer annotation application and that application is a browser-resident recorder/player application on the customer terminal (i.e., user device). *Supra* Section VII.A.2.b. The customer receives an agent’s response to the customer’s audio query and plays it back on the same customer annotation application on the customer terminal. *Supra* Section VII.A.2.f; Sastry, 7:27-31, 6:35-40; Houh ¶157.

- 7. Claim 7: “The method of claim 1, wherein said user reviews said recorded audio query message prior to transmission to said host server.”**

Sastry discloses the limitation of claim 7. Houh ¶¶159-160. Sastry’s customer annotation application includes a GUI that enables a customer to record an audio query message and play it back. *Supra* Sections VII.A.2.b-VII.A.2.c. After recording the message, Sastry’s customer can “deliberate over the contents of the dynamic

annotation” and “formulate the dynamic annotation at the [customer’s] own pace,” which facilitates the “design of a concise and effective presentation” of the customer’s audio query. Sastry, 8:29-40; *supra* Section VII.A.2.a. The customer transmits the message to the host server after review. *Supra* Section VII.A.2.d; Sastry, 7:33-35, 6:54-55; Houh ¶159.

## 8. Independent Claim 8

- a. **[8-P]: “A computer implemented system for connectionless exchange of electronic messages between a user and a host agent of a customer service center, said computer implemented system comprising:”**

If the preamble is limiting, Sastry discloses [8-P] for the reasons it discloses [1-P]. *Supra* Section VII.A.2.a; Houh ¶¶161-162.

Sastry’s computer implemented system uses customer and agent terminals. Sastry, Abstract. These terminals disclose “computer devices” because they are configured to perform electronic computer functions including transmitting and receiving data over a network, storing software, and performing web-based tasks. Houh ¶162; Sastry, Abstract, 3:6-11, 6:35-55, 8:51-54, FIGS. 2, 4-5. Figure 2 illustrates the customer and agent terminals, both of which include software and a web browser and are configured to transmit and receive data over a network.

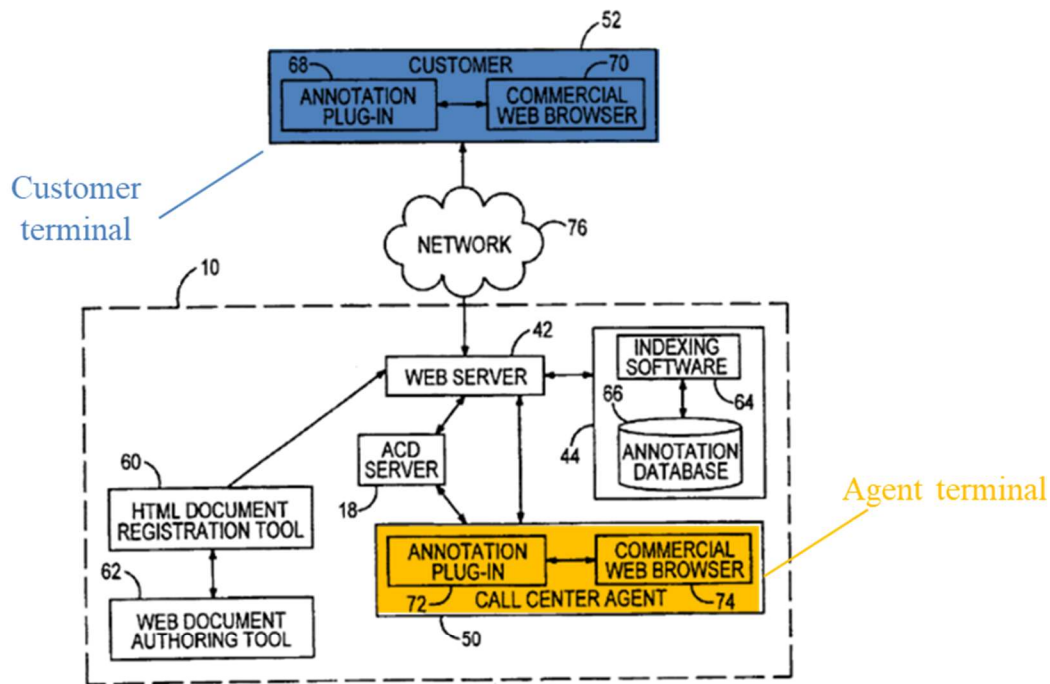


FIG. 2

Sastry, FIG. 2 (annotated).

- b. [8-a]: “a first non-transitory computer readable storage medium configured to store a user client application;”

Sastry discloses or, alone or in combination with Valentine, renders obvious [8-a]. Houh ¶¶163-174.

Sastry’s customer annotation application discloses a “user client application.”  
*Supra* Section VII.A.2.b.

Moreover, Sastry discloses or, alone or in combination with Valentine, renders obvious “a first non-transitory computer readable storage medium configured to store” Sastry’s customer annotation application. Houh ¶165.

**i. Sastry (Grounds 1A/1B)**

Sastry discloses or renders obvious that its customer terminal includes a non-transitory computer readable storage medium that stores the customer annotation application. Houh ¶¶166-168. The ’787 patent does not discuss the structure or function of computer readable media. However, POSITAs would have known that computer readable storage media were routine, fundamental components of computing devices, such as Sastry’s customer terminal (*supra* Section VII.A.8.a.), providing persistent storage of computer-readable data that stores common types of information, including operating system files, applications, and system settings and configuration. Houh ¶166. Thus, a POSITA would have known or found it obvious that Sastry’s customer terminal includes a non-transitory computer readable storage medium. *Id.*

A POSITA would have further understood or found it obvious that Sastry’s customer annotation application would be stored on the customer terminal’s non-transitory computer readable storage medium. *Id.* ¶167. Applications, such as the customer annotation application, are stored in persistent memory to enable devices to retain and maintain application data. *Id.* Including such storage allows

Sastry's customer terminal to store data persistently, improving device usability and performance and minimizing data loss. *Id.* Persistent storage in Sastry's device also improves the user experience, allowing customers to quickly access applications, such as Sastry's customer annotation application. *Id.* Thus, a POSITA would have understood or found it obvious that Sastry's customer annotation application is stored on the customer terminal's non-transitory computer readable storage medium to enable customers to use the application at their convenience to annotate a web document and formulate a query, as Sastry discloses. *Id.*; *supra* Section VII.A.2.c.

**ii. Sastry and Valentine (Ground 1C)**

Storing Sastry's applications on a non-transitory computer readable storage medium also would have been obvious based on Valentine. Houh ¶¶169-173.

Valentine's users record audio messages on an initiating device 21 via a "recorder applet 22" accessed on a web page. Valentine ¶¶33, 27, FIG. 1; *supra* Section VII.A.2.d.ii. Valentine explains that the disclosed systems, including initiating device 21, include "a computer-readable storage medium," Valentine ¶57, which is "non-volatile," *id.* ¶55, and stores "computer program(s)." *Id.* ¶57; *see id.* ¶56. A POSITA would have understood that Valentine's non-volatile storage retains data over time and, thus, constitutes non-transitory storage. Houh ¶170. A POSITA would have further understood that Valentine's recorder applet 22 is one of the

“computer program(s)” stored in the non-transitory storage to allow users to use the applet at their convenience to record audio messages. *Id.*

It would have been obvious to incorporate Valentine’s non-transitory storage into Sastry’s customer terminal that stores the customer annotation application. *Id.*

¶171. A POSITA would have been motivated to do so given the similarities between Sastry’s and Valentine’s systems and user devices, both in general architecture and specific functionality, as such similarities would indicate a reasonable expectation that the combination would have succeeded. *Id.*; *supra* Section VII.A.1. A POSITA also would have understood, given the wide-spread use of non-transitory computer readable storage media for storing such applications and data (as evidenced by Valentine), that including such storage would allow Sastry’s customer terminal to store data persistently, improving its usability and performance. Houh ¶172.

- c. **[8-b]: “at least one first processor communicatively coupled to said first non-transitory computer readable storage medium, said at least one processor configured to execute said user client application;”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [8-b]. Houh ¶¶175-182.

- i. **Sastry (Grounds 1A/1B)**

Sastry discloses or renders obvious that its customer terminal (“computer implemented system”) includes a processor coupled to its non-transitory storage and configured to execute the customer annotation application. *Id.* ¶¶176-177. Sastry’s

customer terminal stores the customer annotation application in its non-transitory storage. *Id.*; *supra* Section VII.A.8.b. The '787 patent does not discuss the structure or function of processors and their interplay with computer readable media. However, it was well-known that computing devices (e.g., Sastry's customer terminal) execute application programs (e.g., Sastry's customer annotation application) using a processor, and such computer architecture was conventional long before the '787 patent's effective filing date. Houh ¶176. Including such a processor enables Sastry's customer terminal to execute software instructions to complete tasks efficiently, including those discussed in the following sections. *Id.*; *infra* Sections VII.A.8.e-VII.A.8.g. Storing programs in non-transitory memory coupled to a processor and executing those programs by the processor to perform functions has been conventional for decades. Houh ¶176. Thus, a POSITA would have known or found it obvious that Sastry's customer terminal includes a processor communicatively coupled to the non-transitory storage to execute the customer annotation application and that the processor is communicatively coupled to the non-transitory storage. *Id.*; Sastry, 6:35-57.

**ii. Sastry and Valentine (Ground 1C)**

If it is argued that Sastry does not disclose or render obvious a processor coupled to non-transitory storage and configured to execute Sastry's customer

annotation application, this would have been obvious based on Valentine. Houh ¶¶178-181.

Valentine's non-transitory storage is "readable by [a] processor" and, thus, communicatively coupled to the processor. Valentine ¶55; *supra* Section VII.A.8.b.ii. Valentine explains that the initiating device is a "microprocessor-based [computer] system" that includes "[computer] program[s] for organizing and controlling the initiating device 21 to operate as described" throughout Valentine. Valentine ¶26. A POSITA would have understood Valentine's processor executes the computer programs to organize and control operations on the initiating device, including, for example, executing the recorder applet 22 to enable a user to record an audio message on the device. Houh ¶179; *supra* Sections VII.A.2.d.ii, VII.A.8.b.ii.

A POSITA would have found it obvious to incorporate Valentine's teachings of a processor that is communicatively coupled to non-transitory storage and executes applications into Sastry's customer terminal. Houh ¶180. A POSITA would have been motivated to do so given the similarities between Sastry's and Valentine's user devices, both in general architecture and specific functionality, as such similarities would indicate a reasonable expectation that the combination would succeed. *Id.*; *supra* Sections VII.A.1, VII.A.8.b.ii. A POSITA also would have understood that including a processor in Sastry's computing device, as Valentine

discloses, was routine, further motivating a POSITA to make the proposed combination. Houh ¶180. Including such a processor provides Sastry's customer terminal the ability to execute software instructions to complete tasks swiftly and efficiently, including those discussed in the following sections. *Id.*; *infra* Sections VII.A.8.e-VII.A.8.g.

**d. [8-c]: "said user client application configuring said processor to:"**

Sastry discloses, or alone or in combination with Valentine, renders obvious [8-c]. Houh ¶¶183-185.

Sastry discloses or, alone or in combination with Valentine, renders obvious a processor that executes the customer annotation application. *Supra* Section VII.A.8.c. Application software (e.g., Sastry's customer annotation application) provides a set of computer-executable (or computer-parsable) instructions that enable a processor in a computing device (e.g., the processor of Sastry's customer terminal) to perform specific functions, including those discussed in the following sections. Houh ¶184; *infra* Sections VII.A.8.e-VII.A.8.g.

**e. [8-c.i]: "locally record and store an audio query message of said user on said user device;"**

Sastry discloses [8-c.i]. Houh ¶186; *supra* Section VII.A.2.c.

- f. **[8-c.ii]: “provide an interface for optionally reviewing said recorded audio query message prior to transmission; and”**

Sastry discloses [8-c.ii]. Houh ¶187; *supra* Sections VII.A.7, VII.A.2.c.

- g. **[8-c.iii]: “transmit said recorded audio query message to a host server in a store and forward manner;”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [8-c.iii]. Houh ¶¶188-192; *supra* Section VII.A.2.d.

The '787 patent uses the phrase “store and forward” once outside of claim 8, explaining that an “object is to provide a voice message driven customer interaction queuing system that offers a method for email-style store and forward service delivery for audio messages with a brief service interval . . . .” ’787 patent, 4:66-5:5. A POSITA would have understood that a query is transmitted “in a store and forward manner” if it is (i) locally stored on the transmitting device before being transmitted to the server, or (ii) transmitted to an intermediary node (e.g., a server) before being forwarded, and that Sastry discloses both options. Houh ¶189.

First, Sastry discloses storing the customer’s audio query message on the customer terminal before it is transmitted to the host server. *Id.* ¶190; *supra* Sections VII.A.2.c-VII.A.2.d.

Second, Sastry discloses or, alone or in combination with Valentine, renders obvious transmitting the audio query to a host server which acts as an intermediary node, before it is forwarded to the agent terminal. Houh ¶191; *supra*

Sections VII.A.2.d-VII.A.2.e. A POSITA would have understood that the host server acts as an intermediary node before the audio query is transmitted to the agent terminal. Houh ¶191.

- h. [8-d]: “a host server at said customer service center for assigning said audio query message to a host agent device, said host server comprising:”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [8-d]. Houh ¶193; *supra* Sections VII.A.2.d-VII.A.2.e. Sastry also discloses that the host server is at the “web-based call center 10.” Sastry, 4:10-11.

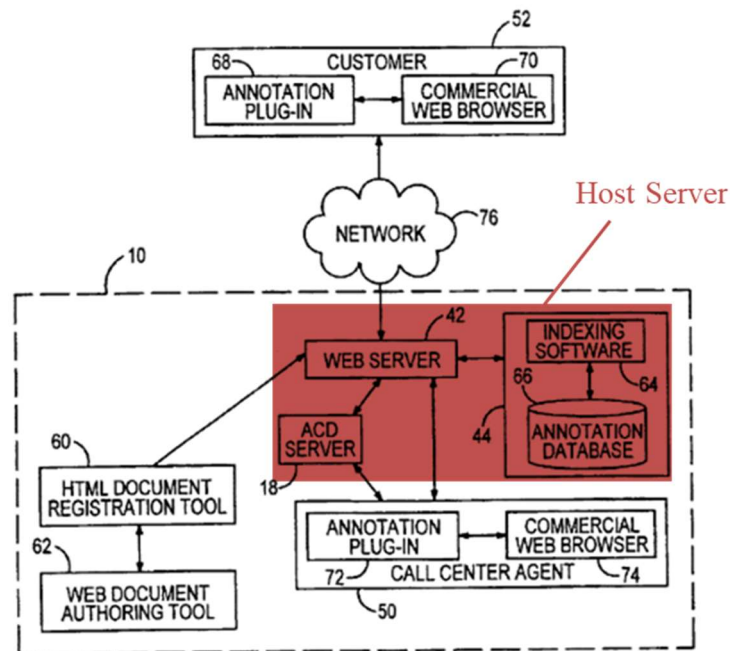


FIG. 2

*Id.*, FIG. 2 (annotated).

- i. **[8-d.i]: “an agent client application on said host agent device configured to receive and playback said audio query message;”**

Sastry discloses [8-d.i]. Houh ¶194; *supra* Sections VII.A.2.e-VII.A.2.f; Sastry, 6:40-45, 7:11-20.

- j. **[8-d.ii]: “said agent client application configured to locally record said audio response message; and”**

Sastry discloses [8-d.ii]. Houh ¶195; *supra* Section VII.A.2.f. Sastry’s agent annotation application enables *local* recording just as the customer annotation applications enables local recording. Houh ¶195; *supra* Section VII.A.2.c, VII.A.2.f; Sastry, Abstract, 6:48-57.

- k. **[8-d.iii]: “said agent client application configured to transmit said audio response message from said host server to said user device.”**

Sastry discloses [8-d.iii]. Houh ¶¶196-199. Sastry discloses that its agent annotation application is configured to transmit the annotated web document to the customer terminal. *Id.*; *supra* Sections VII.A.2.f, VII.A.2.b.

Moreover, in Sastry, the agent’s response is also sent to Sastry’s host server first before being transmitted to the customer terminal. Houh ¶197; Sastry, Abstract; *see* Sastry, 2:19-25, 3:11-13, 6:54-55, 7:33-35, 7:65-8:1; *supra* Section VII.A.2.d.

## 9. Independent Claim 9

- a. **[9-P]: “A computer program product comprising computer executable instructions embodied in a non-transitory computer-readable storage medium, wherein said computer program product comprises:”**

If the preamble is limiting, Sastry discloses or, alone or in combination with Valentine, renders obvious [9-P]. Houh ¶¶200-205.

Sastry discloses or renders obvious a “computer program product,” a phrase the ’787 patent does not use outside of the claims. *Id.* ¶201. The specification, however, describes a “Blurt software component,” which includes three “core elements”: a Blurt Client at the user device, an intermediary Blurt Server, and a Blurt Agent at the agent device. ’787 patent, 6:38-40, 7:21-41, FIG. 2, 7:5-20. The Blurt software component corresponds to the claimed “computer program product.” Houh ¶201.

Sastry’s customer annotation application is similar to the Blurt Client: they both enable users to create audio messages on a user device and transmit the messages to a server. *Id.* ¶202; *supra* Sections VII.A.2.b-VII.A.2.d; ’787 patent, 7:6-10, FIG. 1, 7:22-24. Sastry’s host server includes software to perform server-side functionality that is similar to the Blurt Server software as both assign and distribute messages to an agent. Houh ¶202; *supra* Sections VII.A.2.d-VII.A.2.e; ’787 patent, 7:10-12, 7:30-32. Lastly, Sastry’s agent annotation application is similar to the Blurt Agent, as both enable agents to record audio messages responding to users and

transmit messages to users via a server. Houh ¶202; *supra* VII.A.2.f; '787 patent, 7:12-20, FIG. 1, 7:32-41. Thus, Sastry's customer annotation application, host server software, and agent annotation application correspond to the elements of the '787 patent's Blurt software component and disclose the claimed "computer program product." Houh ¶203.

Sastry discloses or, alone or in combination with Valentine, renders obvious a non-transitory computer-readable storage medium. *Supra* Section VII.A.8.b. A POSITA would have understood that the customer and agent annotation applications and the host server software provide computer-executable (or computer-parsable) instructions stored in non-transitory storage that enable a processor in a computing device to perform specific functions, including those discussed in the following sections. Houh ¶204; *supra* Section VII.A.8.d; *infra* Sections VII.A.9.b-VII.A.9.f.

**b. [9-a]: "a first computer parsable program code on a user device configured to:"**

Sastry discloses [9-a]. Houh ¶206; *supra* Section VII.A.2.b. A POSITA would have understood that the customer annotation application is "computer parsable program code." Houh ¶206; *supra* VII.A.8.d.

**c. [9-a.i]: "locally record and store an audio query message of a user on said user device; and"**

Sastry discloses [9-a.i]. Houh ¶207; *supra* Section VII.A.2.c.

- d. **[9-a.ii]: “transmit said recorded audio query message to a host server by a user client application on the user device;”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [9-a.ii]. Houh ¶208; *supra* Sections VII.A.2.d, VII.A.2.b.

- e. **[9-b]: “a second computer parsable program code on said host server configured to receive, distribute and assign said stored audio query message to said host server device; and”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [9-b]. Houh ¶¶209-210; *supra* Sections VII.A.9.a, VII.A.2.d-VII.A.2.e.<sup>1</sup>

Sastry also discloses that the host server is at the “web-based call center.” Sastry, 4:10-11, FIG. 2. Sastry’s host server includes server-side software to perform server-side functionality, and such software is “computer parsable program code.” Houh ¶210; *supra* Sections VII.A.9.a, VII.A.8.d.

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<sup>1</sup> “[S]aid host server device,” as recited in [9-b], refers to the “host *agent* device” recited elsewhere in claim 9, as this is consistent with the disclosures of the ’787 patent that disclose distributing and assigning messages to the *agents* and/or *agent* devices. Houh ¶209; ’787 patent, 7:10-12, 7:30-32, 7:51-58, 8:51-54, 9:33-40, 10:26-30, 11:52-56.

- f. **[9-c]: “a third computer parsable program code on a host agent device configured to record and transmit a response to the user client application of said audio query generating user.”**

Sastry discloses [9-c]. Houh ¶211; *supra* Section VII.A.2.f. A POSITA would have understood that Sastry’s agent annotation application is “computer parsable program code.” Houh ¶211; *supra* Sections VII.A.9.a, VII.A.8.d.

## **10. Independent Claim 10**

- a. **[10-P]: “An electronic device of a user, said electronic device comprising:”**

Sastry discloses [10-P]. Houh ¶212; *supra* Sections VII.A.2.b, VII.A.8.a; Sastry, Abstract, 6:35-55, FIG. 2.

- b. **[10-a]: “a non-transitory computer readable storage medium configured to store a client application;”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [10-a]. Houh ¶213; *supra* Section VII.A.8.b.

- c. **[10-b]: “at least one processor communicatively coupled to said non-transitory computer readable storage medium, said at least one processor configured to execute said client application;”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [10-b]. Houh ¶214; *supra* Section VII.A.8.c.

**d. [10-c]: “at least one input device communicatively coupled to said processor, wherein said input device comprises a microphone; and”**

Sastry discloses or, alone or in combination with Valentine, renders obvious [10-c]. Houh ¶¶215-228.

**i. Sastry (Grounds 1A/1B)**

Sastry discloses “recording voice” information using the customer annotation application on the customer terminal. Houh ¶216; *supra* Sections VII.A.2.b-VII.A.2.c.

A POSITA would have understood or found it obvious that, to receive and record the customer’s voice, the customer terminal includes a microphone input device that captures voice information and converts the soundwaves of the received voice to electrical signals that can be recorded, stored, and transmitted. Houh ¶217. It was well known to use microphones to obtain voice recordings (*see e.g.*, Valentine ¶¶26, 33), and Sastry’s customer terminal is already configured to include other input devices, such as a “mouse” for “directing a pointer icon.” Sastry, 8:32-35; Houh ¶217.

Moreover, a POSITA would have further understood or found it obvious that the microphone is communicatively coupled to the processor so that when a user selects an option to record audio, the processor can enable Sastry’s customer

terminal to begin capturing the audio via the microphone. Houh ¶218; *supra* Sections VII.A.10.c, VII.A.2.c.

If it is determined that Sastry does not disclose a microphone input device, it would have been obvious to modify Sastry to include a microphone input device to receive and record the customer's voice. Houh ¶219.

A POSITA would have been motivated to incorporate a microphone into Sastry's customer terminal to perform Sastry's disclosed functions, i.e., capturing and recording voice information, and because using microphones to capture voice was well known, as explained above. Houh ¶220; Valentine ¶¶26, 33.

This would simply combine prior art elements (Sastry's system that records audio and a conventional microphone, *see* Valentine ¶¶26, 33) according to known methods to yield predictable results (enabling user devices to record audio, as Sastry discloses). Houh ¶221. It is also a simple substitution of one known element (a conventional computer with a microphone to record audio, *see* Valentine ¶¶26, 33) for another (Sastry's computer that records audio) to obtain predictable results. Houh ¶221. This modification is also using a known technique (using a microphone as a computer input device to capture audio during recording, *see* Valentine ¶¶26, 33) to improve similar devices (computers that record audio) in the same way (to capture and record sound). Houh ¶221.

**ii. Sastry and Valentine (Ground 1C)**

If it is argued that Sastry does not disclose or render obvious a microphone input device communicatively coupled to a processor, Valentine does. Houh ¶¶223-227.

Valentine discloses that initiating device 21 includes a processor and a “microphone” that can be “internal or external to the initiating device 21.” Valentine ¶¶33, 26, 55; *supra* Sections VII.A.8.c. The microphone is an input device used to “capture sound” when a user presses “record” on a recorder applet 22 to record audio. *Id.* A POSITA would have further understood that the microphone is communicatively coupled to the processor so that when a user selects an option to record audio, Valentine’s initiating device can capture the audio via the microphone. Houh ¶224; *supra* Section VII.A.10.d.i.

A POSITA would have found it obvious to incorporate Valentine’s microphone in Sastry’s customer terminal. Houh ¶225. Sastry discloses locally recording voice information on a customer terminal but does not expressly disclose using a microphone to do so. *Id.*; *supra* Section VII.A.2.c. Valentine provides this implementation detail because it explains that sound is captured using an internal or external microphone. Houh ¶225; Valentine ¶33. A POSITA would have been motivated to incorporate Valentine’s teachings into Sastry’s system to provide an explicit way to capture the voice recording in Sastry—i.e., using a microphone,

especially given that it was so well known. Houh ¶225. Further, Sastry's customer terminal is already configured to include other input devices, which a POSITA would have recognized as indicating a reasonable expectation that the combination would succeed. *Id.*

Making such a modification is simply combining prior art elements (Sastry's computer system that records audio and Valentine's use of a microphone in a similar system) according to known methods to yield predictable results (user devices that record audio via a microphone). *Id.* ¶226. This modification is also using a known technique (using a microphone to capture audio during recording) to improve similar devices (a computer that records audio) in the same way. *Id.* It is also a simple substitution of one known element (Valentine's computer with a microphone to record audio) for another (Sastry's computer to record audio) to obtain predictable results (user devices that record audio, as both Sastry and Valentine disclose). *Id.*

**e. [10-d]: "said client application configuring said at least one processor to:"**

Sastry discloses [10-d]. *See supra* Section VII.A.8.d; Houh ¶229.

**f. [10-d.i]: "locally record an audio query message received through said microphone;"**

Sastry discloses or, alone or in combination with Valentine, renders obvious [10-d.i]. Houh ¶230; *supra* Sections VII.A.2.c, VII.A.10.d. A POSITA would have further understood that locally recording the audio query message in Sastry would

have been through the microphone, as the microphone receives voice input for recordings. Houh ¶230.

**g. [10-d.ii]: “store said recorded audio query message on said electronic device; and”**

Sastry discloses [10-d.ii]. Houh ¶231; *supra* Sections VII.A.2.c, VII.A.10.a.

**h. [10-d.iii]: “transmit said stored audio query message.”**

Sastry discloses [10-d.iii]. Houh ¶¶232-233; *supra* Section VII.A.2.d.

**B. Grounds 2A/2B: Sastry and Boies (2A) or Sastry, Valentine, and Boies (2B) Render Obvious Claim 3**

**1. Motivation to Combine**

A POSITA would have found it obvious to combine Boies with Sastry and Sastry-Valentine. Houh ¶¶234-238. Sastry, Valentine, and Boies disclose similar and complementary methods for controlling network communications. *Id.* ¶234.

Like Sastry and Valentine, Boies discloses a coordinating server that acts as an intermediary for connectionless messaging between a user and service provider. Boies, Abstract, ¶36; *see also id.* ¶¶11, 18, FIGS. 1, 4A; *supra* Section VII.A.1; Houh ¶235. In Boies, prior to the user submitting bids for services, a provider “prepares an electronic template for available services and transmits them to the server.” Boies ¶36; Houh ¶235. The server distributes the template to users so the users can prepare a “respons[e]” template providing an offer for certain services consistent with the received template. Boies ¶36.

A POSITA would have found it obvious to combine Sastry, Valentine, and Boies. Houh ¶236. All references are analogous art, belonging to the same field of endeavor as the '787 patent and each other: systems and methods for connectionless messaging using servers as intermediaries. *Id.*; *supra* Section VII.A.1. They are also reasonably pertinent to a problem the '787 inventor allegedly faced: delay in connection-based messaging systems. Houh ¶236; *supra* Section VII.A.1. Sastry, Valentine, and Boies address similar problems. *Supra* Section VII.A.1; Boies ¶¶4 (noting the drawbacks of serving users on a “first come first serve[]” basis), 36; Houh ¶236.

Given that the references disclose similar systems that operate in a similar manner and are directed to similar and related problems, a POSITA would have been generally motivated to consider the teachings of Boies to modify Sastry or the Sastry-Valentine combination. Houh ¶¶237-238.

Additional rationale for the combination is provided below.

2. **Claim 3: “The method of claim 1, wherein said host server comprises Java servlets, Enterprise Java Bean component, a web and application server and a generic database technology.”**

Sastry and Boies (Ground 2A) or Sastry, Valentine, and Boies (Ground 2B) render obvious claim 3. Houh ¶¶239-245.

Sastry's host server incorporates the functionalities of a "web server" that accepts requests from customer and agent terminals for accessing web documents from the server, *supra* Section VII.A.2.d, and an "application server." The host server includes software components running on hardware for performing Sastry's server-side functions, including receiving, distributing, and assigning the recorded audio query message. *Id.* A POSITA would have understood that the host server includes an application server that facilitates the functions these software components perform. Houh ¶¶240-241.

Sastry's host server includes generic database technology, as it implements "commercial relational database technology" to store uploaded web documents. *Id.* ¶242; Sastry, 5:62-6:3, Abstract. A POSITA would have understood that Sastry's host server's database stores and provides access to data in a relational form—i.e., in a form that shows how the data is related, which a POSITA would have understood constitutes generic technology used in commercial database environments. Houh ¶242. Thus, a POSITA would have understood that Sastry discloses a host server comprising generic database technology. *Id.*

Sastry does not expressly disclose that the host server includes Java servlets and an Enterprise Java Bean component, but Boies discloses both. *Id.* ¶243. Boies' coordination server (*supra* Section VII.B.1) uses "Java Servlets," Boies ¶21, and a

“Enterprise Java Bean (EJB)” component to facilitate the server functionality. Boies ¶24; *see id.* ¶¶25-26.

It would have been obvious to modify Sastry’s host server to utilize Java Servlets and Enterprise Java Bean Components, as Boies discloses. Houh ¶244. Sastry uses Java code for its web documents to capture a user’s multimedia actions when annotating such documents. Sastry, 2:41-53, 4:60-63; Houh ¶244. Boies explains how to develop servers using Java processing, including using Java Servlets to respond to requests from user devices and Enterprise Java Bean components to handle the business logic and server-side functionality. Boies ¶¶21, 24-26. A POSITA would have been motivated to modify Sastry this way because Boies provides the technical details for implementing Sastry’s system. Houh ¶244. Sastry expressly discloses using Java for specific aspects of its own system, further motivating a POSITA to develop other aspects, including server-side operations and architecture, using Java principles to ensure compatibility. *Id.*; Sastry, 4:60-67, 2:34-53, 6:45-48, 6:61-65.

Moreover, Java Servlets and Enterprise Java Bean Components were known, fundamental Java server-side components that enable a platform to be robust and scalable, as required for enterprise solutions, which Sastry is. Houh ¶245; *see* Barish, 49-51; Sastry, 6:1. Making such a modification is simply combining prior art elements (Sastry’s system that utilizes Java-based documents and Boies’ use of a

Java-based server and associated elements) according to known methods (implementing Java system architecture) to yield predictable results (using a Java-based intermediary for connectionless messaging between two devices, as Boies discloses). Houh ¶245. It is also a simple substitution of one known element (Boies' Java-based server) for another (Sastry's host server) to obtain predictable results (a system that maximizes its use of Java to ensure compatibility across system components). *Id.* This modification is also using a known technique (developing a host server using Java components, as Boies discloses) to improve similar devices (intermediary servers disclosed in Sastry and Boies) in the same way (to maximize compatibility, ensure operational reliability, and avoid costs from attempting to incorporate and maintain different technologies). *Id.*

**C. Grounds 3A/3B: Valentine Anticipates or Renders Obvious Claim 10**

Valentine anticipates claim 10 (Ground 3A) or renders claim 10 obvious (Ground 3B). Houh ¶¶246-276.

**1. Independent Claim 10**

**a. [10-P]: “An electronic device of a user, said electronic device comprising:”**

Valentine discloses [10-P]. Houh ¶247. Valentine discloses that “an internet user can access the internet using ... an initiating device 21,” Valentine ¶26, which

is used to “post[] electronic information.” *Id.* ¶5. Thus, a POSITA would have understood that initiating device 21 is an electronic user device. Houh ¶247.

**b. [10-a]: “a non-transitory computer readable storage medium configured to store a client application;”**

Valentine discloses [10-a]. Houh ¶¶248-257.

Valentine discloses a “client application.” *Id.* ¶249. Specifically, Valentine discloses a “recorder applet,” Valentine ¶33, which operates on a web browser and presents users a GUI with controls to “record, stop, preview, pause, and save a spoken audio clip or audio data that the user can record by speaking into a microphone.” *Id.* ¶21, FIG. 1; *see id.*, Abstract, ¶¶16, 27, 29, 32-35. Figure 1 shows that the recorder applet is on the initiating device, which is also “equipped with” an Internet browser. *Id.*, FIG. 1, ¶27. A POSITA would have understood that both the recorder applet and web browser are stored on the initiating device. Houh ¶249.

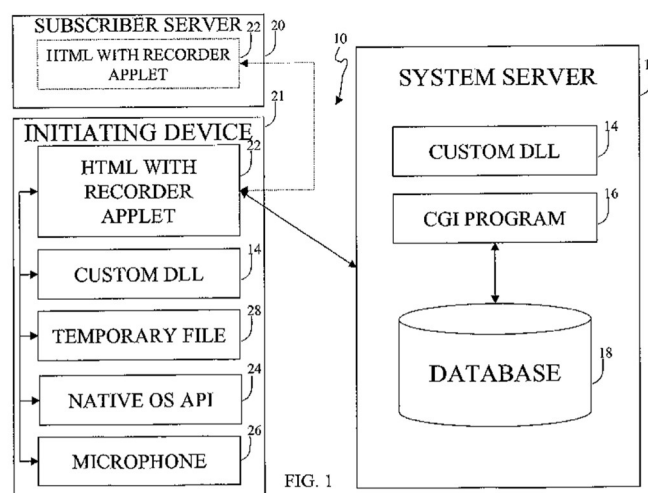


FIG. 1

Valentine, FIG. 1.

Valentine's recorder applet, alone or in combination with the web browser, is a "client application" within the context of the '787 patent. Houh ¶250; *supra* Section VII.A.2.b.

The '787 patent does not use the phrase "user client application" outside of the claims. Houh ¶251. The specification, however, describes a "browser-resident recorder application" (or a slight variation thereof) used on a customer PC. '787 patent, Abstract, FIG. 1. The '787 patent's recorder application corresponds to the claimed client application. Houh ¶251.

Valentine's recorder applet is similar to the '787 patent's recorder application. Houh ¶252. The recorder applet enables the initiating device to record a "spoken audio clip or audio data" that a user speaks into the device's microphone. Valentine ¶21, FIG. 1. The '787 patent's recorder application likewise "provide[s] a voice message driven customer interaction queuing system that enables" customers to record questions via a microphone to send to customer service agents. '787 patent, 4:57-60, Abstract, 10:12-15, FIGS. 1-2, 4:4-10, 4:37-45.

Valentine's recorder applet also functions similarly to the '787 patent's recorder application. Houh ¶253. Like the recorder application, when Valentine's recorder applet is "activate[d]" on a website, it enables website users to record audio. Valentine ¶¶21, 24, 42 45. The '787 patent similarly explains that the recorder application "can be used *to voice-enable* web pages ... allowing web page visitors

to utter questions into a browser-resident recorder/player application akin to a Walkie-Talkie.” ’787 patent, 4:4-7 (emphasis added), 1:29-34; *supra* Section VII.A.2.b. Thus, Valentine’s recorder applet, alone or in combination with the web browser with which it operates, corresponds to, and teaches the ’787 patent’s “browser-resident recorder/player application.” Houh ¶253.

Moreover, a POSITA would have understood that Valentine’s recorder applet, alone or in combination with the web browser with which it operates, discloses an application consistent with the common understanding of an “application,” which is a software program for performing a task or function. *Id.* ¶254; Ex. 1010, 76; Ex. 1011, 27; Ex. 1012, 46; Barish, 2; *see also* Ex. 1013. The recorder applet is a software program that performs specific tasks or functions, including those discussed below. Houh ¶254; *infra* Sections VII.C.1.f-VII.C.1.h.

Accordingly, a POSITA would have understood that Valentine’s recorder applet, alone or in combination with Valentine’s browser, is a “client application” in the context of the ’787 patent. Houh ¶255. Below, Valentine’s “recorder applet application” refers to Valentine’s recorder applet, alone or in combination with Valentine’s browser.

Moreover, Valentine discloses “a non-transitory computer readable storage medium configured to store” the recorder applet application. Houh ¶256. Valentine’s systems, including initiating device 21, include “a computer-readable storage

medium,” Valentine ¶57, which is “non-volatile.” *Id.* ¶¶55-56. A POSITA would have understood that Valentine’s non-volatile storage retains data over time and, thus, constitutes non-transitory storage. Houh ¶256. Moreover, Valentine’s methods are “implemented in one or more computer programs,” Valentine ¶55, which are “stored” on the non-transitory storage. *Id.* ¶57. A POSITA would have understood that the recorder applet application is one of the computer programs stored in non-transitory storage to allow users to use the applet at their convenience to record audio messages. Houh ¶256.

- c. **[10-b]: “at least one processor communicatively coupled to said non-transitory computer readable storage medium, said at least one processor configured to execute said client application;”**

Valentine discloses [10-b]. Houh ¶¶258-260.

Valentine’s non-transitory storage is “readable by [a] processor” and, thus, communicatively coupled to the processor. Valentine ¶55; Houh ¶259; *supra* Section VII.C.1.b. Valentine explains that the initiating device is a “microprocessor-based [computer] system” that includes “[computer] program[s] for organizing and controlling the initiating device 21 to operate as described” throughout Valentine. Valentine ¶26. A POSITA would have understood Valentine’s processor executes the computer programs to organize and control operations on the initiating device,

including, for example, executing the recorder applet application to enable a user to record an audio message on the device. Houh ¶259; *supra* Section VII.C.1.b.

**d. [10-c]: “at least one input device communicatively coupled to said processor, wherein said input device comprises a microphone; and”**

Valentine discloses [10-c]. Houh ¶¶261-263.

Valentine discloses that initiating device 21 includes a processor and a “microphone” that can be “internal or external to the initiating device 21.” Valentine ¶¶33, 26, 55; *supra* Section VII.C.1.c. The microphone is an input device used to “capture sound” when a user presses “record” on the recorder applet application to record audio. Valentine ¶33. A POSITA would have understood that the processor “organiz[es]” and “control[s]” the initiating device to perform various operations, including capturing and recording audio via the microphone when a user presses “record” on the recorder applet. Houh ¶262; Valentine ¶¶26, 33. Thus, a POSITA would have further understood that the microphone is communicatively coupled to the processor so that when a user selects an option to record audio, the processor enables Valentine’s initiating device to capture the audio via the microphone. Houh ¶262; *supra* Section VII.C.1.c.

**e. [10-d]: “said client application configuring said at least one processor to:”**

Valentine discloses [10-d]. Houh ¶¶264-266.

Valentine's processor executes the recorder applet application. *Supra* Section VII.C.1.c. An application (e.g., Valentine's recorder applet application) provides a set of computer-executable (or computer-parsable) coded instructions that enable a processor in a computing device (e.g., the processor of Valentine's initiating device) to perform specific functions, including those discussed in the following sections. Houh ¶265; *infra* Sections VII.C.1.f-VII.C.1.h.

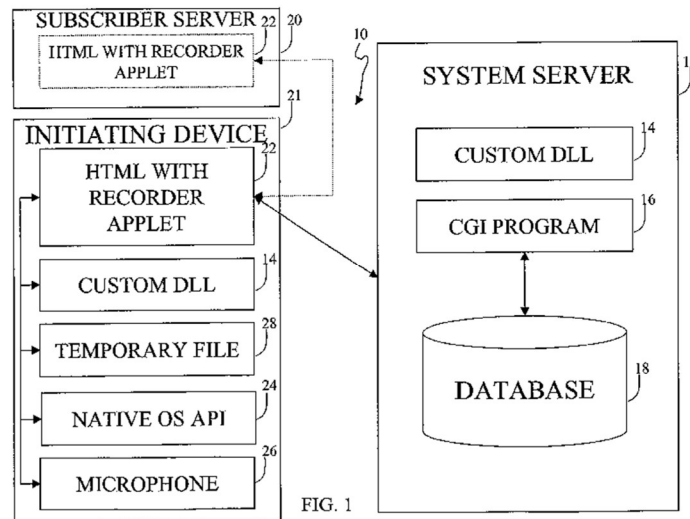
**f. [10-d.i]: "locally record an audio query message received through said microphone;"**

Valentine discloses limitation [10.d.i] (Ground 3A) or renders this limitation obvious (Ground 3B). Houh ¶¶267-274.

Valentine discloses local recording of an audio message received through a microphone. *Id.* ¶268. Valentine's recorder applet application on the initiating device records a "spoken audio clip or audio data that the user can record by speaking into a microphone." Valentine ¶¶21, 26, 33-34, 48.

The message is locally recorded. Houh ¶269. Valentine explains that the user records the message on the recorder applet application, which is a "native" application on the initiating device, Valentine ¶¶18, 33, and then stores the message in a "temporary file 28 in local memory of the initiating device 21" after recording. *Id.* ¶33. Moreover, the application is locally stored on the initiating device. Houh ¶269; Valentine, FIG. 1, ¶32. A POSITA would have understood Valentine's

disclosures—that both the recorder applet application and recorded message are stored on the initiating device—to show that Valentine’s recorder applet application locally records audio messages. Houh ¶269.



Valentine, FIG. 1.

Valentine’s recorded audio message is a “query” message. Houh ¶270. In Valentine, “one user can post an audio message to the group” and “another user can thereafter listen to the audio message and reply to it by creating another audio message.” Valentine ¶20. For example, users in a “threaded discussion group” exchange messages to discuss “entertainment and information in an audio form.” *Id.* As another example, Valentine describes implementing its system in “a web page that can be utilized for auctions, or ... for presenting items for sale, etc.,” enabling users to “generat[e] an audio file for association with the [sale] item.” *Id.* ¶48.

A POSITA would have understood that threaded discussion groups or online sales/auctions in which users record and exchange audio messages would include messages of all kinds, including statements and/or questions, to other users about various topics, such as “entertainment,” product details and features, sales price, etc. Houh ¶271; Valentine ¶¶20, 48. A POSITA would have been familiar with “threaded” discussion groups and “sales” or “auctions” and would have recognized that such environments would include back-and-forth communications, including users posing questions (or queries) as part of the ongoing discussion or sale in hopes to receive answers and responses. Houh ¶271.

If it is argued that Valentine does not disclose that its audio messages are “audio query messages,” the only difference would be the content of the data that is being transferred, which would not require any modification to Valentine’s system—and thus make such difference obvious. *Id.* ¶272. Even if it did, it would have been obvious to a POSITA to modify Valentine’s system to record query messages using the recorder applet application in view of Valentine’s disclosures. *Id.*; Valentine ¶¶20, 48. A POSITA would have been motivated to modify the ability to record audio messages to post on “threaded discussion groups” or at sales or auctions, as Valentine discloses, to record audio query messages to expand how Valentine’s invention can be utilized, thereby providing additional user benefits. Houh ¶272. For example, it was known in the art that a POSITA could implement Valentine’s invention in a

teacher-student environment in which a “student can transmit questions about an exam or an assignment” in an audio request and the “instructor can respond” with an audio response, as evidenced at least by Sastry. Sastry, 9:30-40; Houh ¶272.

Making such a modification applies prior art elements (Valentine’s system enabling users to record audio messages about entertainment, information, and products for sale) according to known methods to yield predictable results (enabling users to also record audio with questions or queries). Houh ¶273. It is also a simple substitution of one known element (using Valentine’s system to record audio about “entertainment[,] information,” and products for sale) for another (using the same system to also record audio asking questions or queries) to obtain predictable results (connectionless exchange of audio messages that include questions or queries instead of only messages about “entertainment[,] information,” and products for sale). *Id.* This modification is also using a known technique (enabling users to record audio questions or queries) to improve similar devices (Valentine’s system that enables users to record audio regarding “entertainment[,] information,” and products for sale) in the same way. *Id.*

**g. [10-d.ii]: “store said recorded audio query message on said electronic device; and”**

Valentine discloses [10-d.ii]. Houh ¶275; *supra* Section VII.C.1.f; Valentine ¶33.

**h. [10-d.iii]: “transmit said stored audio query message.”**

Valentine discloses [10-d.iii]. Houh ¶276. Valentine explains that, after storing the recorded message on the initiating device, the message is “transmit[ted]” to the “system server 12.” Valentine ¶¶33, 32.

**VIII. NON-INSTITUTION UNDER 35 U.S.C. § 325 WOULD BE IMPROPER**

The Office has not considered the same or similar prior art and grounds in the petition. The claims were allowed because the considered prior art failed to teach locally recording and storing an audio message and transmitting the message, Houh ¶¶54-55, features that Sastry and Valentine disclose. *Supra* Sections VII.A.2.c-VII.A.2.d, VII.C.1.f-VII.C.1.h.

## IX. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

### A. Real Party-in-Interest

The Petitioner and the real party-in-interest is Google LLC.<sup>2</sup>

### B. Related Matters

The '787 patent has been involved in the following proceedings, all of which have been terminated:

| Name                                                              | Number        | Forum     | Filed         |
|-------------------------------------------------------------------|---------------|-----------|---------------|
| <i>Songbird Tech, LLC v. Samsung Electronics Co., Ltd. et al.</i> | 6-23-cv-00537 | W.D. Tex. | July 26, 2023 |
| <i>Songbird Tech, LLC v. ASUSTeK Computer, Inc.</i>               | 6-24-cv-00041 | W.D. Tex. | Jan. 18, 2024 |
| <i>Songbird Tech, LLC v. LG Electronics, Inc.</i>                 | 6-24-cv-00042 | W.D. Tex. | Jan. 18, 2024 |
| <i>Songbird Tech, LLC v. LG Electronics, Inc.</i>                 | 6-24-cv-00121 | W.D. Tex. | Mar. 7, 2024  |
| <i>Songbird Tech, LLC v. ASUSTeK Computer, Inc.</i>               | 6-24-cv-00122 | W.D. Tex. | Mar. 7, 2024  |

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<sup>2</sup> Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

**C. Lead and Backup Counsel Information**

Petitioner provides the following designation of counsel:

| Lead Counsel                                                                                                                                                                                                                   | Back-Up Counsel                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Erika H. Arner (Reg. No. 57,540)<br>erika.arner@finnegan.com<br>Finnegan, Henderson, Farabow,<br>Garrett & Dunner, LLP<br>1875 Explorer Street<br>Suite 800<br>Reston, VA 20190-6023<br>Tel: 571-203-2700<br>Fax: 202-408-4400 | Daniel C. Tucker (Reg. No. 62,781)<br>daniel.tucker@finnegan.com<br>Finnegan, Henderson, Farabow,<br>Garrett & Dunner, LLP<br>1875 Explorer Street<br>Suite 800<br>Reston, VA 20190-6023<br>Tel: 571-203-2700<br>Fax: 202-408-4400<br><br>Umber Aggarwal (Reg. No. 76,098)<br>umber.aggarwal@finnegan.com<br>Finnegan, Henderson, Farabow,<br>Garrett & Dunner, LLP<br>1875 Explorer Street<br>Suite 800<br>Reston, VA 20190-6023<br>Tel: 571-203-2700<br>Fax: 202-408-4400 |

Petitioner submits a Power of Attorney with this petition. Petitioner consents to service by email at the addresses listed above and to Google-Songbird-IPR@finnegan.com.

**X. CONCLUSION**

Petitioner requests the Board institute this IPR and find all claims unpatentable.

Dated: August 14, 2024

By: /Daniel C. Tucker/  
Daniel C. Tucker (Reg. No. 62,781)  
Counsel for Petitioner

**CERTIFICATE OF COMPLIANCE**

Pursuant to 37 C.F.R. § 42.24(a)(1)(i), the undersigned hereby certifies that the foregoing PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,825,787 contains 13,979 words, excluding parts of this Petition exempted under § 42.24(a), as measured by the word-processing system used to prepare this paper.

Dated: August 14, 2024

/Daniel C. Tucker/  
Daniel C. Tucker (Reg. No. 62,781)  
Counsel for Petitioner

**CERTIFICATE OF SERVICE**

The undersigned certifies that the foregoing **Petition for *Inter Partes* Review, the associated power of attorney, and Exhibits 1001-1014** were served on August 14, 2024, by FedEx Priority Overnight on the correspondence address of record indicated in the Patent Office's Patent Center website for U.S. Patent No. 8,825,787.

Ashok Tankha  
36 Greenleigh Drive  
Sewell, NJ 08080

A courtesy copy has also been mailed to Patent Owner's counsel in the Related Matters identified in Section IX.B at:

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Austin, Texas 78701

Dated: August 14, 2024

By: /Lisa C. Hines/  
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