UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS AMERICA, INC.
Petitioner

v.

UNILOC LUXEMBOURG, S.A.
Patent Owner

Patent No. 8,995,433

DECLARATION OF DR. ZYGMUNT J. HAAS

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I, Dr. Zygmunt J. Haas, declare as follows:

I. INTRODUCTION

1. I have been retained as an independent expert consultant on behalf of Samsung Electronics America, Inc. ("Petitioner") in this proceeding before the United States Patent and Trademark Office ("PTO") regarding U.S. Patent No. 8,995,433 ("the '433 Patent") (Ex. 1001). I have been asked to consider whether certain references disclose or suggest the features recited in claims 1-5, 7-12, 14-17, 25, and 26 ("the challenged claims") of the '433 Patent. My opinions are set forth below.

2. I am being compensated at my rate of $450 per hour for the time I spend on this matter. My compensation is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of this or any other proceeding. I have no other interest in this proceeding.

II. QUALIFICATIONS

3. I am a Professor and Distinguished Chair in Computer Science at the University of Texas in Dallas. I am also Professor Emeritus at the School of Electrical and Computer Engineering at Cornell University. In addition, I provide technical consulting services in intellectual property matters, including matters involving computer networks and wireless communication technologies.

4. I received my Bachelor of Science Degree in Electrical Engineering,

summa cum laude, from Technion (IIT), Israel, in 1979, and a Master of Science Degree in Electrical Engineering, summa cum laude, from Tel-Aviv University, Israel, in 1985. I subsequently authored the thesis titled "Packet Switching in Fiber-Optic Networks" as part of earning my Ph.D. in Electrical Engineering from Stanford University in 1988.

5. I have worked for about 35 years in the field of Electrical Engineering. The primary focus of my work has been on communication and networking systems, with an emphasis on wireless communication networks. I have authored and co-authored numerous technical papers and book chapters related to wireless communication networks. As shown in my curriculum vitae, which I understand is provided as Exhibit 1003, I hold eighteen patents in the fields of high-speed networking, wireless networks, and optical switching, with three additional patents pending.

6. My employment history following my graduation from Stanford University began at the Network Research Department of AT&T Bell Laboratories in 1988. At AT&T Bell Laboratories, I pursued research on wireless communications, mobility management, fast protocols, optical networks, and optical switching. During my tenure at AT&T, I also worked for the AT&T Wireless Center of Excellence, where I investigated various aspects of wireless and mobile networks. As part of my employment at AT&T, I also worked on

multimedia conferencing systems.

7. Since 1995, I have been a Professor at the faculty of the School of Electrical & Computer Engineering at Cornell University. At Cornell, I headed the Wireless Networks Lab, which is an internationally recognized research group with extensive contributions in the area of wireless communication systems and networks. In 2013, I retired from Cornell with the title of Emeritus professor and joined the Computer Science Department at the University of Texas at Dallas with the title of Professor and Distinguished Chair in Computer Science. At Cornell and at the University of Texas, I have taught dozens of courses related to computer networking and wireless communications. I have also served on various committees for the benefit of the scientific community.

8. I am a member of a number of professional societies, including the Institute of Electrical and Electronic Engineers (IEEE) and the Association for Computing Machinery (ACM). In 2007, I was elevated to an IEEE Fellow. I have been responsible for organizing several workshops, and delivering numerous tutorials at major IEEE and ACM conferences. I have served as editor of several publications including the IEEE Transactions on Networking, the IEEE Transactions on Wireless Communications, the IEEE Communications Magazine, the Springer "Wireless Networks" journal, the Elsevier "Ad Hoc Networks" journal, the "Journal of High Speed Networks," and the Wiley "Wireless

Communications and Mobile Computing" journal. I have also been a guest editor of IEEE Journal on Selected Areas in Communications issues on "Gigabit Networks," "Mobile Computing Networks," and "Ad-Hoc Networks." Finally, I have served as the Chair of the IEEE Technical Committee on Personal Communications (TCPC), now known as the IEEE Wireless Communications Technical Committee.

9. I have received multiple awards in the field of wireless communications and networks. I am the recipient of the 2016 IEEE ComSoc AHSN Recognition Award ("for outstanding contributions to securing ad hoc and sensor networks"). In 2012, I received the IEEE ComSoc WTC Recognition Award, which recognizes individuals for outstanding technical contributions in the field for their service to the scientific and engineering communities." Also in 2012, I received the "Best Paper Award for co-authoring "Collaborating with Correlation for Energy Efficient WSN" directed at Wireless Sensor Networking. I previously received the "Best Paper Award" for coauthoring "Optimal Resource Allocation for UWB Wireless Ad Hoc Networks" directed at personal indoor and mobile radio communications. Finally, in 2003, I received the "Highly Commended Paper Award" for co-authoring "Performance Evaluation of the Modified IEEE 802.11 MAC for Multi-Channel Multi-Hop Ad Hoc Network," directed at advanced information networking and applications.

10. I understand a copy of my curriculum vitae is provided as Exhibit 1003, which provides additional information regarding my education, technical experience, and publications.

III. SUMMARY OF OPINIONS

11. The opinions contained in this declaration are based on the documents I reviewed, my professional judgment, as well as my education, experience, and knowledge regarding technologies related to the '433 Patent, including network communication systems.

12. In forming my opinions expressed in this declaration, I reviewed:

a) The '433 Patent (Ex. 1001);

b) The prosecution file history for U.S. Patent Application No. 14/224,125 (Ex. 1004), which issued as the '433 Patent;

c) U.S. Patent No. 8,150,922 ("*Griffin*") (Ex. 1005);

d) International Published Application No. WO 01/11824A2 ("*Zydney*") (Ex. 1006);

e) U.S. Patent No. 6,725,228 ("*Clark*") (Ex. 1007);

f) International Published Application No. WO 02/17650A1 ("*Vaananen*") (Ex. 1008);

g) U.S. Patent Publication No. 2002/0101848 ("*Lee*") (Ex. 1014);

h) U.S. Patent Application Publication No. 2002/0146097A1 ("*Vuori*")

(Ex. 1015);

i) E. Levinson, *Request for Comments (RFC) 2387: The MIME Multipart/Related Content-type* (Aug. 1998) (Ex. 1016);

j) The prosecution file history for U.S. Patent Application No. 13/546,673 (Ex. 1017) which issued as U.S. Patent No. 8,742,622 (Ex. 1018);

k) The prosecution file history for U.S. Patent Application No. 12/398,063 (Ex. 1019), which issued as U.S. Patent No. 8,243,723 (Ex. 1020);

l) The prosecution file history for U.S. Patent Application No. 10/740,030 (Ex. 1021), which issued as U.S. Patent No. 7,535,890 (Ex. 1022);

m) Harry Newton, *Newton's Telecom Dictionary* (16th. ed. 2000) (Ex. 1024);

n) John Rittinghouse, *IM Instant Messaging Security* (1st ed. 2005) (Ex. 1025);

o) Dreamtech Software Team, *Instant Messaging Systems: Cracking the Code* (2002) (Ex. 1026);

p) Upkar Varshney et al., *Voice over IP*, Communication of the ACM (2002, Vol. 45, No. 1) (Ex. 1027);

q) Iain Shigeoka, *Instant Messaging in Java: Jabber Protocols* (2002) (Ex. 1028);

r) Trushar Barot & Eytan Oren, *Guide to Chat Apps*, TOW Center for Digital Journalism, Columbia University (2005) (Ex. 1029)[1];

s) Samir Chatterjee et al., *Instant Messaging and Presence Technologies for College Campuses*, IEEE Network (Nov. 9, 2005) (Ex. 1030);

t) Daniel Minoli & Emma Minoli, *Delivering Voice Over IP Networks* (2nd ed. 2002) (Ex. 1031);

u) Thomas Porter & Michael Gough, *How to Cheat at VoIP Security* (1st ed. 2007) (Ex. 1032);

v) Harry Newton, *Newton's Telecom Dictionary* (18th. ed. 2002) (Ex. 1033);

w) Justin Berg, *The IEEE 802.11 Standardization Its History, Specification, Implementations and Future*, George Mason University, Technical Report Series (2011) (Ex. 1034)[2];

x) Wolter Lemstra & Vic Hayes, *Unlicensed Innovation: The Case of*

[1] I downloaded this article from https://www.cjr.org/tow_center_reports/guide_to_chat_apps.php.

[2] I downloaded this article from http://telecom.gmu.edu/content/ieee-80211-standardization-its-history-specifications-implementations-and-future.

Wi-Fi, Competition and Regulation in Network Industries (2008, Vol. 9, No. 2) (Ex. 1035);

y) U.S. Patent Application Publication No. 2003/0039340 (Ex. 1036);

z) International Published Application No. WO 01/24036 (Ex. 1037);

aa) U.S. Patent No. 9,179,495 (Ex. 1038);

bb) U.S. Patent Application Publication No. 2005/0025080 (Ex. 1039); and

cc) Any other materials I refer to in this declaration in support of my opinions.

13. My opinions have also been guided by my appreciation of how a person of ordinary skill in the art would have understood the claims and the specification of the ’433 Patent at the time of the alleged invention, which I have been asked to consider as the late 2003 time frame, including the December 18, 2003 filing date of U.S. Patent Application No. 10/740,030 (Ex. 1021). My opinions reflect how one of ordinary skill in the art would have understood the ’433 Patent, the prior art to the patent, and the state of the art at the time of the alleged invention.

14. As I discuss in detail below, it is my opinion that certain references disclose or suggest all the features recited in the challenged claims of the ’433 Patent.

IV. PERSON OF ORDINARY SKILL IN THE ART

15. Based on my review of the '433 Patent, the types of problems encountered in the art, prior solutions to those problems, the rapidity with which innovations were made during the relevant time period, the sophistication of the technology, and the educational level of active professionals in the field, I believe that a person of ordinary skill in the art at the time of the alleged invention, which I was asked to assume was late 2003, would have had at least a Bachelor's degree in computer science, computer engineering, electrical engineering, or the equivalent and at least two years of work experience in the relevant field, e.g., network communication systems. More education could have substituted for practical experience and vice versa.

16. All of my opinions in this declaration are from the perspective of one of ordinary skill in the art, as I have defined it here, during the relevant time frame, i.e., late 2003. During this time frame, I possessed at least the qualifications of a person of ordinary skill in the art, as defined above.

V. TECHNOLOGICAL BACKGROUND

17. In this section, I present a brief overview of certain technologies that were widely known by those of ordinary skill in the art before late 2003 and that

relate to the issues I discuss in the subsequent sections.[3] This section is not intended to be technically comprehensive, but rather to provide a foundation for a better understanding of the '433 Patent and of the prior art.

A. Instant Messaging

1. General Background

18. At the time of the alleged invention, the term "instant messaging" was known to generally refer to a service that allows for real-time communication between users via text, voice, and video. (*See*, *e.g.*, Ex. 1024, 435.) The real-time nature of instant messaging differentiates it from other communication methods, such as e-mail, for example. (*See*, *e.g.*, Ex. 1036, ¶¶3-9; Ex. 1037, 2:12-24.)

19. One of ordinary skill in the art would have understood that in a typical instant messaging implementation prior to late 2003:

a) A user used a device, such as a mobile device or other type of computing device, to access the Internet (or another network) and load messaging software (if not preinstalled);

b) The messaging software was executed by the device to display content on a user interface informing the user that another user using another device executing similar messaging software was logged on and

[3] The references I cite in this section support my understanding of what was widely known at the time of the alleged invention.

available for messaging (typically referred to as "presence" information);

c) The user (e.g., sending user) used the device and messaging software to generate a message and select a function to send the message to the recipient user (e.g., the sending user typed a message using a keyboard or touchscreen and selected a button such as the "send" button);

d) The message was transmitted over the Internet (including conventional infrastructure providing communications to/from the Internet, such as routers, servers, etc.) to the recipient user's device;

e) The recipient user's device received the message and the messaging software executed by that device performed processes to display on a user interface the message sent by the sending user for viewing by the recipient;

f) The recipient user used the recipient user device to generate a reply message and send the reply message to the sending user (e.g., recipient user typed a message and selected the "send" button); and

g) The sending user device received the reply message and the messaging software executed by the sending user device displayed on a user interface the reply message for viewing by the sender.

(*See*, *e.g.*, Ex. 1024, 435; Ex. 1037, 2:12-3:27.)

20. To provide real-time communication, instant messaging systems were known to provide "presence" information regarding the users of the system, which was understood to generally refer to the availability of a user on the system to receive a message. (*See*, *e.g.*, Ex. 1036, ¶7; Ex. 1037, 3:9-27; Ex. 1028, 4-6.) For example, the figure below illustrates one example of such features that were known to those of ordinary skill in the art prior to the late 2003 timeframe.

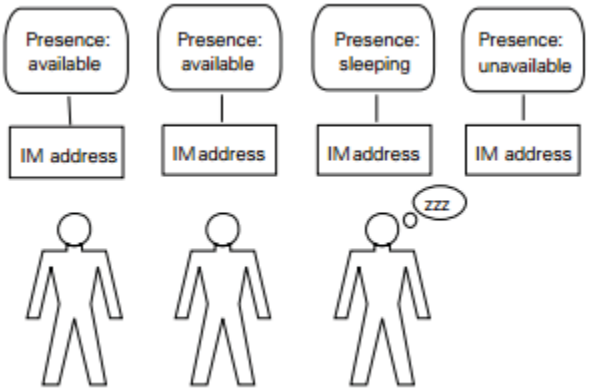


Figure 1.2
Presence shows at a glance who you can communicate with, and the best type of messaging to use (chat, messages, etc).

(*See, e.g.*, Ex. 1028, Figure 1.2.)

2. History

21. As explained in the "Guide to Chat Apps," an article published by the Tow Center for Digital Journalism at Columbia University, the concept of "instant messaging" has been around since the mid-to-late 1980s, although its foundations date as far back as the 1960s. (*See, e.g.*, Ex. 1029, 9-10.) For example, in 1961, MIT's Computation Center developed and built the Compatible Time Sharing System (CTSS), which allowed thirty users to log-in and concurrently share text

messages. (*See, e.g., id.*, 9.)

22. In 1980, CompuServe released what is generally recognized as the first dedicated online chat service, known as CB Simulator. (*See, e.g., id.*)

23. In 1985, Commodore launched Quantum Link ("Q-Link") (the precursor to America Online), an online service for the Commodore 64 and 128 computer systems that enabled multi-person chat via a modem system. (*See, e.g., id.*)

24. In 1987, the Massachusetts Institute of Technology developed an early warning system called Zephyr to provide a messaging system faster than e-mail, so that urgent messages (for example, messages regarding a school's network server) could be received instantly. (*See, e.g.,* Ex. 1025, 3.) The Zephyr system was repurposed by students as a form of communication and then adopted by other universities. (*See, e.g., id.*)

25. In 1988, Internet Relay Chat (IRC) was introduced to provide real-time, conversational capability among users connected to a public network, whereby multiple users could join and leave chat rooms. (*See, e.g.,* Ex. 1030, 3; Ex. 1028, 4.)

26. In November 1996, Mirabilis (a company formed by four Israeli entrepreneurs) released the first widely used instant messaging system called ICQ ("I Seek You"), which enabled Internet users to locate each other online and easily

create peer-to-peer communication channels. (*See, e.g.*, Ex. 1024, 435; Ex. 1025, 3-4; Ex.1029, 9; Ex. 1030, 3.)

27. In 1997, America Online launched AOL Instant Messenger. (*See, e.g.*, Ex. 1029, 9.) The AOL Instant Messenger system included a component used for managing all the incoming and outgoing messages and to maintain a list of friends as potential chat recipients—popularly known as a "buddy list." (*See, e.g.*, Ex. 1026, 1; Ex. 1028, 218.) By 1997, AOL Instant Messenger had more than ten million users. (*See, e.g.*, Ex. 1030, 3; Ex. 1028, 6.)

28. In June 1998, Mirabilis and ICQ were acquired by AOL. (*See, e.g.*, Ex. 1025, 4; Ex. 1029, 9.) Within a year after this acquisition, Microsoft and Yahoo! had also created their own proprietary instant messaging services, MSN Messenger and Yahoo! Messenger, respectively. (*See, e.g.*, Ex. 1025, 4; Ex. 1030, 3; Ex. 1024, 435.)

29. The proprietary nature of instant messaging systems led to the development of open-ended systems. For example, in 2000, the protocols for an instant messaging system known as Jabber, an open instant messaging service using distributed client/server architecture, were released to build an instant messaging client and server that could interact with the various proprietary systems. (*See, e.g.*, Ex. 1028, 11-14, 18; Ex. 1030, 3.)

30. One of ordinary skill in the art prior to and at the time of the alleged

invention of the '433 Patent would have been aware of these and of similar technologies and concepts, and how they operated. One of ordinary skill would have also understood how to use, design, configure, and implement systems and processes for providing instant messaging features.

B. Voice over IP ("VoIP")

1. Communication Protocols Background

31. At the time of the alleged invention, network communications was known to be categorized into two basic types: (i) circuit-switched networks and (ii) packet-switched networks. (*See, e.g.*, Ex. 1031, 157.)

32. Circuit-switched networks operate by forming a dedicated connection (i.e., circuit) between two communicating entities. (*See, e.g., id.*) In packet-switched networks, data to be transferred across a network is segmented into blocks called "packets" (also called "datagrams" for IP-based networks or protocol data units (PDUs)). (*See, e.g., id.*) A packet, which usually carries a limited amount of data, carries information that enables the network hardware to know how to forward it through the network, so that it can arrive at the packet's specified destination. (*See, e.g., id.*)

33. The Transmission Control Protocol (TCP) / Internet Protocol (IP) is the name of a family of Internet and intranet communication protocols. (*See, e.g.*, Ex. 1024, 838-39; Ex. 1031, 24, 157.) These protocols include the Internet

Protocol (IP), the Transmission Control Protocol (TCP), the User Datagram Protocol (UDP), and other protocols that support specific tasks. (*See, e.g.,* Ex. 1031, 24-25.)

34. The TCP/IP protocols are part of a layered protocol architecture, with each layer responsible for a different set of functions of the communication process. (*See, e.g., id.*, 24.)

35. The TCP protocol is a transport layer protocol that provides a reliable data stream between pairs of hosts attached to a network or to interconnected networks. (*See, e.g.*, Ex. 1024, 838.) The TCP protocol is directed towards partitioning data into appropriate sized segments, acknowledging received segments, and setting time-outs to make certain that the recipient acknowledges segments that were received. (Ex. 1031, 25.)

36. The UDP protocol is a transport layer protocol that allows applications to access the connectionless features of IP. (*See, e.g.,* Ex. 1024, 894.) UDP provides for the exchange of packets of data from one host to another without acknowledgements or guaranteed delivery. (*See, e.g., id.*; Ex. 1031, 25.)

37. The IP protocol is a network layer protocol that is responsible for routing packets of data (referred to as "datagrams") from a sender node to a destination node. (*See, e.g., id.*, 24-25.) Specifically, the IP protocol routes data packets over each of the networks that reside between the end systems that wish to

communicate. (*See, e.g., id.*, 25.)

38. An IP packet is a sequence of fields containing a header and payload. (*See, e.g., id.*) Some of the fields contained in the header include: the source IP address, the destination IP address, the length of the IP packet, some characteristics of the payload content, etc. (*See, e.g., id.*) The payload is the actual data transported. (*See, e.g., id.*) The figure below provides an example of the format of an IP packet illustrating such features consistent with the understanding of one of ordinary skill in the art prior to late 2003.

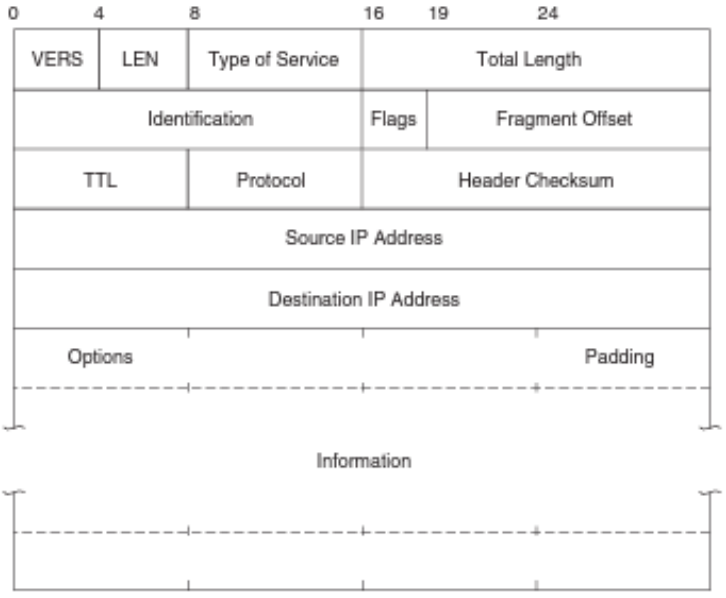


Figure 2.3
IP protocol data unit (PDU).

(*See, e.g., id.*, Figure 2.3.)

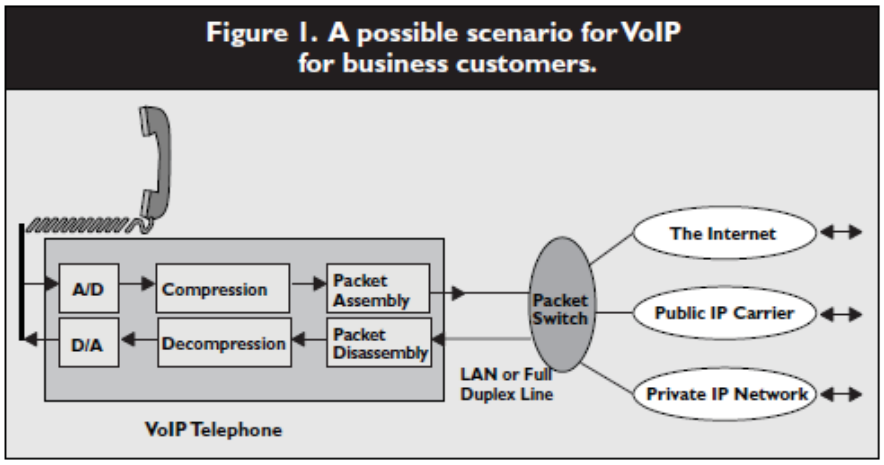
39. The IP protocol was known to be, and largely still is, the de facto standard network layer protocol for local area networks and wide area networks. (*See, e.g., id.*, 157)

40. IP technology is used extensively in corporate intranets and also used (and in fact originated from) the Internet. (*See, e.g., id.*) A user at a computer terminal communicates across the Internet or intranet with software by having a software driver place data in an IP packet and addressing the packet to a particular destination on the Internet. (*See, e.g., id.*, 157-58.)

41. Communications software in routers between the source and the destination networks read the destination IP address in the packets and forwards the packets towards their destination (referred to as routing or switching). (*See, e.g., id.*, 158.) The TCP protocol, which is at the layer above the layer of the IP protocol, guarantees end-to-end data integrity. (*See, e.g., id.*)

2. VoIP Background

42. The term Voice over IP ("VoIP") was known to generally refer to the technology used to transmit voice conversations over a data network using IP, such as the Internet or a corporate Intranet. (*See, e.g.,* Ex. 1024, 935; Ex. 1027, 89.) In VoIP, a user's voice is converted into digital data, compressed, and broken down into a series of packets. (*See, e.g.,* Ex. 1027, 89.) The packets are then transported over private or public IP networks and received and reassembled on the recipient side. (*See, e.g., id.*) The figure below provides one example illustrating VoIP features consistent with the understanding of one of ordinary skill in the art prior to late 2003.



(*See, e.g., id.*, 90 (Fig. 1).)

43. Generally, the VoIP architecture was known to involve a number of features, including: (i) a signaling protocol and (ii) a transport protocol. (*See, e.g., id.*, 92-93.) A signaling protocol was used to set up individual sessions for voice connections between users. (*See, e.g., id.*) The signaling protocol was known to handle user location, session establishment, session negotiation, and call participant management. (*See, e.g., id.*, 92.) Once a session had been established, a transport protocol was used to send the data packets over the IP network. (*See, e.g., id.*)

3. History

44. The concept of VoIP has been around since at least the early 1970s. (*See, e.g.*, Ex. 1027, 89.) However, VoIP did not establish a commercial niche until the mid-1990s when, in 1995, VocalTec produced the first commercially available VoIP product. (*See, e.g., id.*, 89-90.)

45. In 1996, the VoIP Forum was formed by Cisco Systems, VocalTec, Dialogic, 3Com, Netspeak and others as a working group to promote implementation recommendations as a means of supporting VoIP. (*See, e.g.,* Ex. 1024, 936.)

46. The use of VoIP in messaging software to facilitate instant voice communications was also well-known at the time of the alleged invention. For example, in late 1999, AOL introduced proprietary voice capabilities to its messaging system and Yahoo! introduced voice capabilities to its system soon after. (*See, e.g.,* Ex. 1032, 36.)

47. One of ordinary skill in the art prior to and at the time of the alleged invention of the ’433 Patent would have been aware of these and of similar technologies and concepts, and how they operated. One of ordinary skill would have also understood how to use, design, configure, and implement systems and processes for providing VoIP features.

C. The IEEE 802.11 Standard

48. IEEE 802.11 (typically referred to as “WiFi”) refers to standardized specifications for wireless networking, which were published by the Institute of Electrical and Electronics Engineers (IEEE). (*See, e.g.,* Ex. 1033, 17-18.) A person of ordinary skill in the art would have been familiar with WiFi at the time of the alleged invention, and would have known of its widespread use with computing

devices, including handheld devices. In fact, the foundations of WiFi date back as far as the early 1990s when the IEEE realized that a wireless communications infrastructure standard was necessary to meet a clearly-desirable market niche and established an executive committee focused on developing a wireless local area network (LAN) standard. (*See, e.g.,* Ex. 1034, 1-2.)

49. As a result of the committee's work, the original 802.11 standard was adopted in 1997. (*See, e.g., id.*, 2.) In 1999, the IEEE adopted the 802.11b amendment. (*See, e.g., id.*, 3.) In the same year, a number of leading Wireless LAN companies collaborated to form the Wireless Ethernet Compatibility Alliance (now known as the WiFi Alliance), and established an interoperability testing procedure for IEEE 802.11b products and created the WiFi logo and brand. (*See, e.g.,* Ex. 1035, 153.).

50. One of ordinary skill in the art would have known and understood that the 802.11 standards were widely used before late 2003. (*See, e.g., id.*, 152; Ex. 1033, 18.) For example, the Apple "Airport" Wireless LAN products were launched in 1999. (*See, e.g.,* Ex. 1035, 152; Ex. 1033, 18.) PC vendors, including Dell, followed the trend set by Apple soon after. (*See, e.g.,* Ex. 1035, 152.) In January 2000, Microsoft and Starbucks joined forces to offer wireless access using 802.11b (among other standards) in most of Starbucks' coffee outlets over the next two years. (*See, e.g.,* Ex. 1033, 18.) By early 2001, WiFi in the United States had

grown into a $1 billion market. (*See, e.g.*, Ex. 1035, 153.) By 2002, it was well known that 802.11b was the most common implementation of wireless LANs, and was installed in numerous venues, including offices, airports, and coffee shops. (*See, e.g.*, Ex. 1033, 18; Ex. 1038, 1:12-13; Ex. 1039, ¶18.)

51. One of ordinary skill in the art prior to and at the time of the alleged invention of the ’433 Patent would have been aware of these and of similar technologies and concepts, and how they operated. One of ordinary skill would have also understood how to use, design, configure, and implement systems and processes based on WiFi.

VI. OVERVIEW OF THE ’433 PATENT

52. The ’433 Patent is purportedly directed to a system for delivering an instant voice message over a packet-switched network. (Ex. 1001, Abstract.) The ’433 Patent acknowledges that telephone communications systems were known, including systems based on public-switched telephone networks (PSTN) and systems based on Internet Protocol (IP) networks, such as the Internet. (*Id.*, Fig. 1, 1:25-2:22.) The ’433 Patent also acknowledges that voice messaging systems were known, including voice messaging systems using Voice over IP (VoIP) and voice messaging systems using a PSTN. (*Id.*, 2:23-34.) The ’433 Patent also acknowledges that instant text messaging was known. (*Id.*, 2:35-47.)

53. Notwithstanding these known features, the ’433 Patent purports to

address a need to provide "local and global instant voice messaging over VoIP with PSTN support." (*Id.*, 2:48-54.) For instance, the patent discloses with reference to Figure 2 (reproduced below) a system that includes one or more instant voice message (IVM) clients 206, 208 and an IVM server 202 connected over a packet-switched network 204. (*Id.*, 2:61-3:5, Fig. 2.)

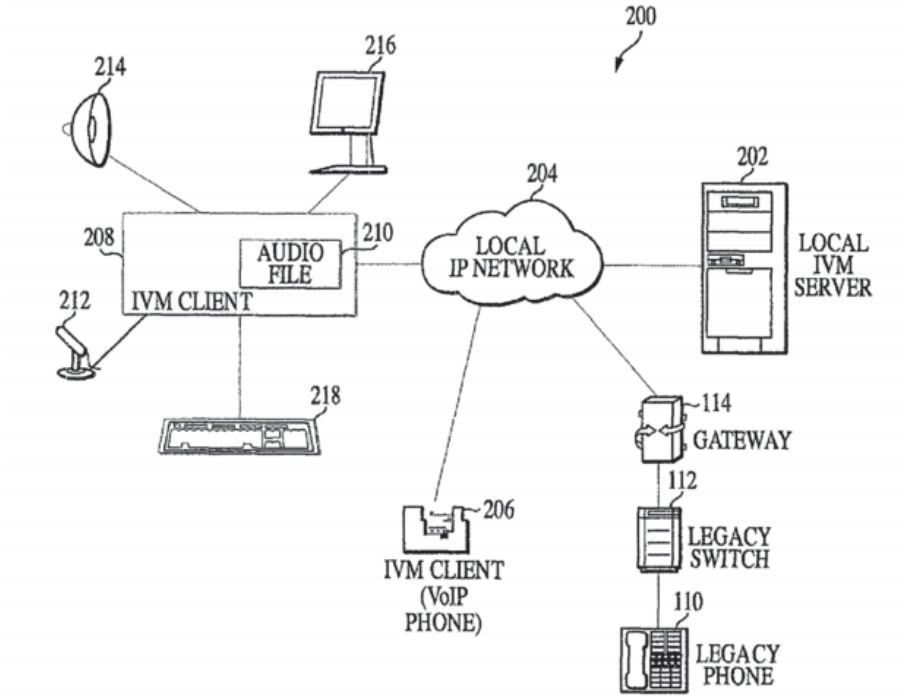


FIG. 2

54. As shown in Figure 3 of the '433 Patent (reproduced below), the IVM client 208 is described as a general-purpose programmable computer with various generic components and/or functionalities (e.g., client platform 302, file manager 308, audio file creation 312, messaging system 320), which work in conjunction to provide the instant voice messaging features described in the specification. (*Id.*,

12:6-52.)

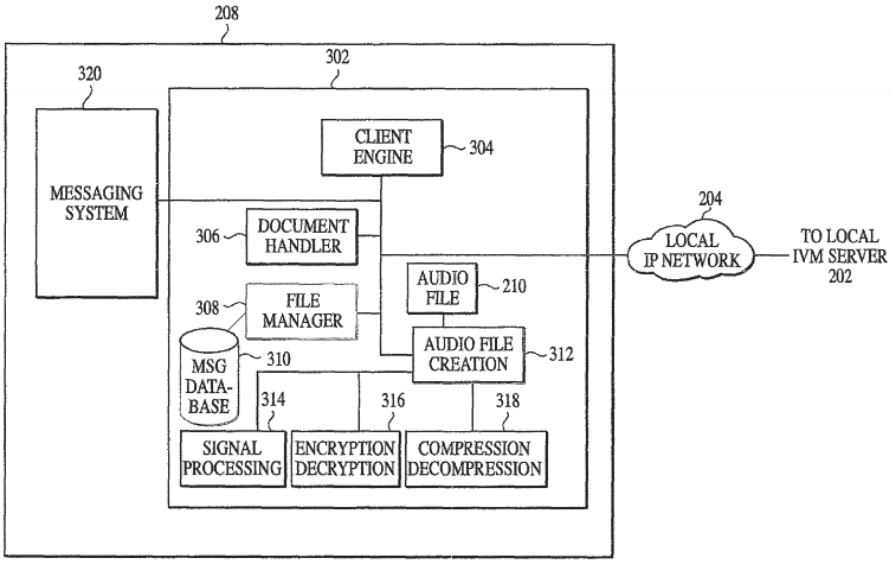


FIG. 3

55. Similarly, as shown in Figure 4 of the '433 Patent (reproduced below), the IVM server 202 is described as a general-purpose programmable computer with a number of various generic components and/or functionalities (e.g., messaging system 436, client manager 406, database manager 412) which work in conjunction to provide the instant voice messaging features described in the specification. (*Id.*, 13:41-14:7.)

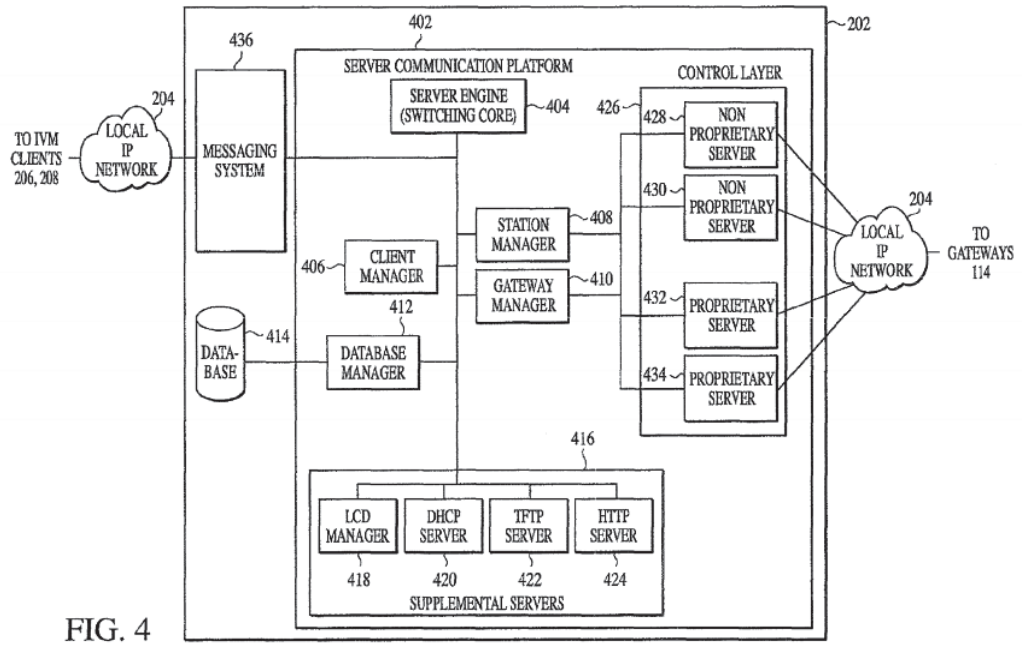


FIG. 4

56. As explained in the ’433 Patent, the system purportedly provides two methods for sending instant voice messages. In “record mode,” a user operates the IVM client, which displays a “list of one or more IVM recipients” (*id.*, 8:2-3), to select and record a message for one or more of the recipients using, for example, a microphone to generate a digitized audio file (*id.*, 8:5-14). The audio file is preferably compressed (*id.*, 10:61-11:14) and/or encrypted (*id.*, 11:15-33) before transmission. The IVM client transmits the voice message to the IVM server for delivery to one or more recipients. (*Id.*, 8:26-29.) If the recipient is “available” (currently connected to the server), the server transmits the instant voice message to the recipient. (*Id.*, 8:36-38.) If the recipient is “unavailable,” the server temporarily saves the voice message and transmits it once the recipient becomes

available. (*Id.*, 8:38-43.) When an instant voice message is transmitted to the one or more IVM recipients, one or more documents may also optionally be attached to the message to be stored or displayed by the recipient. (*Id.*, 12:32-36.)

57. Upon receipt, the instant voice message is decrypted and stored (along with any attachments) in the recipient client's message database. (*Id.*, at 12:61-13:2.) A visual and/or sound effect notifies the user of the recipient client that a new message has been received (*id.*, 13:2-5), at which point the instant voice message and any attachments are available to the user (*id.*, 13:5-6.)

58. In "intercom mode," instead of creating an audio file, successive portions of the instant voice message are automatically written to one or more buffers of a predetermined size generated by the IVM client or IVM server. (*Id.* 11:37-43.) Once input audio of a predetermined size is written into a first buffer (so that the first buffer is full), the content of this first buffer is automatically transmitted to the IVM server 202 for transmission to the one or more IVM recipients. (*Id.*, 11:43-46.) At the same time, the next successive portion of the audio file is written into a second buffer which is also transmitted when full. (*Id.*, 11:46-51.) This buffering and transmission process is repeated until the entire instant voice message has been transmitted to the server. (*Id.*, 11:61-63.)

VII. CLAIM CONSTRUCTION

59. I understand that, in *inter partes* review proceedings, a claim receives its broadest reasonable construction in light of the specification of the patent in which it appears. I also understand that, in these proceedings, any term that is not construed should be given its plain and ordinary meaning under the broadest reasonable construction.

60. For purposes of my analysis, I have been asked to give the claim terms of the'433 Patent their plain and ordinary meaning under the broadest reasonable construction. I have reviewed the language of the claims in light of the specification of the'433 Patent and have applied the plain and ordinary meaning of the claim terms in my analysis below.

VIII. OVERVIEW OF THE PRIOR ART

A. U.S. Patent No. 8,150,922 ("*Griffin*") (Ex. 1005)

61. *Griffin* describes a communication system that facilitates real-time speech and text conversations between a plurality of mobile terminals. (Ex. 1005, 1:6-12.) As shown in Figure 2 of *Griffin* (reproduced below), *Griffin*'s system includes mobile terminals 100 capable of exchanging text, voice, and/or graphical messages with one another by passing the messages through networked server computers (e.g., "server complex 204"). (*Id.*, 4:11-18; *see also id.*, 3:49-4:11.)

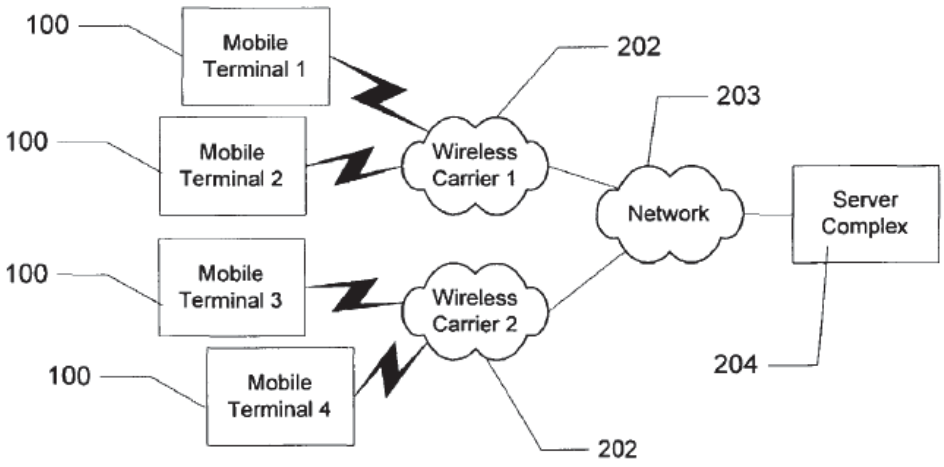


FIG. 2

(*Id.*, Fig. 2.)

62. As shown in Figure 1 of *Griffin* (reproduced below), each wireless mobile terminal 100 may comprise any wireless communication device such as a "handheld cellular phone" (*id.*, 3:13-15) or a "wirelessly enabled Personal Digital Assistant (PDA)" (*id.*, 3:15-16). The mobile terminal 100 may include a speaker 103, display 102, navigation mechanism 105, programmable buttons (i.e., "soft-keys") 104, a keypad 106, and microphone 107. (*Id.*, 3:20-30.)

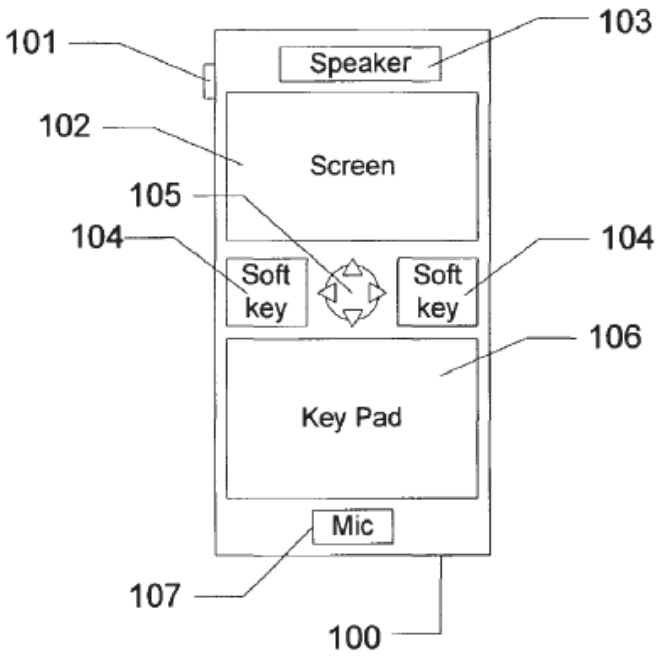


FIG. 1

63. Each mobile terminal 100 stores "machine-readable and executable instructions (typically referred to as software, code, or program)" on the terminal's "application storage" 310 and executes such instructions on the terminal's CPU 311 to perform the speech chat messaging functionalities described in *Griffin*. (*Id.*, 4:29-61; *see also id.*, 3:43-48 (the "chat software" operates "to initiate one or more chat conversations (threads) as described in greater detail below"), 12:61-63 ("Single-clicking the right softkey causes the software to build and send an outbound text message 400.").)

64. As shown in Figure 9 of *Griffin* (reproduced below), to generate and transmit a voice message, a user operating a mobile terminal 100 may select one or

more recipients from a "buddy list" and record the message by activating a "push-to-talk" button 101 and speaking into the microphone 107 located on the mobile terminal to "start a new thread with the selected buddies." (*Id.*, 9:23-31; *see also id.*, 3:28-30, 8:39-52, 8:64-67.)

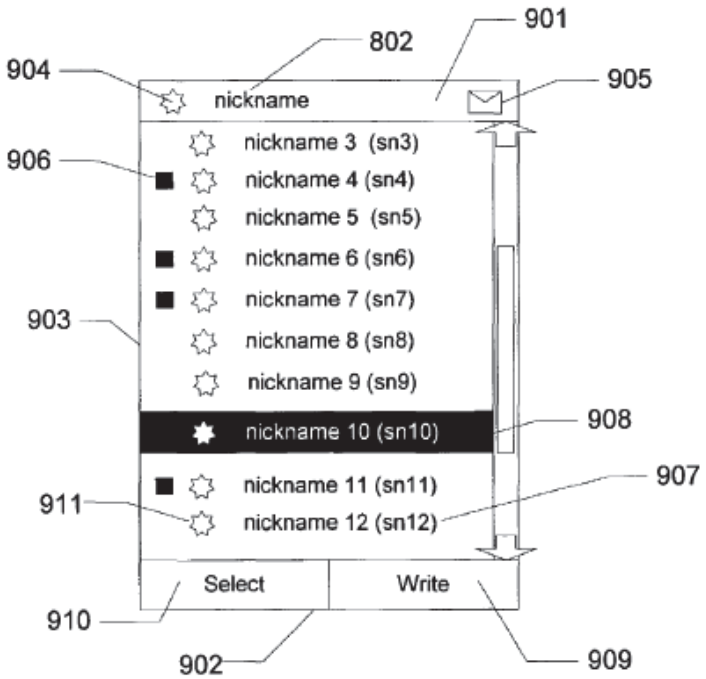


FIG. 9

65. The message generated and transmitted by the sender mobile terminal 100 is referred to as an "outbound chat message 400" (i.e., a message sent by a mobile terminal 100). (*Id.*, 1:40-44, 4:44-48, 4:62-65, 5:2-9.) Figure 4 of *Griffin* (reproduced below) illustrates such an outbound chat message 400. (*Id.*, 6:38-44.) As shown in Figure 4, message 400 includes "a message type 401 (e.g., text, speech, and so on), a number of intended recipients 402, a plurality of recipient

identifiers 403, a thread identifier 404, a message length 405, message content 406, and a number of attachments 407." (*Id.*)

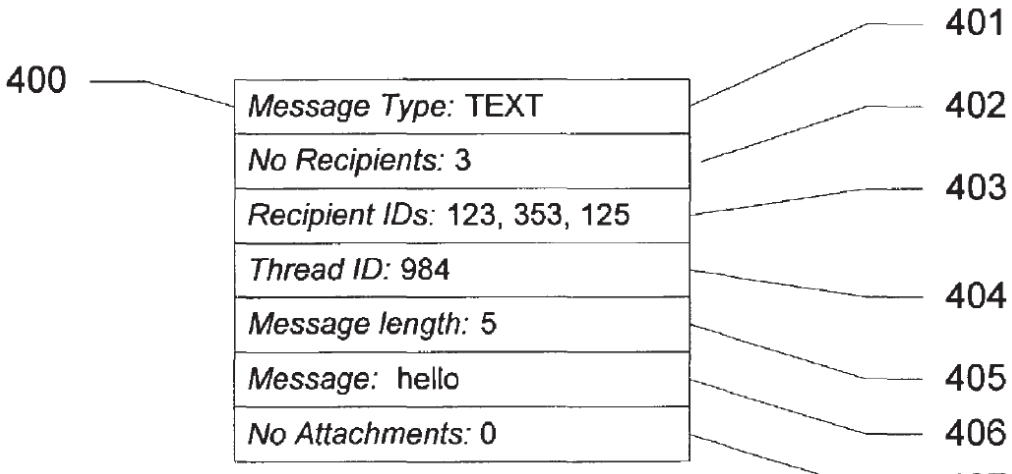


FIG. 4

66. The outbound chat message 400 is transmitted to the server complex 204 through a wireless carrier's infrastructure 202 (e.g., infrastructure provided by Verizon or Sprint) to a "packet-based" communication network 203, which "may comprise a public network, such as the Internet or World Wide Web, a private network such as a corporate intranet, or some combination of public and private network elements." (*Id.*, 3:51-65.)

67. The server complex 204 preferably comprises a plurality of networked server computers programmed to perform the speech chat message functionalities described in *Griffin.* (*Id.*, 3:65-67.) The server complex 204 receives the outbound chat message 400 from the communications network 203 and decomposes the message to: (i) compile a list of target recipients comprising the sender's identifier

and the identifiers for other recipients 403, (ii) determine the status of each recipient for messaging, (iii) and compose a message to send each available recipient. (*Id.*, 6:56-7:1.) The server complex 204 then transmits the message to every available recipient terminal via the communication network 203. (*Id.*, 7:8-11.) If the user is unable to view the message, the recipient terminal 100 and/or the server complex 204 may queue the message for subsequent playback. (*Id.*, 11:48-65.)

68. The message composed and transmitted by the server complex 204 for receipt by a target recipient is referred to as an "inbound chat message 500" (i.e., a message received by a mobile terminal 100). (*Id.*, 1:40-44, 4:44-48, 5:2-9.) Figure 5 of *Griffin* (reproduced below) illustrates such an inbound chat message 500. (*Id.*, 7:18-38.) As shown in Figure 5, message 500 "is largely a copy of an outbound chat message 400 sent from a terminal 100 to the server complex 204." (*Id.*, 7:19-22.) Therefore, the inbound chat message 500 "preferably comprises the original outbound message 400," as well as "a definition of new users not known to…the terminal 100 (i.e., not already in the receiver's buddy-list)." (*Id.*, 7:22-25.)

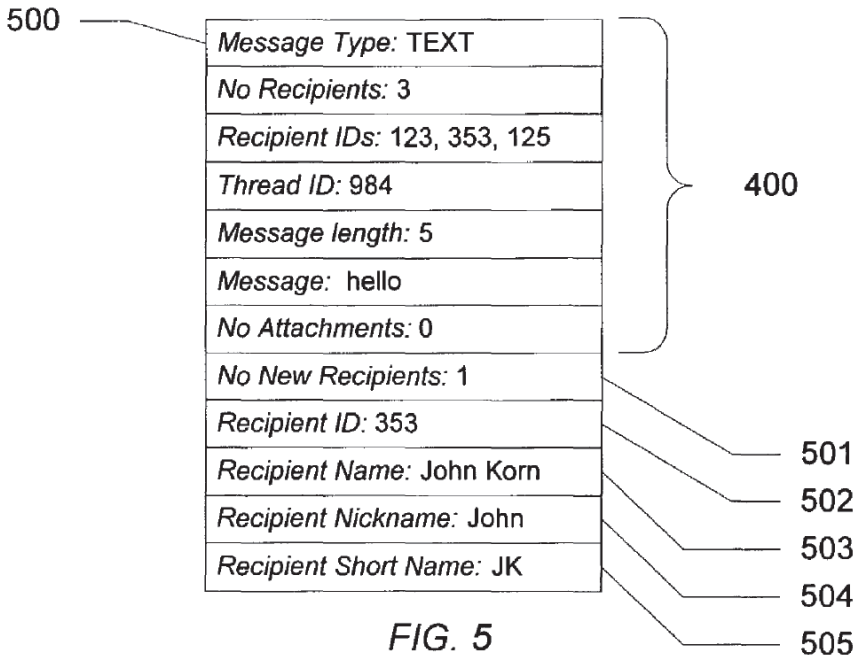


FIG. 5

69. In order to determine the status of each recipient for messaging, *Griffin* explains that server complex 204 includes presence manager 302, which maintains a plurality of "presence data records 700" for the mobile terminals 100. (*Id.*, 4:62-5:2, 5:11-30.) As shown in Figure 7 of *Griffin* (reproduced and annotated below), each presence data record indicates the current status 702 of a terminal 100 (e.g., "Available" or "Off"). (*Id.*, 5:15-30.) The current status 702 is "an indicator of whether the recipient is ready to receive the particular type of message, speech and/or text messages only, etc." (*Id.*, 5:12-15.)

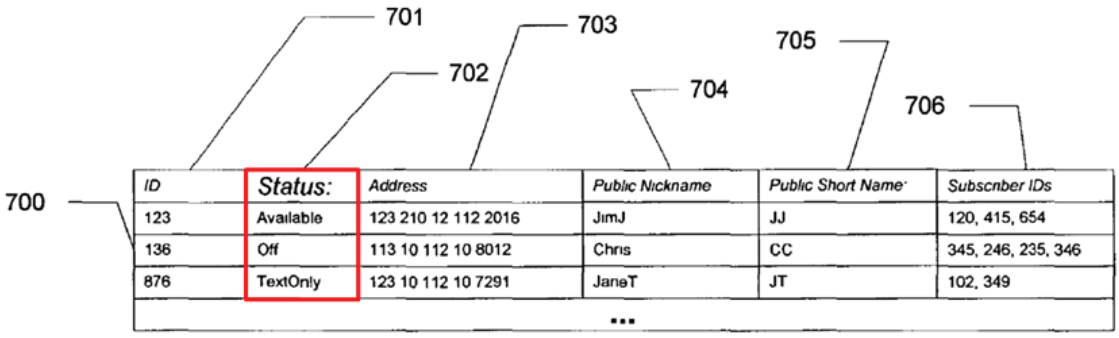


FIG. 7

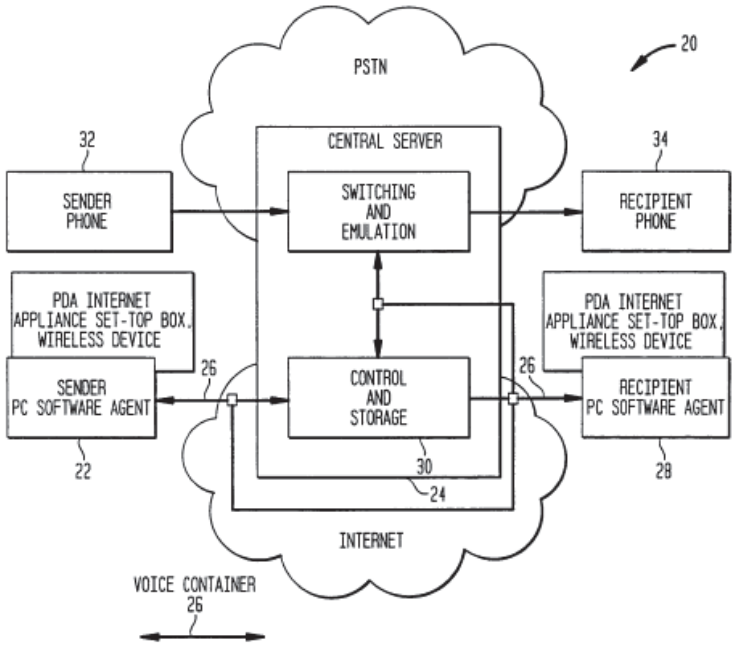
70. In addition to current status 702, *Griffin* explains that each presence data record 700 also includes a user's identifier 701, current terminal address 703, public display identifier (e.g., nickname) 704, and public short name 705, as well as identifiers of other subscribers who subscribe to the presence information of the user. (*Id.*, 5:15-22.)

B. International Patent Application No. WO 01/11824A2 ("*Zydney*") (Ex. 1006)

71. *Zydney* describes a system that enables a user to send instant voice messages. (Ex. 1006, Abstract, 10:11-16.) As shown in Figure 1 of *Zydney* (reproduced below), *Zydney* discloses a system including a sender device 22, a recipient device 28, and a central server 24 that facilitates instant voice messaging between the sender and recipient devices. (*Id.*, 10:19-11:6.) The sender device 22 and recipient device 28 may comprise a personal computer, wireless handheld computer (e.g. PDA), digital telephone, or beeper. (*Id.*, 11:16-18.). Each sender device 22 and recipient device 22 is loaded with a software agent to perform the

speech chat messaging functionalities described in *Zydney*. (*Id.*, 14:2-5 ("With a simple software agent loaded on a Personal Computer (PC) or other Internet compatible appliance, the sender will log on, authenticate, and notify the central server of its status. To create a message, the software agent will address, pack and send the message in a voice container"), 14:15-16 ("The software agent will open the voice container upon arrival and play the message to the user.").)

FIG. 1



72. The sender 22, recipient 28, and central server 24 communicate over a packet-switched communications network (e.g., "INTERNET" in Figure 1). (*Id.*, 5:4-5, 5:15-18, 10:11-14, 14:2-5.)

73. *Zydney* explains that central server 24 maintains and conveys the

connectivity status of each agent in the network. (*Id.*, 13:12-14 ("Central Server…[will] maintain and provide the status of all software agents"), 14:6-9, 14:19-22, 30:13-15.) An agent's connectivity status includes "the core states of whether the recipient is online or offline, but also offers related status information, for example whether the recipient does not want to be disturbed." (*Id.*, 14:17-15:1, 32:9-33:2.) For instance, if an agent is "logged onto the system" and available for messaging, the agent's connectivity status is "Available." (*Id.*, 32:9-20.) If the agent is logged off of the system, the agent's connectivity status is "Not logged on." (*Id.*, 33:1-2.)

74. *Zydney* discloses two different modes of generating an instant voice message based on the connectivity status of the agent. In the first mode, referred to as "pack and send" mode, a user "selects one or more intended recipients from a list of names that have been previously entered into [a] software agent." (*Id.*, 14:17-19.) The user then digitally records a message using the microphone-equipped device. (*Id.*, 16:1-4.) The voice message is placed into a "voice container" and transmitted to its destination. (*Id.*, 10:20-11:3.) If the recipient is online (e.g., connected and available), the voice container is transmitted to the recipient immediately. (*Id.*, 1:21-22, 15:8-14.) However, if the recipient is offline (e.g., disconnected or unavailable), the voice container is transmitted to the server, which stores the voice container until the recipient is available. (*Id.*, 13:12-15,

14:9-11, 15:15-15.) The server forwards the stored voice container to the recipient when the recipient is back online. (*Id.*, Fig. 4, claim 1, 14:14-16.)

75. In the second mode, referred to as an "intercom" mode, a real-time telephone call is simulated. (*Id.*, 15:8-10, 16:4-7.) In intercom mode, the audio message is also digitally recorded, however, only "a small portion of the digitized voice is stored to account for the requirements of the Internet protocols for retransmission and then transmitted before the entire conversation has been completed." (*Id.*, 16:4-7.)

76. While the specification of *Zydney* primarily focuses on the embodiments illustrated in Figures 1-3, *Zydney* also describes a number of other embodiments with reference to Figures 4-20. (*Id.*, 34:13-36:5, Figs. 4-20.) For example, referring to Figure 8, *Zydney* also describes an embodiment where all voice containers are uploaded to the central server, after which the central server determines the availability of recipient software agents. (*Id.*, Fig. 8.) For example, after receiving a voice container, the central server "notif[ies] an available software agent on the recipient's computer of the arrival of a new message in near real-time," or "notif[ies] the software agent on the recipient's computer when it first becomes available of voice containers in the central storage." (*Id.*, Fig. 8 (Step 1.2.5).) The voice container can then be downloaded to the recipient's computer, after which the central server "remov[es] the files from the central server." (*Id.*,

Fig. 8 (Step 1.2.6).)

C. U.S. Patent No. 6,725,228 ("*Clark*") (Ex. 1007)

77. *Clark* discloses a system/process "for cataloging, retrieving and/or manipulating electronic messages," including "instant messages." (Ex. 1007, 8:31-44; *see also id.*, 4:9-12, 8:7-10, 16:50-17:22.) As shown in Figure 1A (reproduced below), *Clark*'s system is a client-server messaging system that involves "a very simple computer network 14 which connects a server computer 12 and two user computers 16 and 18." (*Id.*, 7:67-8:2, Fig. 1A.)

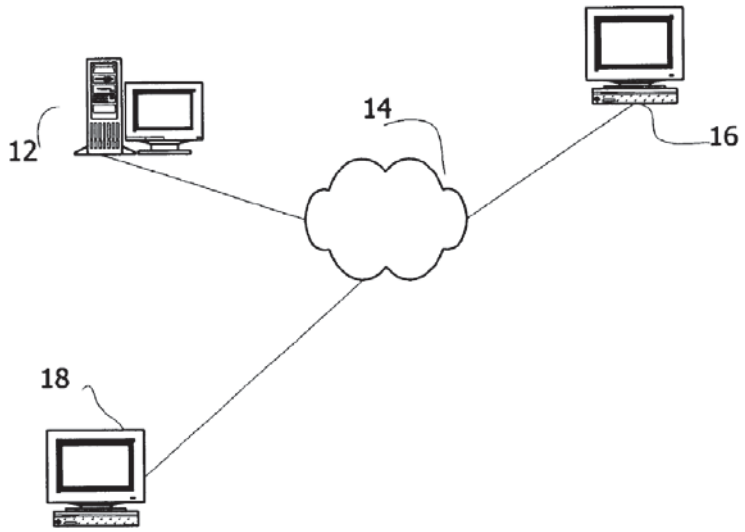


FIG. 1A

78. Each client computer, which runs a "messaging client software" (*id.*, 8:11-13), may be implemented as any device having "a display and an input device, such as a mouse, trackball, touch screen,…or the like" (*id.*, 9:29-35). (*See also*, *id.*, 12:7-10, 13:20-29.) The client computer may include a message store that

can "advantageously be integrated with messaging client software…to facilitate the organization of electronic messages." (*Id.*, 4:35-38.) The message store 23 "comprises a memory, file or database structure that provides temporary or permanent storage for the contained messages 22." (*Id.*, 9:11-15; *see also id.*, 11:1-5.) A "message store server 24 manages the messages 22 in message store 23," including receiving and servicing requests for messages from other parts of the system. (*Id.*, 9:15-21.)

79. A "catalog database 28," and preferably a "catalog server 29," is provided "to organize the contents of one or more message stores 23." (*Id.*, 9:54-10:3.) Specifically, the "catalog database 28" is a data store that contains "information required to organize messages 22 in the associated message stores 23[.]" (*Id.*, 9:56-58.) The "catalog server 29" is a software component that, among other things, "implements the organizational algorithms" of *Clark*'s system. (*Id.*, 9:60-63.)

80. *Clark* describes various configurations of its system, including a configuration where the message store 23 and catalog 28 databases and server software 24 and 29 are integrated on the same client computer, as shown in Figure 4A of *Clark* (reproduced below). (*Id.*, 10:28-33, Fig. 4A; *see also id.*, 11:1-3.)

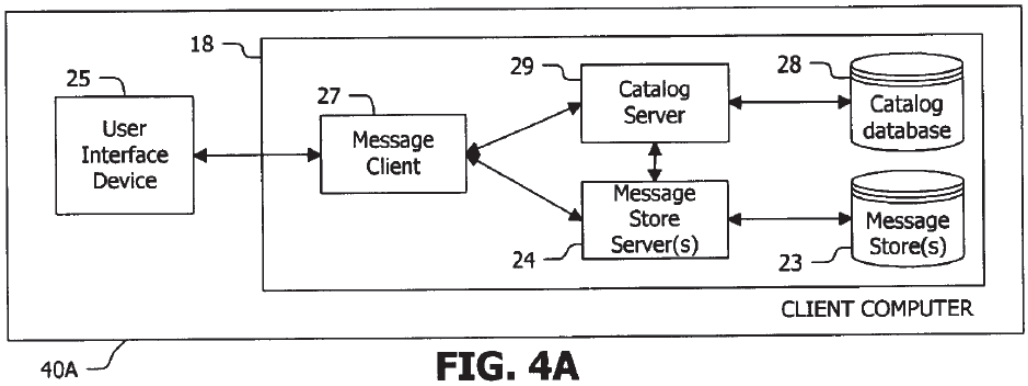


FIG. 4A

81. As shown in Figures 5A and 5B of *Clark*, each message 22 in message store 23 is represented by one or more database records each having a unique identifier (e.g., "StoreMessageId," "MessageId"). (*Id.*, 11:5-12-6.) This unique identifier may comprise numbers or other identifiers assigned to the message by the message store server 24. (*Id.*, 11:20-24.)

D. International Patent Application No. WO 02/17650A1 ("*Vaananen*") (Ex. 1008)

82. *Vaananen* describes a client/server system for instant voice messaging that includes subscriber terminals, a network server; and recipient terminals. (Ex. 1008, Abstract, 1:3-8, 5:1-30.) *Vaananen* explains that a user operating a subscriber terminal can send a voice message by first selecting one or more recipients and recording a voice message that is written to a data file and subsequently transmitted to a recipient terminal over a network. (*Id*., 2:22-29, 7:1-10.) The data file may be encrypted prior to being sent to the recipient terminal. (*Id*., 2:24-30 ("[C]ryptography methods may be employed with the data file and/or

packet stream").)

83. Upon receiving the data file, the recipient may automatically play the voice message. (*Id.*, 17:26-18:2.) The recipient terminal may decrypt the file prior to playing the message. (*Id.*, 18:4-10 ("Typically, this means opening the file containing the message, and possibly employing decoding and/or decryption methods in some embodiments").)

E. U.S. Patent Application Publication No. 2002/0101848 ("*Lee*") (Ex. 1014)

84. *Lee* describes systems and methods for connecting wireless devices to packet-switched networks, such as the Internet and/or an Intranet. (Ex. 1014, Abstract, ¶¶6, 16, 30-31, 53-54, 56, 58.) *Lee* explains that "clients for accessing web type of content has extended from desktop computers to increasingly portable devices including notebook computers, palm-top information appliances and mobile phones." (*Id.*, ¶5.) *Lee* explains that such devices may connect to a packet-switched network via "a conventional cellular phone telecommunication network." (*Id.*, ¶15.) *Lee* also identifies other solutions for wireless connectivity—including IEEE 802.11. (*Id.*, ¶¶8, 54.)

F. U.S. Patent Application Publication No. 2002/0146097A1 ("*Vuori*") (Ex. 1015)

85. *Vuori* describes a system for sending "short voice messages" (SVMs) "as instant messages." (Ex. 1015, ¶31; *see also id.*, Abstract, ¶¶3, 32-34, 41, Figs.

1, 6.) The system includes a telecommunications data network, which may contain an instant messaging architecture. (*Id.*, ¶¶7, 37, 39-41, Figs. 3-6.) The transmission of SVMs between terminals, such as between equipment 14 and 30 shown in Figure 1 of *Vuori*, is facilitated by a "SVM service center" (SVMSC). (*Id.*, ¶¶Abstract, 11, 34, Fig. 1.) Upon receiving a SVM, the SVMSC will determine the availability of intended recipients of the SVM (e.g., online, offline, busy, away), send the SVM immediately to available recipients, and temporarily store the SVM for recipients that are not available and delivering the SVM when the recipients become available. (*Id.*, ¶¶8, 34, 43-47.)

IX. THE PRIOR ART DISCLOSES ALL OF THE FEATURES OF THE CHALLENGED CLAIMS OF THE '433 PATENT

A. The Combination of *Griffin* and *Clark* Discloses Every Feature of Claims 1-3 and 8

1. Claim 1

a) [1pre] "A system comprising:"

86. I understand that "[a] system" is the preamble of claim 1. I also understand that a preamble may not be a limitation. For purposes of this declaration, however, I have been asked to assume that the preamble of claim 1 is a limitation.

87. Based on this assumption, it is my opinion that *Griffin* discloses a system having the features recited in the remaining elements of this claim. For

example, *Griffin* discloses a messaging system for exchanging real-time speech (i.e., voice) chat messages between mobile terminals 100. (Ex. 1005, 1:6-12, 3:49-5:15, Figs. 2-3.) Each speech chat message is either an "inbound (i.e., received by the user's mobile terminal)" message or an "outbound (i.e., sent by the user's mobile terminal)" message. (*Id.*, 1:40-44; *see also id.*, 5:6-9.) An inbound message "comprises the original outbound message," and possibly more. (*Id.*, 7:22-25.)

88. The mobile terminal 100 is "any wireless communication device" (e.g., cellular phone, PDA). (*Id.*, 3:14-48.) An exemplary configuration of terminal 100 is illustrated in Figure 1 of *Griffin* (reproduced below), which shows a device having a speaker 103, display 102, microphone 107, a push-to-talk button 101, among other components. (*Id.*, 3:20-30.)

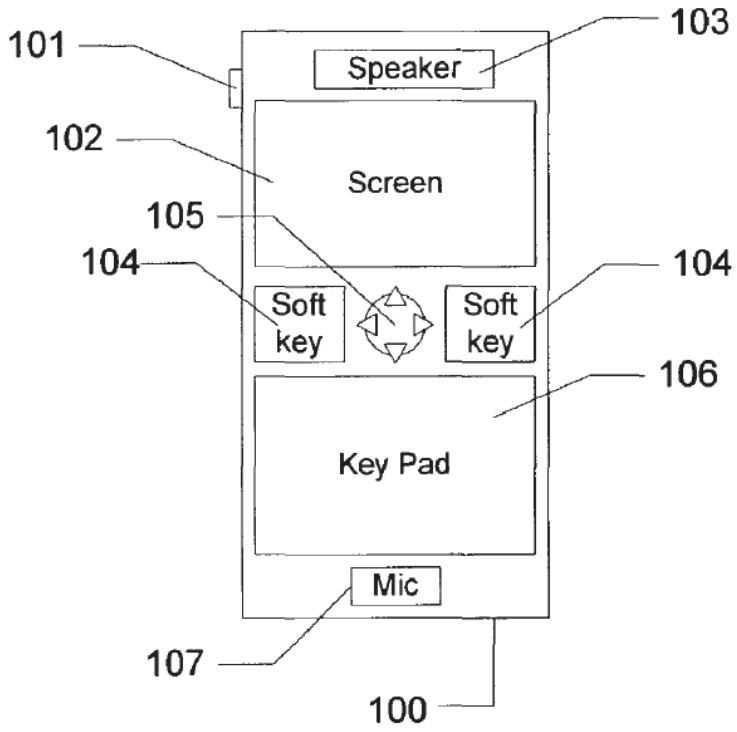


FIG. 1

89. As shown in Figure 2 of *Griffin* (reproduced below), in addition to terminals 100, the system may include packet-based communication network 203, server complex 204, and wireless carrier infrastructure 202. (*Id.*, 3:49-4:26.)

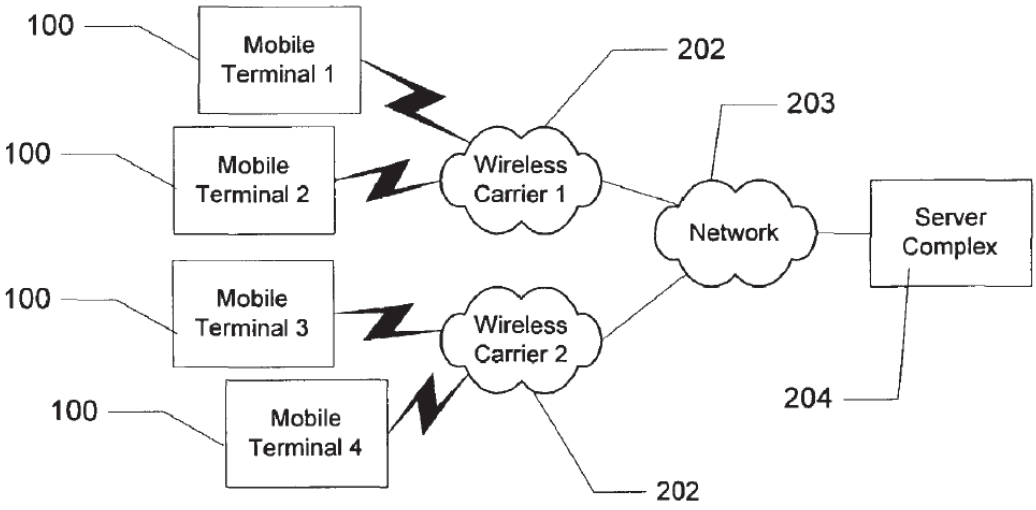


FIG. 2

90. Figure 3 of *Griffin* (reproduced below) illustrates the components of both an exemplary terminal 100 and an exemplary server complex 204 in more detail. (*Id.*, 4:27-5:15.)

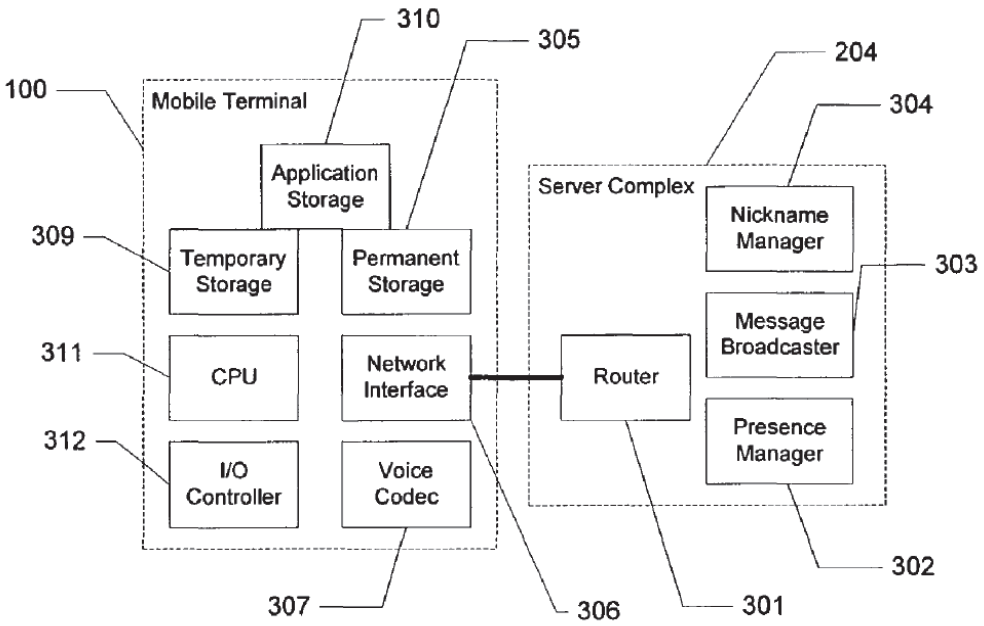


FIG. 3

91. I discuss below additional details regarding *Griffin*'s system below

with respect to the remaining elements of this claim.

b) [1a] "an instant voice messaging application including a client platform system for generating an instant voice message and a messaging system for transmitting the instant voice message over a packet-switched network via a network interface;"

"an instant voice messaging application including . . ."

92. The language of this claim does not provide any detail about what an "instant voice messaging application" is beyond the functions that it performs—i.e., "generating an instant voice message" and "transmitting the instant voice message over the packet-switched network to the messaging system." The specification of the '433 Patent does not use the word "application" when describing instant voice messaging. Instead, as shown in Figure 3 of the '433 Patent, the specification describes a "general-purpose programmable computer" having various generic components and/or functionalities, which work in conjunction to provide the instant voice messaging features described in the specification. (Ex. 1001, 12:13-23; *see also id.*, Fig. 3.) Consistent with this disclosure, in my opinion *Griffin* discloses an "instant voice messaging application," as recited in this claim element.

93. For example, *Griffin* explains that each mobile terminal 100 ("instant voice message client system") stores "machine-readable and executable instructions (typically referred to as software, code, or program)" on the terminal's

"application storage" 310 and executes such instructions on the terminal's CPU 311 to perform the speech (i.e., voice) chat messaging functionalities described in *Griffin*.[4] (Ex. 1005, 4:29-61; *see also id.*, 3:43-48 (the "chat software" operates "to initiate one or more chat conversations (threads) as described in greater detail below"), 12:61-63 ("Single-clicking the right softkey causes the software to build and send an outbound text message 400").) *Griffin* also describes other components of terminal 100 that work in conjunction with the software to perform such functionalities. (*Id.*, 4:40-61.) For example, *Griffin* explains that the "software" can "capture speech from the microphone 107" using "known programming techniques" (*id.*, 4:40-48) and "build and send" outbound chat messages (*id.*, 12:61-63).

94. In my opinion, the software (and related components) stored and executed by terminal 100 that provides the functionalities I discussed above discloses the claimed "instant voice messaging application" because it performs the instant speech messaging features described in *Griffin*, including the features recited in the claims related to the "instant voice messaging application," as I discuss below.

[4] "CPU 311" in Figure 3 of *Griffin* is misidentified in the specification as "CPU 211." One of ordinary skill in the art would have understood from reviewing the disclosure of *Griffin* that "CPU 211" should recite "CPU 311."

“. . . a client platform system for generating an instant voice message and . . .”

95. In my opinion, neither the claim language nor the specification of the ’433 Patent describes the claimed “client platform system” in detail. For example, neither the claims nor the specification explains whether the client platform system is hardware, software, or a combination of hardware and software. Instead, claim 1 merely recites that the “client platform system” is some unspecified component and/or functionality “for generating an instant voice message.” The specification of the ’433 Patent does not recite the term “client platform system.” However, similar to the claim language, the specification describes a “client platform” as some unspecified component and/or functionality “for generating an instant voice message.” (Ex. 1001, 12:8-13; *see also id.*, 12:19-52, Fig. 3.) *Griffin* discloses a component and/or functionality that performs the same function as the claimed “client platform system.”

96. For example, *Griffin* explains that the software (and related components) (“instant voice messaging application”) stored and executed on terminal 100 generates a speech (i.e., voice) chat message based on speech captured by microphone 107. (Ex. 1005, 3:43-48 (“The input devices available on the wireless mobile terminal (e.g., keypad, softkeys, etc.) may be employed by a user of the wireless mobile terminal to initiate a session of chat software and,

within the operation of the chat software, to initiate one or more chat conversations (threads) as described in greater detail below."), 4:40-48 ("Using known programming techniques, the software can…capture speech from the microphone 107" and "capture input data from…push-to-talk button 101"), 12:61-63 ("Single-clicking the right softkey causes the software to build and send an outbound text message 400.").) For example, *Griffin* explains that to generate a speech chat message a user activates a "push-to-talk" button on terminal 100 to "record and transmit a speech message" to selected recipients. (*Id.*, 9:20-31; *see also id.*, 11:42-47, 12:1-3.)

97. In my opinion, each generated speech chat message is an "instant voice message," as recited in claim element 1a. First, as explained in *Griffin*, terminals 100 exchange voice messages. For example, *Griffin* explains that chat messages transmitted between terminals 100 and server complex 204 may be speech chat messages. (*Id.*, 1:7-11 ("real-time speech…conversations"), 3:20-22 ("a speaker 103 for rendering signals, such as received speech, audible"), 3:28-30 ("a push-to-talk button 101 that allows the user to initiate recording and transmission of audio"), 4:11-18 ("speech" data), 4:27-29 ("speech…chat messages"), 4:40-44 ("capture speech from the microphone 107"), 4:52-56 (encoding/decoding speech using a "voice codec"), 4:62-65 ("speech and text messages"), 5:9-15 ("speech and/or text messages"), 6:38-44 ("speech" message

type), 8:47-52 ("chat communication message"), 9:27-31 ("record and transmit a speech"), 10:36-43 ("speech content of an outbound voice message"), 10:53-58, 11:42-12:3 ("recording and transfer of a speech chat message"), 12:24-28, 12:38-47 ("playing back the available speech").)

98. *Griffin* describes such speech chat messages as "voice messages." (*Id.*, 10:36-51; *see also id.*, Title ("Voice and Text Group Chat").) *Griffin* also explains that the messages are created using a "push-to-talk button 101" (or "voice detection mechanisms") "that allows the user to initiate recording and transmission of audio" (*id.*, 3:28-30) and "a microphone 107 that captures audio such as the user's speech" (*id.*, 3:27-28), and that the voice data is encoded/decoded using a "voice codec 307" (*id.*, 4:52-56). (*See also id.*, 3:35-37.) For example, "[i]f the user pushes-to-talk, the display switches to the chat history, and the user is able to record and transmit a speech message." (*Id.*, 9:27-31.) A "recording indicator 1201" is displayed "to indicate when the user has and or loses speech recording/transmitting access." (*Id.*, 12:11-15.)

99. Second, each speech (i.e., voice) chat message is an "instant" voice message, as recited in claim element 1a, because it is a voice message transmitted in "real-time" to an available recipient terminal 100. (*Id.*, 1:6-11; *see also id.*, 4:11-18, 4:40-56 ("capture speech from the microphone 107"), 4:62-65 ("speech and text messages"), 5:2-15, 6:38-44, 6:56-7:1, 7:8-17, 8:8-14, 8:47-52 ("buddy list"

displays "buddy's presence status 911" indicating availability for real-time messaging), 9:27-31 ("the user is able to record and transmit a speech"), 10:36-52 ("voice message"), 11:42-47 ("the recording and transfer of a speech chat message begins"), 12:1-17 ("recording and transmitting an outbound speech message").)

100. *Griffin*'s description of real-time speech chat messaging is also consistent with how instant voice messaging is described in the specification of the '433 Patent and with the knowledge of a person of ordinary skill in the art at the time of the alleged invention regarding such systems. (*See, e.g.*, my discussions above in Part V.A.) For example, the specification of the '433 Patent acknowledges that instant messaging systems were known prior to the time of the alleged invention, and that they involved client devices and a server. (Ex. 1001, 2:35-47.) With respect to these known systems, the specification explains that the server presents a client device user with "a list of persons who are currently 'online' and ready to receive text messages," that the user selects one or more persons from the list to send a message, and that the user types in a message to send to the selected one or more persons. (*Id.*, 2:39-47.) The message is then "sent immediately via the text-messaging server to the selected one or more persons and is displayed on their respective client terminals." (*Id.*, 2:45-47.)

101. Similar to the known instant messaging systems described in the specification of the '433 Patent and other instant messaging technologies known to

those of ordinary skill in the art at the time of the alleged invention (e.g., see my discussion in Part V.A), *Griffin*'s system/process includes terminals 100 that are presented with information regarding the availability of other terminals 100 for messaging and facilitates the real-time (i.e., immediate) transmission of speech chat messages between available terminals 100 via server complex 204 (*See, e.g.*, Ex. 1005, 1:6-11 ("real-time speech and text conversations"), 4:11-18 (describing real-time transmission of chat messages between terminals 100 via server complex 204), 6:56-7:17 (describing the process of server complex 204 generating and sending inbound chat messages 500 to available terminals 100 upon receiving an outbound chat message 400), 8:47-52 (explaining that the "presence status 911" feature of the "buddy list display" indicates the availability of the user), 9:23-31).

102. *Griffin* also discloses the claimed "client platform system," if interpreted to mean a "system of the client engine which controls other components used to generate an instant voice message," which I have been informed by counsel is a construction proposed by the patent owner in district court. For example, as explained in *Griffin*, the software (and related components) generates a speech chat message by controlling other components, including, for example, microphone 107 for capturing speech data and voice codec 307 for encoding the captured speech data. (*Id.*, 3:43-48, 4:40-48, 4:52-54, 9:20-31, 11:42-47, 12:1-3, 12:61-63, 12:67-13:2.)

". . . **and a messaging system for transmitting the instant voice message over a packet-switched network via a network interface;"**

103. In my opinion, neither the claim language nor the specification of the '433 Patent describes the claimed "messaging system" in detail. For example, neither the claims nor the specification explains whether the messaging system is hardware, software, or a combination of hardware and software. Instead, claim 1 merely recites that the "messaging system" is some unspecified component and/or functionality "for transmitting the instant voice message over the packet-switched network via the network interface." Similarly, the specification describes "messaging system 320" as some unspecified component and/or functionality "for messaging between the IVM client 208 and the IVM server 202." (Ex. 1001, 12:8-13.) In my opinion, *Griffin* discloses a component and/or functionality that performs the same function as the claimed "messaging system."

104. For example, *Griffin* explains that the software (and related components) ("instant voice messaging application") stored and executed on terminal 100 transmits the generated speech chat (i.e., voice) message ("instant voice message") over packet-based network 203 to message broadcaster 303 ("messaging system") in server complex 204. (Ex. 1005, 3:51-61 ("The terminals 100 communicate with at least one chat server complex 204 by wirelessly transmitting data to a corresponding wireless carrier's infrastructure 202….The

data packets are sent on to a communication network 203 that forwards them onto the server complex 204."), 4:44-54 (outbound and inbound speech chat messages "pass through the network interface 306 that provides connectivity between the terminal and the data network"), 4:62-65 ("speech and text messages…flows into the server complex 204 preferably via the router 301"), 9:20-31 (by pushing the push-to-talk button 101, terminal 100 "is able to record and transmit a speech message"), 12:61-63 ("the right softkey causes the software to build and send an outbound text message").)

105. Regarding the claimed "network interface," neither the claims nor the specification of the '433 Patent describe the "network interface" in detail. For example, with respect to both the IVM client and the IVM server, the specification of the '433 Patent generally describes a network interface as a generic component and/or functionality that "provide[s] connectivity to a network" and identifies an Ethernet card as an example of a network interface. (Ex. 1001, 12:13-16, 13:43-46.) For example, regarding the IVM client, the specification states: "The IVM client 208 is a general-purpose programmable computer equipped with a network interface (not shown), such as an Ethernet card, to provide connectivity to the network 204. It is noted that any suitable networking protocol, not only Ethernet, could be used to connect the IVM client to a network 204 and thus is considered within the scope of the present invention." (*Id.*, 12:13-16.) Therefore, a person of

ordinary skill in the art would understand that the claimed "network interface" is a component and/or functionality that provides connectivity to a network.

106. Based on my experience and understanding of the technology in the field related to the '433 Patent, this is consistent with how a person of ordinary skill in the art at the time of the alleged invention would have understood the meaning of the term "network interface." Term "network interface" was commonly used to refer to a point of interconnection between a computing device and a network. The network interface may consist of hardware and/or software. For example, a network interface may refer to a component that contains the hardware required to physically connect to a network, such as an Ethernet card (wired) or a WiFi card (wireless). It may also refer to a software component that represents and/or manages a connection.

107. Consistent with this meaning of the term "network interface," as described in the specification of the '433 Patent and understood in the art at the time of the alleged invention, it is my opinion that *Griffin* discloses "a network interface," as recited in claim element 1a.

108. For example, with reference to Figure 3 of *Griffin* (reproduced and annotated below), *Griffin* explains that each mobile terminal 100 contains a "network interface 306" for communicating with chat server complex 204: "Outbound chat messages sent to the server complex 204, as well as those inbound

chat messages received from the server complex 204, pass through the network interface 306 that provides connectivity between the terminal and the data network." (Ex. 1005, 4:44-51; *see also id.*, 3:51-65, Fig. 3.) Given mobile terminal 100 is a wireless device, *Griffin* also explains that network interface 306 "comprises the entire physical interface necessary" for terminal 100 "to communicate with the server complex 204, including a wireless transceiver." (*Id.*, 4:44-51.) Therefore, network interface 306 is a component and/or functionality that provides connectivity to a network.

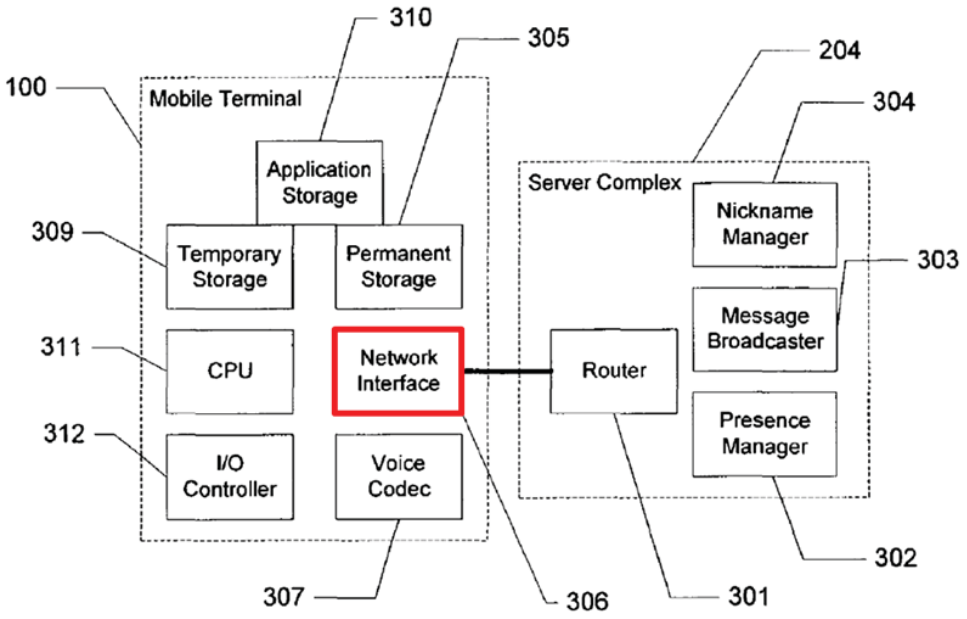


FIG. 3

109. As described in *Griffin*, network interface 306 provides connectivity to "a packet-switched network," as recited in claim element 3a. For example, as shown in Figure 2 of *Griffin* (reproduced and annotated below), *Griffin* explains that the "data packets" communicated between terminal 100 and server complex

204 are transmitted through wireless carrier 202 to communication network 203: "The terminals 100 communicate with at least one chat server complex 204 by wirelessly transmitting data to a corresponding wireless carrier's infrastructure 202....The data packets are sent on to a communication network 203 that forwards them onto the server complex 204." (Ex. 1005, 3:51-65; *see also id.*, 4:44-51, Fig. 2.) *Griffin* also explains that communication network 203 "is a packet-based network," such as "the Internet or World Wide Web, a private network such as a corporate intranet, or a combination of public and private network elements." (*Id.*, 3:59-65.)

110. Therefore, one of ordinary skill in the art would have understood that network 203 is a packet-switched network. As was known to those of ordinary skill in the art at the time, in a packet-switched network, a message is broken down into units of data, called packets, which are routed through the network based on information contained in the header of each packet (*see* my discussion above in Part V.B.1), consistent with how *Griffin* describes the transmission of packets through its packet-based communication network 203.

111. Additionally, as explained in the '433 Patent, and as was known in the art at the time of the alleged invention, the Internet was a well-known and widely used packet-switched network. (Ex. 1001, 1:38-44 ("a packet-switched network (e.g., Internet)"), 1:53-56 ("a packet-switched IP network 102, such as the

Internet"), 7:6-8; *see also* my discussion in Part V.B.1.)

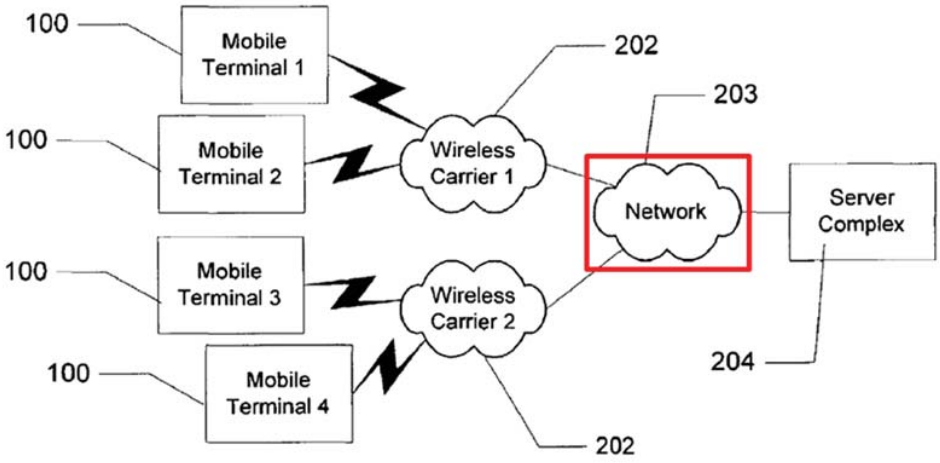


FIG. 2

c) [1b] "wherein the instant voice messaging application displays a list of one or more potential recipients for the instant voice message;"

112. In my opinion, *Griffin* discloses these features. As I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application" in the form of software (and related components) stored and executed on terminal 100 to perform the speech chat messaging functionalities described in *Griffin*.

113. As shown in Figure 9 of *Griffin* (reproduced below), *Griffin* explains that the software (and related components) displays a "buddy list" having entries, each representing a "buddy" that can be selected for sending a speech (i.e., voice) chat message ("potential recipients for the instant voice message") generated by terminal 100. (Ex. 1005, 8:39-52; *see also id.*, 3:22-23 (terminal 100 is equipped

with "a display 102 to render text and graphical elements visible"), 8:15-17 ("FIG. 9 illustrates a buddy list display with its entries sorted alphabetically."), 9:23-31, 9:32-33 ("FIG. 10 illustrates a buddy list display with its entries sorted by group.").) To initiate an instant voice message, a user may select one or more listed buddies and activate the "push-to-talk" button, which allows the user to "record and transmit a speech message" and "start a new thread with the selected buddies." (*Id*., 9:23-31; *see also id.*, 8:47-52 ("Each entry in the list comprises a selection indictor 906 that indicates whether the user has selected the particular buddy for chatting (i.e., sending a chat communication message)"), 8:64-67.)

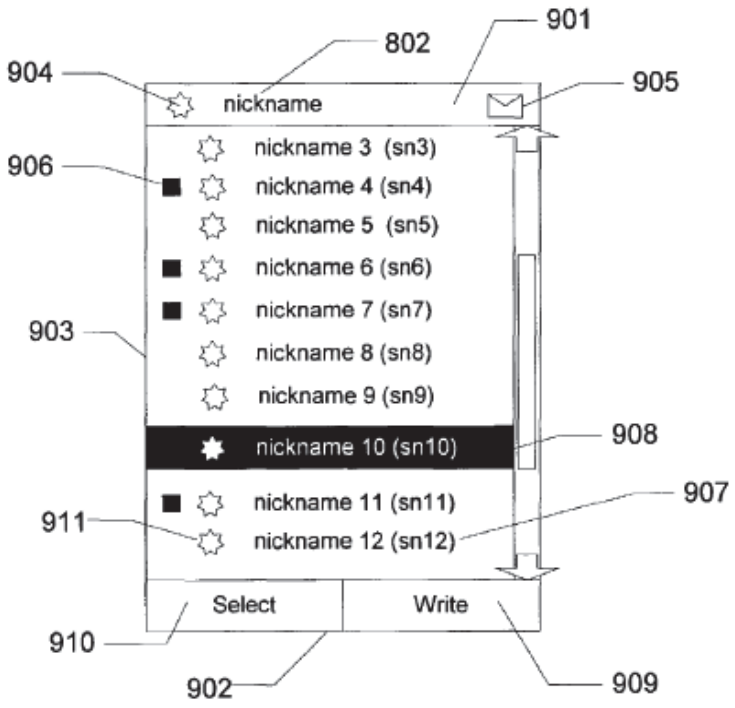


FIG. 9

d) [1c] "wherein the instant voice messaging application includes a message database storing the instant voice message, wherein the instant voice message is represented by a database record including a unique identifier; and"

114. In my opinion, the combination of *Griffin* and *Clark* discloses these features. As I explained above for claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application" in the form of software (and related components) stored and executed on terminal 100 to perform the speech chat messaging functionalities described in *Griffin*.

115. *Griffin* explains that each mobile terminal 100 stores both inbound and outbound speech (i.e., voice) chat messages permanently in the terminal's storage 305. (Ex. 1005, Fig. 3, 10:20-25, 10:25-36, 12:38-42.) In particular, for inbound speech chat messages, *Griffin* explains that "[c]lick-holding the right softkey" presents the user with an option that can be selected for "saving the inbound chat message in permanent storage 305." (*Id.*, 12:38-42.)

116. For outbound speech chat messages, *Griffin* explains that such messages can be "echoed back to the sender in full" (with the speech content) as an inbound speech chat message. (*Id.*, 10:25-36.) As such, the sender terminal would receive the outbound speech chat message as an inbound speech chat message just like any other recipient terminal, and therefore would have the same capability of storing the message in permanent storage in response to a user request as with

inbound speech chat messages received from other terminals. This understanding is consistent with *Griffin*'s explanation that the "chat history" displays both inbound and outbound speech chat messages. (*Id.*, 10:20-25 ("The content region 903 of the display is a single selection list comprising a plurality of entries representing inbound chat messages 500 received by the terminal 100 and a plurality of entries representing outbound chat messages 400 transmitted by the terminal 100."), 10:45-47 ("In this manner, the occurrence of voice message results in an entry being displayed on the screen.").) Therefore, terminal 100's permanent storage discloses the claimed "message database."[5]

117. *Griffin* also discloses a "message database," as claimed, in terminal 100 for storing queued messages. For example, *Griffin* explains that if an inbound speech chat message arrives while the chat history display is not visible to the user, the message is queued at terminal 100 "such that the recipient can request playback within a predetermined period of time." (Ex. 1005, 11:48-67.) A person of ordinary skill in the art would have understood that "queued" messages are necessarily stored, which also discloses the claimed "message database." As a person of ordinary skill in the art would have understood, if the queued messages are not

[5] In my opinion, neither the claim language nor the specification requires the "message database" be a particular type of database or have any specific characteristics.

stored, the messages would be lost. Accordingly, terminal 100 includes a "message database" for storing queued messages.

118. While *Griffin* does not explicitly disclose that each speech chat message stored in mobile terminal 100's message database is represented by a database record including a unique identifier, in view of *Clark* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process to implement such features.

119. *Clark* discloses a system/process "for cataloging, retrieving and/or manipulating electronic messages," whether "temporarily or permanently stored," such as outgoing and incoming "instant messages" and "voice mail messages." (Ex. 1007, 8:31-44; *see also id.*, 4:9-12 ("instant messages"), 8:7-10, 16:50-17:22 ("MessageSummary table 52" shows storage of "sent or unsent messages" and "received messages").) As shown in Figure 1A of *Clark*, *Clark*'s system is a client-server messaging system that involves "a very simple computer network." (*Id.*, 7:67-8:2, Fig. 1A.) Each client computer, which runs "messaging client software" (*id.*, 8:11-13), may be a laptop computer or any device having "a display and an input device," such as a "touch screen." (*id.*, 9:29-35). (*See also id.*, 12:7-10, 13:20-29 (many types and designs of interfaces may be used with the disclosed techniques).)

120. *Clark* describes a message database that can "advantageously be integrated with messaging client software…to facilitate the organization of electronic messages." (*Id.*, 4:35-38.) In particular, *Griffin* explains that each client computer has an integrated "message store 23," which "comprises a memory, file or database structure that provides temporary or permanent storage for the contained messages 22." (*Id.*, 9:11-15; *see also id.*, 11:1-5 ("Each of these components is preferably provided in the form of a database comprising a plurality of related tables.").) A "message store server 24 manages the messages 22 in message store 23," including receiving and servicing requests for messages from other parts of the system. (*Id.*, 9:15-21.) A "catalog database 28," and preferably a "catalog server 29," is provided "to organize the contents of one or more message stores 23." (*Id.*, 9:54-10:3.) As one example configuration of the system, the message store 23 and catalog 28 databases and server software 24 and 29 are integrated on the same client computer, as shown in Figure 4A of *Clark*. (*Id.*, 10:28-33, Fig. 4A; *see also id.*, 11:1-3 (databases 23 and 28 "may be integrated in a single integrated message store").)

121. As shown in Figures 5A and 5B of *Clark* (reproduced below), which illustrate message store 23 and catalog 28 as separate databases and as integrated databases, respectively, each message 22 is represented by a "Message" record in message store 23 database and is uniquely identified by a "StoreMessageId"

(Figure 5A) or "MessageId" (Figure 5B). (*Id.*, 11:14-17, 11:35-37, 11:50-54, 11:66-12:1; *see also id.*, 11:5-12-6.) Each message 22 is also represented by a "MessageSummary" record that holds information about the underlying message 22 in message store 23 and has a unique identifier. (*Id.*, 11:31-33, 11:66-12:1.)

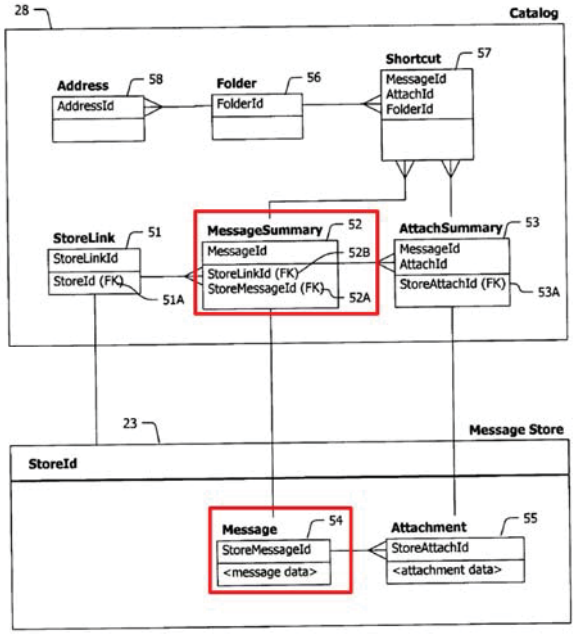


FIG. 5A

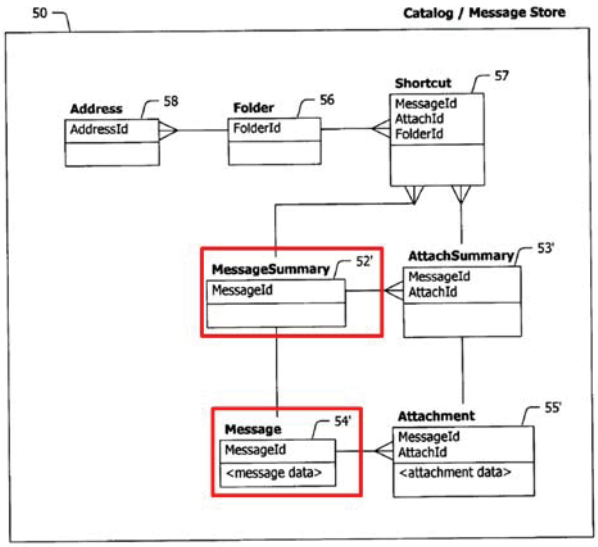


FIG. 5B

122. By storing each message in one or more database records and associating a unique identifier with each record, *Clark*'s system can easily catalog, retrieve, and manipulate messages. (*Id.*, 11:38-40, 13:66-14:3, 16:50-17:23.)

123. Based on these teachings and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process so that terminal 100's software (and related components) stores each speech chat message

in an integrated message database, wherein each speech chat message is represented by a database record including a unique identifier (similar to as described by *Clark*), to improve the storage, retrieval, and management of speech chat messages. To begin with, it was well known at the time of the alleged invention for client devices of various types and sizes to include a database for managing data, including instant messages, for such purposes. It was also well known that databases stored data in records (e.g., database rows) that are uniquely identifiable. Therefore, based on the state of the art, a person of ordinary skill in the art would have been aware of the many benefits of such a modification, including reduced storage access and management complexities, increased message access speed, and improved message analysis (e.g., linking related messages, identifying redundant or unnecessary messages).

124. Additionally, *Clark* describes numerous motivations for implementing its database techniques. For example, *Clark* explains that its teachings address the shortcomings of known techniques for managing electronic messages, including instant messages, such as the inefficiencies associated with manual message management. (*Id.*, 1:20-4:8.) In particular, *Clark* addresses a need for a system/process that "automatically manag[es] stored messages," is "fast," allows a user to "quickly locate a message or group of messages," and helps "users to separate important messages from less important messages and to manage the flow

of messages." (*Id.*, 4:9-22.) Thus, a person of ordinary skill in the art would have recognized that *Clark*'s teachings would have improved terminal 100 in *Griffin*'s system/process.

125. A person of ordinary skill in the art would have also recognized that *Griffin* and *Clark* are in the same field of networked communication systems, describe solutions to similar problems in the field, and describe techniques that were well known, similar, and compatible. (Ex. 1005, 1:8-12, 3:59-65, 4:10-15; Ex. 1007, 4:9-22, 4:25-48, 7:67-8:13, 8:31-44.) As such, a person of ordinary skill in the art would have been encouraged to look to the teachings of *Clark* to complement the teachings of *Griffin*.

126. A person of ordinary skill in the art would have recognized that the modification described above would have been well within the capabilities of such a person. For example, *Clark* explains that its teachings "can advantageously be integrated with messaging client software," which would have encouraged a person of ordinary skill in the art to consider integrating *Clark*'s teachings with the messaging software described in *Griffin*. (Ex. 1007, 4:36-38.) Also, *Clark*'s teachings "can be applied to organizing any sort of electronic messages which are to be temporarily or permanently stored," including messages with attachments, like the messages described in *Griffin*. (*Id.*, 8:31-44.) *Clark* states that its teachings "could also be applied to the organization of messages which already exist in a

message store." (*Id.*, 8:47-50.) Moreover, a person of ordinary skill in the art would have recognized that *Clark*'s teachings could have been applied to speech chat messages, because *Clark* explains that "[t]he invention does not rely on any specific message format (such as RFC822 or MAPI) or any specific messaging protocol (such as SMTP or X.400), but can be readily adapted to the set of information made available by any practical message format and protocol." (*Id.*, 8:50-54.)

127. Accordingly, a person of ordinary skill in the art would have found the above-described modification to be a straightforward combination of known speech messaging systems, similar to as described in *Griffin*, and known and commonly-used database techniques for storing, retrieving, and managing instant messages, similar to as described in *Clark*. As modified, *Griffin*'s system/process would have performed the same function of storing, retrieving, and managing speech chat messages in a database, but would have done so by representing each message by a database record including a unique identifier in a manner similar to the features described in *Clark*.

128. Also, a person of ordinary skill in the art would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of *Griffin*'s system/process. (*See*, *e.g.*, my discussion in Part V.)

e) [1d] "wherein the instant voice messaging application includes a file manager system performing at least one of storing, deleting and retrieving the instant voice messages from the message database in response to a user request."

129. Neither the claims nor the specification of the '433 Patent describe the claimed "file manager system" in detail. For example, neither the claims nor the specification explains whether the file manager system is hardware, software, or a combination of hardware and software. Instead, claim 1 merely recites that the "file manager system" is some unspecified component and/or functionality for "performing at least one of storing, deleting and retrieving the instant voice messages from the message database." Similarly, while the specification of the '433 Patent does not recite the term "file manager system," similar to the claim language, it describe a "file manager" as some unspecified component and/or functionality that "services requests from the user to record, delete or retrieve messages to/from the message database 310." (Ex. 1001, 12:36-42; *see also id.*, 12:13-23.) In my opinion, the combination of *Griffin* and *Clark* discloses a component and/or functionality that performs the same function as the claimed "file manager system."

130. For example, as I explained above for claim element 1c (Part IX.A.1.d), *Griffin* explains that the software (and related components) stores inbound and outbound speech (i.e. voice) chat messages in terminal 100's

permanent storage in response to a user selection of an option presented by "[c]lick-holding the right softkey." (Ex. 1005, 12:38-42.)

131. *Griffin* further explains that the stored inbound/outbound messages are displayed as a list of entries in response to a user request to view the user's chat history (e.g., clicking a softkey), which a person of ordinary skill in the art would have understood requires the software to retrieve any messages that are stored in permanent storage 305. (*Id.*, 10:20-25; *see also id.*, 9:5-13, 9:17-20, 10:58-62 (displayed messages may be "locked" messages, which are messages "saved in permanent storage 305 and will always appear in the chat history display until it is unlocked"), 12:18-19 (describing a detailed view of an inbound chat message), 12:41-42 ("saving the inbound chat message in permanent storage 305"), Figs. 2-3.) A displayed speech chat message entry can be selected for playback or displayed as text using a speech-to-text translator, each of which a person of ordinary skill in the art would have understood requires the software to retrieve any messages that are stored in permanent storage 305. (*Id.*, 5:42-48, 10:39-47, 12:38-42.) Additionally, a user can store and view attachments to a speech chat message using the softkeys. (*Id.*, 12:38-42.)

132. I have also been asked to consider an interpretation of claim 1 where storing, deleting, and retrieving must all be performed. *Griffin* does not explicitly disclose a file manager system "deleting" a speech chat message from the message

database. However, based on the teachings of *Clark* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process to also delete speech chat messages from the message database.

133. For example, *Clark* explains that "[m]essage client 27 will typically generate requests in response to user input such as requests to message store server 24 to add, change or delete a message" in message store 23. (Ex. 1007, 18:25-29.) *Clark*'s system also permits a user to retrieve messages from message store 23. (*Id.*, 4:25-27.) *Clark* explains that "[a] user interface 15 equipped with a suitable input device 17 permits a user to select a folder and to view and manipulate messages which have shortcuts in the selected folder." (*Id.*, 8:65-9:1; *see also id.*, 9:17-19, Fig. 6.) According to *Clark*, message store 23 may contain any type of file, including any type of message and attachments thereto, such as "images, sound media, video, executable files, word processing files" and other files. (*Id.*, 8:35-44, 11:14-24.)

134. Based on these teachings of *Clark* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process such that the software (and related components) operates to delete speech chat messages in response to a user request (similar to as described in *Clark*) in order to meet the

needs of the user of terminal 100. For example, a user may need to delete unwanted or confidential/private messages from terminal 100. A user may also want to delete messages to free memory space, which may be limited in a mobile device like terminal 100 described in *Griffin*.

135. Moreover, a person of ordinary skill in the art would have recognized that such a modification would have been nothing more than a straightforward combination of a database of voice messages, similar to as described in each of *Griffin* and *Clark*, and user controls for deleting such messages from a database, similar to as described in *Clark*. A person of ordinary skill in the art would have been able to combine these known technologies using known methods, and each would have performed the same functionalities it had been known to perform, including the functionalities described in *Griffin* and *Clark*. In fact, technologies for deleting data from a database in response to a user request were well known and commonly used at the time, including in the context of voice messaging systems, as demonstrated by *Clark*. Additionally, *Griffin* already discloses user-selectable options for managing the storage of inbound/outbound speech chat messages such as storing and displaying stored messages, as I discussed above. Therefore, a person of ordinary skill in the art would have known how to implement *Clark*'s techniques for deleting instant voice messages from a database to improve *Griffin*'s system/process.

136. As I discussed above with respect to claim element 1c (Part IX.A.1.d), a person of ordinary skill in the art would have been motivated to configure terminal 100's permanent storage of messages to include a database like that described in *Clark*.

137. Accordingly, the software (and related components) of the *Griffin-Clark* system/process operating as described above discloses a "file manager system performing at least one of storing, deleting and retrieving the instant voice messages from the message database in response to a user request," as recited in this claim element.

138. Also, a person or ordinary skill in the art would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of the combined *Griffin-Clark* system/process. (*See*, *e.g.*, my discussion in Part V.)

2. Claim 2

a) "The system according to claim 1, wherein the message database includes a plurality of instant voice messages received over the packet-switched network."

139. In my opinion, the combination of *Griffin* and *Clark* discloses these features. As I discussed above with respect to claim element 1c (Part IX.A.1.d), the *Griffin-Clark* combination discloses storing inbound and outbound speech chat

messages in permanent storage of mobile terminal 100.

140. For example, *Griffin* explains that terminal 100 stores inbound speech chat messages received over packet-based network 203 and outbound speech chat messages recorded by the user of terminal 100 in the terminal's permanent storage.[6] (Ex. 1005, 10:58-62 ("Although not illustrated in FIG. 11, there may be other indicators present on an entry such as a locked entry indicator (i.e., indicates that an entry was saved in permanent storage 305 and will always appear in the chat history display until it is unlocked)."), 12:38-42 (selecting "the right softkey presents the user options such as…saving the inbound chat message in permanent storage 305"); *see also id.*, 10:20-25, 10:25-36; Part IX.A.1.d.)

141. As I discussed above with respect to claim element 1c (Part IX.A.1.d), a person of ordinary skill in the art would have been motivated to configure terminal 100's permanent storage 305 of messages to be a database like that described in *Clark*.

[6] *Griffin* explains that outbound chat messages are preferably echoed back to the sender either "in full" (with speech) or "in part" (without speech) in the form of inbound messages for storage and display on the user's terminal as part of the chat history. (Ex. 1005, 10:20-52; *see also id.*, 12:38-42.)

3. Claim 3

a) "The system according to claim 2, wherein the instant voice messaging application displays at least one of the plurality of instant voice messages stored in the message database."

142. In my opinion, the combination of *Griffin* and *Clark* discloses these features. For example, *Griffin* explains that the software (and related components) of each mobile terminal 100 is configured "to render text and graphical elements visible." (Ex. 1005, 3:15-23.) For example, as shown in Figure 11 of *Griffin* (reproduced below), terminal 100 can display a "chat history" containing stored inbound and outbound chat messages (e.g., element 1105 is a stored speech chat message). (*Id.*, 10:20-25; *see also id.*, 10:39-47.) *Griffin* explains that the displayed messages may be "locked" messages, which are messages "saved in permanent storage 305 and will always appear in the chat history display until it is unlocked." (*Id.*, 10:58-62; *see also id.*, 12:41-42 ("saving the inbound chat message in permanent storage 305").)

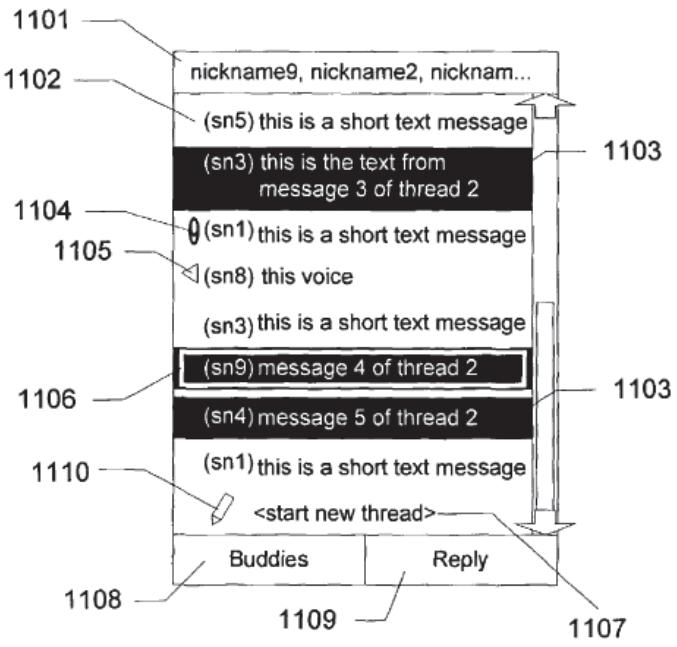


FIG. 11

143. Moreover, while viewing the chat history display, *Griffin* explains that "click-holding the right softkey presents the user options similar to those described in more detail with reference to FIG. 13." (*Id.*, 11:36-39.) Figure 13 of *Griffin* "illustrates a detail view display of an inbound chat message 500" (*id.*, 12:18-19, Fig. 3), from which the user is presented with "options such as playing back the available speech" (*id.*, 12:38-39).

144. *Griffin* also explains that server complex 204 may include a speech-to-text translator to convert the speech contained in a stored speech chat message to text, such that a stored speech chat message can be displayed as text on the display of 100. (*Id.*, 5:42-48, 10:39-47.)

145. As I discussed above with respect to claim element 1c (Part IX.A.1.d),

a person of ordinary skill in the art would have been motivated to configure terminal 100's storage of displayed messages to be a database like that described in *Clark*.

146. Therefore, the software (and related components) of the *Griffin-Clark* system/process would have operated to display at least one of the speech chat messages stored in the message database. (*See also* Part IX.A.1.)

4. Claim 8

a) "The system according to claim 1, wherein the instant voice message application generates an audible or visual effect indicating receipt of an instant voice message."

147. In my opinion, *Griffin* discloses these features. As I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application" in the form of software (and related components) stored and executed on terminal 100 to perform the speech chat messaging functionalities described in *Griffin*.

148. As shown in Figure 9 of *Griffin* (reproduced and annotated below), *Griffin* explains that when "an unheard…inbound chat message 500…has arrived at the terminal 100," the software (and related components) generates an "inbound chat message indicator 905" ("visual effect") that appears on the display and an "audible sound when the icon is first displayed" ("audible…effect"). (Ex. 1005, Fig. 9, 8:29-33.)

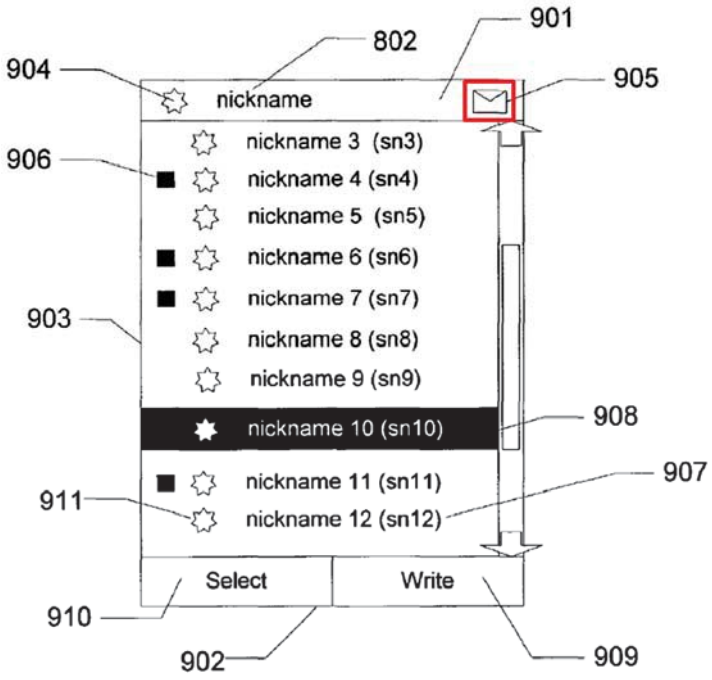


FIG. 9

B. The Combination of *Griffin*, *Clark*, and *Zydney* Discloses Every Feature of Claims 4 and 7

1. Claim 4

a) "The system according to claim 1, wherein the instant voice messaging application includes an audio file creation system creating an audio file for the instant voice message based on input received via an audio input device."

149. Neither the claims nor the specification of the '433 Patent describe the claimed "audio file creation system" in detail. For example, neither the claims nor the specification explains whether the audio file creation system is hardware, software, or a combination of hardware and software. Instead, claim 4 merely recites that the audio file creation system is some unspecified component and/or functionality for "creating an audio file for the instant voice message based on

input received via an audio input device."

150. Although the specification of the '433 Patent does not recite the term "audio file creation system," it does, however, identify "audio file creation 312." (Ex. 1001, 12:19-23.) Similar to the claim language, the specification does not describe the structure of audio file creation 312, but instead describes audio file creation 312 as some unspecified component and/or functionality that "creates an instant voice message as audio file 210, and is responsible for receiving input speech for the instant voice message from audio input device 212 or via network 204 and storing the input speech into audio file 210." (*Id.*, 12:42-46.) In my opinion, the combination of *Griffin*, *Clark*, and *Zydney* discloses a component and/or functionality that performs the same function as the claimed "audio file creation system."

151. As I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application" in the form of software (and related components) stored and executed on terminal 100 to perform the speech (i.e. voice) chat messaging functionalities described in *Griffin*.

152. *Griffin* explains that the software (and related components) operates to "capture speech from the microphone." (Ex. 1005, 4:30-45.) *Griffin* also explains that the captured speech is preferably "encoded using a voice codec 307, which may be implemented in software." (*Id.*, 4:52-53, Fig. 7.) Accordingly, the software

(and related components) includes a system for creating encoded speech data for speech chat messages based on input received via a microphone ("audio input device").

153. Referring to Figure 4 of *Griffin*, *Griffin* further explains that an outbound chat message 400 generated and transmitted by terminal 100 includes a message content field 406 for carrying the message content. (*Id.*, 6:39-44.) Although message 400 illustrated in Figure 4 includes text data ("hello") in message content field 406 for a text chat message, because *Griffin* discloses that message 400 may be a speech chat message, as I discussed above (Part IX.A.1.b), a person of ordinary skill in the art would have understood that message content field 406 for a speech chat message would include a user's speech (i.e., voice) recorded using terminal 100's microphone. This is further confirmed by *Griffin*'s explanation that an outbound chat message 400 may have a message type field 401 that indicates a message type of "text, speech, and so on," rather than just a message type of "TEXT," as recited for the message 400 illustrated in Figure 4 of *Griffin*. (Ex. 1005, 6:39-44; *see also id.*, 10:39-43.) Once the speech chat message is received by a recipient, the recipient can then select an option for "playing back the available speech" carried by message content field 406. (*Id.*, 12:38-47.)

154. While it was known at the time of the alleged invention that software-based voice codecs, like that described by *Griffin*, typically created audio files,

Griffin does not expressly disclose that the speech in the speech chat message is an "audio file." However, based on the teachings of *Zydney* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify the combined *Griffin-Clark* system/process to implement such features.

155. For example, *Zydney* explains that a client software agent in a sender device 22 generates a voice message by "digitally recording" the user's speech "using a microphone-equipped device." (Ex. 1006, 16:1-3.) This digital voice recording is then compressed and stored temporarily as an audio file ("digitized audio file") on the user device. For example, *Zydney* explains that the "software agent compresses the voice and stores the file temporarily on the PC." (*Id.*, 16:3-4.) *Zydney* also explains that the voice recording can be an MP3 audio file (*id.*, 39:16), and played using any "voice container enabled devices," including "audio play-back devices, such as MPEG Layer-3 (MP3) audio play-back devices." (*Id.*, 21:15-18.)

156. The software agent in *Zydney* then packs the digital audio file into a "voice container," which is a "container object" that contains "voice data or voice data and voice data properties." (*Id.*, 12:6-8; *see also id.*, 14:2-5, 23:1-11.) *Zydney* also explains that the voice container can be formatted using the Multipurpose Internet Mail Extension (MIME) standard, which "allows for non-textual messages

and multipart message bodies attachments to be specified in the message headers." (*Id.*, 19:7-10; *see also id.*, 19:13-20:9.) Once the voice container is downloaded and unpacked, the digital audio file is uncompressed so that the recipient "can hear the recording through the speakers or headset attached to their computer." (*Id.*, 16:13-15.)

157. Based on the disclosure of *Zydney* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process so that speech chat message 400 ("instant voice message") includes an object field (similar to message content field 406) including a digital audio file of speech data, similar to as described in *Zydney*. A person of ordinary skill in the art would have recognized that such a modification would have only required the substitution of one known and commonly-used technology for another. In particular, a person of ordinary skill in the art would have known that a digital audio file, similar to as described in *Zydney*, could have been used in place of the speech data described in *Griffin*, and that the result would have been a speech chat message having an object field including a digital audio file.

158. A person of ordinary skill in the art would have been especially motivated to make such a modification given that *Griffin* already discloses "encoded" speech data using a "voice codec" (Ex. 1005, 4:52-53), which was a

known way to output digital data. Similarly, *Griffin* discloses storing and communicating speech data in electronic form, such as content in message content field 406, as I discussed regarding Figure 4 of *Griffin*. *Griffin* also explains that chat messages may be encrypted or transformed (e.g., speech-to-text translation) (*id.*, 5:38-49) or compressed (*id.*, 7:11-17), which are processes that were known to be performed on digital data.

159. Additionally, one of ordinary skill in the art would have recognized that digital audio files were well known and commonly used in the art at the time of the alleged invention and had many well-known benefits. (*See, e.g.*, Ex. 1008, 8:26-27 (audio data file can be a "MP3-, WAV- or RealSystem Secure" file).)[7] For example, as a person of ordinary skill in the art knew, digital audio files (i) can be easily and efficiently stored, manipulated (e.g., encrypted, compressed), and played on various types of devices, (ii) can be easily and efficiently transmitted over digital networks, like the Internet, and (iii) are less susceptible to transmission errors, as compared for example with analog transmission. Accordingly, the use of digital audio files was known to provide many distinct advantages. This understanding, coupled with the teachings of *Griffin*/*Clark* and *Zydney*, would

[7] I am citing Exhibit 1008 in Part IX.B.1 only to show what was generally known in the field before late 2003. I am not relying on Exhibit 1008 as one of the references that discloses the features recited in this claim element.

have motivated a person of ordinary skill in the art to modify the combined *Griffin-Clark* system/process such that the speech in the speech chat message is a digital audio file.

160. A person of ordinary skill in the art would have also recognized that *Griffin*, *Clark*, and *Zydney* are in the same field of networked communication systems, describe solutions to similar problems in the field, and describe techniques that were well known, similar, and compatible. (Ex. 1005, 1:8-12, 3:59-65, 4:10-15; Ex. 1006, Abstract, 5:1-5, 10:11-18; Ex. 1007, 4:9-22, 4:25-48, 7:67-8:13, 8:31-44.) As such, a person of ordinary skill in the art would have been encouraged to look to the teachings of *Zydney* to complement the teachings of *Griffin* and *Clark*, and would have recognized that the modification described above would have been well within the capabilities of such a person.

161. Also, such a person would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of *Griffin*'s system/process related to instant voice messaging. (*See*, *e.g.*, my discussion in Part V.)

2. Claim 7

a) "The system according to claim 1, wherein the instant voice messaging application displays an indicia for each of the one or more potential recipients indicating whether the potential recipient is currently available to receive an instant voice message."

162. In my opinion, the combination of *Griffin*, *Clark*, and *Zydney* discloses these features. For example, as I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* explains that the software (and related components) stored and executed on terminal 100 ("instant voice messaging application") displays a "buddy list" having entries each representing a "buddy" that can be selected for sending a speech chat message ("potential recipients") generated by terminal 100.

163. As shown in Figure 9 of *Griffin* (reproduced and annotated below), each entry in the displayed "buddy list" includes a "presence status 911" icon indicating whether a potential recipient is currently available to receive a speech (i.e. voice) chat message based on the presence status 702 corresponding to the recipient (e.g., status may be "Available" or "Off"). (Ex. 1005, 8:47-52; *see also id.,* 5:11-30 ("status" is "an indicator of whether the recipient is ready to receive the particular type of message"), 8:24-28 (describing "presence status 904"—which is identical to presence status 911, but corresponds to the user of terminal 100—as an "icon that varies in appearance depending [on] the presence status

702”).)

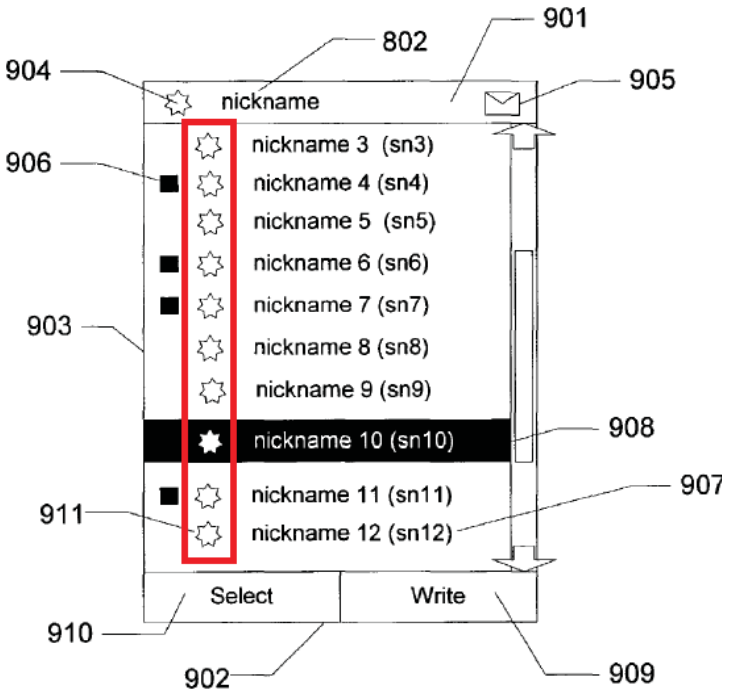


FIG. 9

164. *Griffin* explains that server complex 204’s presence manager 302 maintains the current status 702 of each potential recipient terminal 100 in a table with “presence data records 700.” (*Id.*, 4:62-5:2, 5:11-30, Fig. 7.) As shown in Figure 7 of *Griffin* (reproduced and annotated below), each presence data record includes a status indicator 702 of a terminal 100 (e.g., “Available” or “Off”), which is “an indicator of whether the recipient is ready to receive the particular type of message, speech and/or text messages only, etc.” (*Id.*, 5:11-30.)

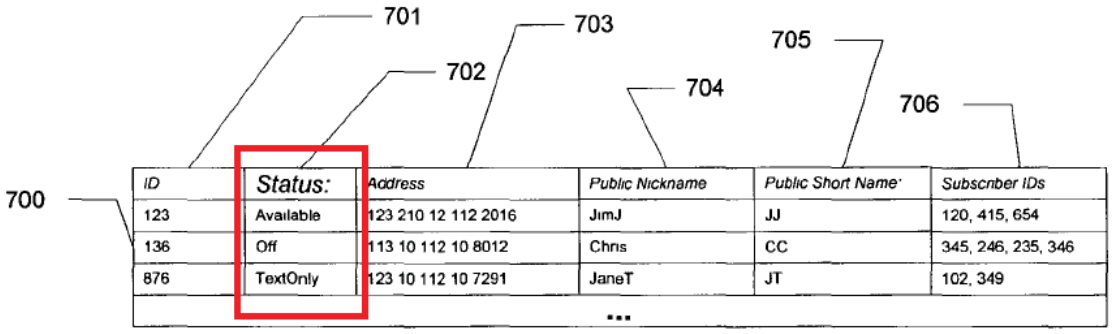


FIG. 7

165. In addition to current status 702, each presence data record 700 includes a user's identifier 701, current terminal address 703, public display identifier (e.g., nickname) 704, public short name 705, and identifiers 706 of other users who subscribe to the presence information of the user corresponding to the presence data record. (*Id.*, 5:15-22.) *Griffin* explains that presence manager 302 tracks changes to each terminal's current status 702 and informs other terminals of such changes in the form of a buddy list update message 600. (*Id.*, 5:15-22 (presence manager 302 keeps a record of each terminal 100's "current status 702"), 5:27-30 (if "presence status 702 changes, the presence manager 302 sends a buddy list update message 600 to all the subscribers"), 7:39-42, 7:48-49 (buddy list update message 600's "recipient status field 607 indicates the value of the presence status 702"), 8:1-8, Fig. 6.)

166. Accordingly, presence manager 302 maintains and provides the current status 702 of each terminal 100 (e.g., "Available" or "Off"), which is used

by terminals 100 to determine the appearance of the "presence status 911" icon corresponding to each entry in the buddy list.

167. *Griffin* does not, however, provide additional details regarding what precisely current status 702 indicates. For example, it is not specified whether "Off" indicates that terminal 100 is disconnected from server complex 204, that terminal 100 is connected to server complex 204 but the user of terminal 100 is not accepting messages, or some other state. Likewise, it is not specified whether "Available" simply indicates that terminal 100 is connected to server complex 204, that terminal 100 is connected to server complex 204 and that the user of terminal is accepting messages, or some other state.

168. Nevertheless, based on the teachings of *Zydney* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to configure status 702 to include connectivity information indicating whether client 100 is currently connected to server complex 204 ("currently available"). By combining the teachings of *Griffin*, *Clark*, and *Zydney* in such a way, presence status 911 constitutes indicia indicating whether the potential recipient is currently connected ("currently available"), because the appearance of presence status 911 depends on the presence status 702 corresponding to the recipient.

169. For example, *Zydney* describes a system having a central server 24

that facilitates instant voice messaging between a sender agent 22 and a recipient agent 28 over a packet-switched network depending on agent connectivity status. (Ex. 1006, 1:2-3, 10:11-11:20, Figs. 1-2.) *Zydney* explains that central server 24 maintains and conveys the connectivity status of each agent in the network. (*Id.*, 13:12-14 ("Central Server…[will] maintain and provide the status of all software agents"), 14:6-9 ("It will track and maintain the status of all software agents."), 14:19-22, 30:13-15.) According to *Zydney*, an agent's connectivity status includes "the core states of whether the recipient is online or offline, but also offers related status information, for example whether the recipient does not want to be disturbed." (*Id.*, 14:17-15:1, 32:9-33:2.) For instance, if an agent is "logged onto the system" and available for messaging, the agent's connectivity status is "Available," but, if the agent is logged off of the system, the agent's connectivity status is "Not logged on":

> After the software agent has logged onto the system and has been authenticated they will have access to the system.
>
> …
>
> Software agents may also be in other states that will be communicated to the other logged on software agents. These states would be the following: **Available** - available for messages or live talking; **Do Not Disturb** - available for messages but not live talking; **Not Available** - system is logged

> on but not accepting messages or live talk; **Will return** - Stepped out of the office and is accepting messages; **Out to Lunch** - Stepped out to lunch and is accepting messages; **Not logged on** – Message will be sent to the message server[;] Forward to Telephone; Forward to PDA; and, Other states - defined as needed.

(*Id.*, 32:9-33:1 (emphasis added).)

170. A person of ordinary skill in the art at the time of the alleged invention would have been motivated to consider and combine the teachings of the *Griffin-Clark* combination and the teachings of *Zydney* I discussed above. One of ordinary skill in the art would have recognized that implementing features similar to those described in *Zydney* with the *Griffin-Clark* combination would have resulted in the combined *Griffin-Clark* system's presence manager 302 maintaining connection information for each terminal in presence data records 700, such that status 702 indicates whether terminal 100 is currently connected to server complex 204, and sending this information in a buddy list update message to terminals 100 for use in determining the appearance of the presence status 911 icons. A person of ordinary skill in the art would have recognized that combined the teachings of the *Griffin-Clark* combination and *Zydney* in such a way would have simply required the *Griffin-Clark* combination to maintain additional information regarding the status of terminals 100, and therefore could have been achieved using known

techniques and without changing the principal functionalities that the combined features disclosed by the *Griffin-Clark* combination and *Zydney* were known to perform separately, including the functionalities described in *Griffin*, *Clark*, and *Zydney*.

171. In my opinion, there are several reasons why a person of ordinary skill in the art would have been motivated to combine these teachings in such a way, which I discuss below.

172. First, *Griffin* already discloses a system that maintains information regarding the availability of each terminal 100 to receive speech (i.e., voice) chat messages (Ex. 1005, 5:15-30, 6:61-7:11), and it was well known and common in instant messaging systems at the time of the alleged invention for such information to include connection information indicating whether there is a current connection. (*See, e.g.*, my discussion in Part V.A.) In fact, a network/server connection was known to be used for server-based instant messaging systems like that described in *Griffin*, and thus a person of ordinary skill in the art would have considered configuring *Griffin*'s system to maintain information regarding connectivity in implementing such an instant messaging system. One of ordinary skill in the art would have recognized that instant messaging systems at the time of the alleged invention maintained and used such information to determine whether communication with a potential recipient was possible, and conveyed such

information to interested users for the same purpose. (*See, e.g.*, my discussion in Part V.A.) Therefore, as a market-driven and natural extension of *Griffin*'s teachings, a person of ordinary skill in the art would have recognized the benefits in configuring status 702 to indicate whether terminal 100 is currently connected to server complex 204, and had the capability, knowledge, and motivation to do so.

173. Second, *Zydney* provides several express motivations for implementing its teachings regarding maintaining connection information in a system/process like that disclosed by the *Griffin-Clark* combination. For example, similar to the teachings of *Griffin*, *Zydney* explains that connectivity status can be maintained and conveyed to others so that the system and its users can conveniently determine which agents are currently able to exchange messages and proceed accordingly. (Ex. 1006, 14:20-15:1, 14:9-11, 16:7-17.)

174. *Zydney* further explains that, by maintaining and conveying connectivity status, agents can better determine a mode of communication that is appropriate for the current connectivity status, which improves the overall messaging experience. (*Id.*, 14:19-20 ("The agent permits a number of distinct modes of communication based on the status of the recipient."), 15:3-21.) For example, if a recipient is connected and available, "the originator can either begin a real-time 'intercom' call which simulates a telephone call or a voice instant messaging session, which allows for an interruptible conversation." (*Id.*, 15:8-14.)

If a recipient is not connected, "the originator can either begin a voice mail conversation that will be delivered the next time the recipient logs in or can be delivered to the recipient's e-Mail." (*Id.*, 15:15-21.) Therefore, one of ordinary skill in the art would have considered implementing such teachings and recognized that doing so would have provided similar advantages.

175. Additionally, a person of ordinary skill in the art would have been encouraged to look to *Zydney* to complement the features of *Griffin* and *Clark* for reasons similar to those that I discussed above with respect to claim 4. (*See* Part IX.B.1.)

176. Given these teachings and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify the *Griffin* system/process in the way that I discussed above. Also, such a person would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of *Griffin*'s system/process related to instant voice messaging. (*See*, *e.g.*, my discussion in Part V.)

C. The Combination of *Griffin*, *Clark*, and *Vaananen* Discloses Every Feature of Claim 5

1. Claim 5

a) "The system according to claim 1, wherein the instant voice messaging application includes an encryption/decryption system for encrypting the instant voice messages to be transmitted over the packet -switched network and decrypting the instant voices messages received over the packet-switched network."

177. Neither the claims nor the specification of the '433 Patent describe the claimed "encryption/decryption system" in detail. For example, neither the claims nor the specification explains whether the encryption/decryption system is hardware, software, or a combination of hardware and software. Instead, claim 19 merely recites that the encryption/decryption system is "for encrypting…and decrypting." Similarly, while the specification of the '433 Patent does not recite the term "encryption/decryption system," consistent with the claim language, it does describe an "encryption/decryption" that provides for "encrypting/decrypting of outgoing/incoming audio files." (Ex. 1001, 12:48-52; *see also id.*, 12:19-23, 11:15-33.) Consistent with this description, it is my opinion that the combination of *Griffin*, *Clark*, and *Vaananen* discloses a component and/or functionality that performs the same function as the claimed "encryption/decryption system."

178. For example, as described above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application"

in the form of software (and related components) stored and executed on terminal 100 to perform the instant speech chat messaging functionalities described in *Griffin*.

179. *Griffin* also explains that its system/process may include an "encryption server" to "secure the privacy of [message] content" (Ex. 1005, 5:38-40), but does not appear to explicitly disclose that the software (and related components) of mobile terminal 100 includes an encryption/decryption system for encrypting outbound speech chat messages for transmission and decrypting received inbound speech chat messages.

180. However, based on the teachings of *Vaananen* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify the system/process of the *Griffin-Clark* combination to implement such features.

181. For example, *Vaananen* describes a client/server arrangement for instant voice messaging that includes subscriber terminals, a network server, and recipient terminals. (Ex. 1008, 1:3-8, 5:1-30.) *Vaananen* discloses that a user of a subscriber terminal may generate and transmit a message by first choosing a recipient from an electronic phone book and recording a message, which is stored in a packet-switched data format. (*Id.*, 2:21-29.) When the recording is finished, the data file may be encrypted prior to being sent to the recipient. (*Id.*, 2:25-3:2

("[C]ryptography methods may be employed with the data file and/or packet stream.").) *Vaananen* further explains that upon receiving the data file, the recipient terminal may choose to automatically play the voice message. (*Id.*, 18:4-6.) To do so, the recipient terminal will decrypt the file prior to opening the message. (*Id.*, 18:4-10 ("Typically, this means opening the file containing the message, and possibly employing decoding and/or decryption methods in some embodiments").)

182. Based on these teachings of *Vaananen* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify the system/process of the *Griffin-Clark* combination such that the software (and related components) ("instant voice messaging application") operates to encrypt/decrypt speech chat messages communicated to/from packet-based network 203 (similar to that described by *Vaananen*) to secure the privacy of message content, an explicit motivation identified in *Griffin*. (Ex. 1005, 5:38-40.)

183. For example, a person of ordinary skill in the art would have recognized that such a modification would have been a straightforward combination of known technologies, including messaging systems, similar to as described in *Griffin*, and encryption/decryption of communicated messages, similar to as described in *Vaananen*. A person of ordinary skill in the art would have been

able to combine these known technologies using known methods and without changing the principal functionalities that the combined features disclosed by *Griffin* and *Vaananen* were known to perform separately, including the functionalities described in *Griffin* and *Vaananen*.

184. In fact, techniques for encrypting/decrypting speech messages for secure communications were well known and commonly used prior to the alleged invention, as demonstrated by *Griffin* and *Vaananen*. Additionally, such a modification would have been consistent with *Griffin*'s explanation that server complex 204 may include "encryption servers" to "secure the privacy of [message] content." (Ex. 1005, 5:38-40.) For example, to realize the secure communication of message content, *Vaananen*'s teachings could have been implemented such that the software (and related components) of terminal 100 in the *Griffin-Clark* combination is configured to encrypt and transmit outbound speech chat messages to server complex 204 for handling by the encryption servers and decrypt inbound speech chat messages received from server complex 204 that were encrypted by the encryption servers.

185. Furthermore, a person of ordinary skill in the art would have been encouraged to look to *Vaananen* to complement the teachings of the *Griffin-Clark* combination, because these references are in the same field of networked communication systems, describe solutions to similar problems in the field, and

describe techniques that were well known, similar, and compatible. (Ex. 1005, 1:8-12, 3:59-65, 4:10-15; Ex. 1007, 4:9-22, 4:25-48, 7:67-8:13, 8:31-44; Ex. 1008, 1:3-8, 5:1-30.) Also, such a person would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of the combined *Griffin-Clark* system/process. (*See*, *e.g.*, my discussion in Part V.)

D. The Combination of *Griffin* and *Zydney* Discloses Every Feature of Claims 9, 11, 14-17, 25, and 26

1. Claim 9

a) [9pre] "A system, comprising:"

186. I understand that "[a] system" is the preamble of claim 9. I also understand that a preamble may not be a limitation. For purposes of this declaration, however, I have been asked to assume that the preamble of claim 9 is a limitation. Based on that assumption, it is my opinion that *Griffin* discloses these features for reasons similar to those that I discussed above with respect to claim element 1pre. (*See* Part IX.A.1.a.)

b) [9a] "an instant voice messaging application comprising: a client platform system for generating an instant voice message;"

187. In my opinion, *Griffin* discloses these features for reasons similar to those that I discussed above with respect to claim element 1a. (*See* Part IX.A.1.b.)

c) [9b] "a messaging system for transmitting the instant voice message over a packet-switched network, and"

188. In my opinion, *Griffin* discloses these features for reasons similar to those that I discussed above with respect to claim element 1a. (*See* Part IX.A.1.b.)

d) [9c] "wherein the instant voice message application attaches one or more files to the instant voice message."

189. In my opinion, the combination of *Griffin* and *Zydney* discloses these features. As I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application" in the form of software (and related components) stored and executed on terminal 100 to perform the speech chat messaging functionalities described in *Griffin*.

190. *Griffin* explains that when a user operates mobile terminal 100 to generate an outbound speech (i.e. voice) chat message to a recipient, the software (and related components) provides the user with the option of attaching files (e.g., documents, files, images, ring tones, icons) to the message. (Ex. 1005, 12:63-66; *see also id.*, 5:42-48 ("attachments (e.g., ring-tones, images, and so on)"), 6:39-52 (an outbound speech chat message may have "a number of attachments 407"), 7:22-25 (an inbound speech chat message "comprises the original outbound message"), 10:53-58 ("an attachment indicator"), Fig. 4.) The software (and related components) also oversees retrieving, sending, receiving, and storing speech chat messages and attached files. (*Id.*, 5:42-48, 6:50-52, 10:53-58, 12:63-66.)

191. While *Griffin* describes a system for attaching one or more files to an outbound chat message and explains that an outbound chat message may be a speech chat message, *Griffin* does not explicitly describe attaching one or more files to a speech chat message. However, in view of the teachings of *Griffin* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process to implement such features because such a person would have recognized that files could be attached to text and speech chat messages in the same way and for the same reasons and advantages (e.g., the ability to collectively send one or more file along with a chat message to a recipient, and/or the ability to concurrently receive one or more files along with a chat message by the recipient). One of ordinary skill in the art would not have faced any technical impediments in implementing such a configuration.

192. A person of ordinary skill in the art would have also been motivated to modify *Griffin*'s system/process to implement such features in view of the teachings of *Zydney*, which describes a software agent that operates to address, pack, and send a message in a voice container. (Ex. 1006, 14:2-5.) In addition to a voice message recorded using a microphone (*Id.*, 10:20-11:3, 16:1-4, 20:11-14, 21:14-16), *Zydney* discloses including attachments in the voice container (*id.*, 4:7-9, 19:1-12, 22:19-20, 35:15-22, Figs. 6, 16-18 ("Associating the multimedia file

with the originator's voice container.")). As explained in *Griffin*, one "important application of the present invention system and method for voice exchange and voice distribution is attaching other media to the voice container to provide a richer communications environment." (*Id.*, 19:2-4.) As one example, *Zydney* describes attaching "digitized greeting cards…to present a personalized greeting," or "other data types," to the voice container. (*Id.*, 19:1-7.) *Zydney* also describes attaching files to voice containers using the Multipurpose Internet Mail Extension (MIME) format, which was a well-known and commonly used industry standard that allows for attachments including "binary, audio, and video" files to be specified in message headers. (*Id.*, 19:6-20:9.)

193. Based on these teachings and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a skilled person would have been motivated to modify *Griffin*'s system/process such that the software (and related components) enables the attachment of one or more files to a speech chat message (similar to as described in *Zydney*) because it would have enhanced the capabilities and convenience of *Griffin*'s system/process by providing users with the ability to collectively send and receive one or more files with a speech chat message instead of needing to send and receive the files and messages separately. Additionally, as explained in *Zydney*, the ability to attach files to an instant voice message provides a "richer communications environment."

(*Id.*, 19:2-4.)

194. A person of ordinary skill in the art would have recognized that such a modification would have been nothing more than a straightforward combination of a system/process for transmitting/receiving speech chat messages, similar to as described in *Griffin*, and a system for attaching one or more files to such messages, similar to as described in *Zydney*, and that the result of the combination would have been a system for attaching one or more files to speech chat messages. A person of ordinary skill in the art would have also recognized that the combined features disclosed by *Griffin* and *Zydney* would have performed the same principal functionalities that each was known to perform separately, including the functionalities described in *Griffin* and *Zydney*. In particular, as modified, *Griffin*'s system/process would perform the same function of transmitting/receiving speech chat messages in the same way described in *Griffin*, with the added ability to attach one or more files to such messages. In fact, as I discussed above, *Griffin* already describes attaching files to a chat message, and *Zydney* similarly discloses attaching files to a voice message. Therefore, such a modification would have been a commonsense and natural extension of *Griffin*'s teachings.

195. Additionally, because both *Griffin* and *Zydney* are in the same technical field of network communication systems and teach solutions to common problems in the field, a person of ordinary skill in the art would have been

encouraged to look to *Zydney* to complement the teachings of *Griffin*. Indeed, both *Griffin* and *Zydney* disclose systems/processes to facilitate instant voice messaging over a packet-switched network using technologies that were well known, similar, and compatible. (Ex. 1005, 1:8-12, 3:59-65, 4:10-15; Ex. 1006, Abstract, 5:1-5, 10:11-18.) Also, such a person would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of *Griffin*'s system/process related to instant voice messaging. (*See*, *e.g.*, my discussion in Part V.)

2. Claim 11

a) "The system according to claim 9, wherein the instant voice messaging application displays one or more controls for audibly playing the instant voice message."

196. In my opinion, *Griffin* discloses these features. As I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application" in the form of software (and related components) stored and executed on terminal 100 to perform the speech chat messaging functionalities described in *Griffin*.

197. In my opinion, *Griffin* also discloses that the software (and related components) displays controls for audibly playing a speech chat message. For example, *Griffin* explains that each mobile terminal 100 "comprises a speaker 103

for rendering signals, such as received speech, audible." (Ex. 1005, 3:20-22.) As shown in Figure 13 of *Griffin* (reproduced and annotated below), *Griffin* discloses that after receiving an inbound chat message 500, the selected recipient of the inbound speech message can "play[] back the available speech" ("audibly playing the instant voice message") by click-holding the right softkey label 607[8] (labeled "write"), which "presents the user options such as playing back the available speech; viewing or storing available attachments; locking the entry in the chat history display; saving the inbound chat message in permanent storage 305; moving to the next or previous chat message, replaying to only the sender or one of the recipients (i.e., initiating a new thread), and so on." ("controls"). (*Id.*, 12:18-44.)

[8] Softkey label "1307" in Figure 13 of *Griffin* is misidentified in the specification as "607." One of ordinary skill in the art would have understood from reviewing the disclosure of *Griffin* that "607" should recite "1307."

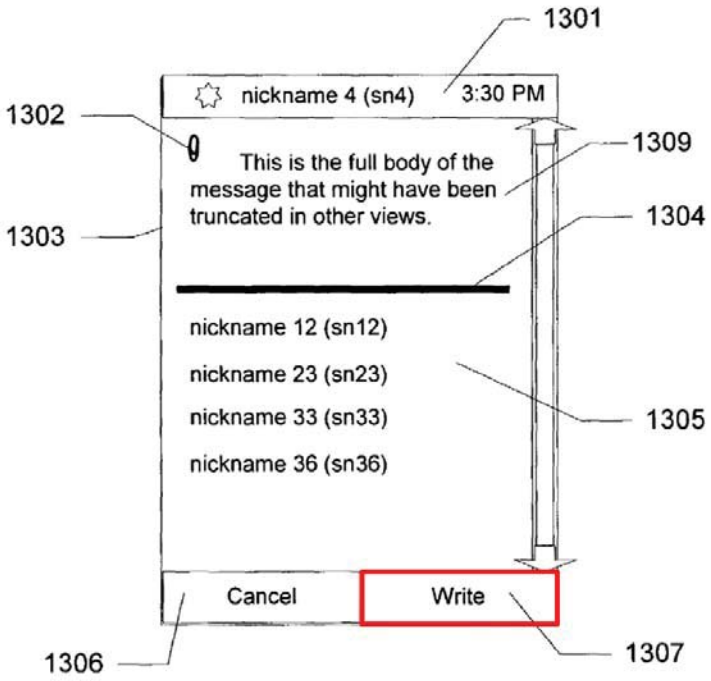


FIG. 13

198. While these portions of *Griffin* refer to the instant voice messaging application on the recipient's terminal 100, and not the sender's (originating) terminal 100, in reading *Griffin*, a person of ordinary skill in the art would have understood that the same features described in these portions of *Griffin* would have also existed on the sender's terminal 100 for similarly controlling messages or replies sent to the sender's terminal 100. For example, *Griffin* explains that outbound speech chat messages sent from the sender's terminal 100 are preferably echoed back to the sender's terminal 100. (Ex. 1005, 10:25-30.) In this way, the sender's terminal 100 would receive the outbound message in the same way any recipient would receive the message and would display the same controls for

playing back speech.

3. Claim 14

a) "The system according to claim 9, wherein the instant voice messaging application invokes a document handler to create a link between the instant voice message and the one or more files."

199. Neither the claims nor the specification of the '433 Patent describe the claimed "document handler system" in detail. For example, neither the claims nor the specification explains whether the document handler system is hardware, software, or a combination of hardware and software. Instead, claim 14 merely recites that the document handler is some unspecified component and/or functionality "to create a link between the instant voice message and the one or more files." The specification of the '433 Patent does not even recite the term "document handler system." Similar to the claim language, however, the specification describes a "document handler" as some unspecified component and/or functionality that "oversee[] the retrieving, sending, receiving and storing of one or more documents (or files) attached to instant voice messages." (*See* Ex. 1001, 12:28-32; *see also id.*, 12:19-23, 13:35-40.) In my opinion, the combination of *Griffin* and *Zydney* discloses a component and/or functionality that performs the same function as the claimed "document handler system."

200. As I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice messaging application" in the form of

software (and related components) stored and executed on terminal 100 to perform the speech chat messaging functionalities described in *Griffin*. Moreover, as I explained above with respect to claim element 9c (Part IX.D.1.d), *Griffin* explains that when a user operates mobile terminal 100 to generate an outbound chat message to a recipient, the software (and related components) provides the user with the option of attaching files (e.g., documents, files, images, ring tones, icons) to the message, which discloses the claimed "document handler." (Ex. 1005, 12:63-66; *see also id.*, 5:42-48, 6:50-52, 10:53-58.)

201. As I also explained above with respect to claim element 9c (Part IX.D.1.d), although *Griffin* does not explicitly describe attaching one or more files to a speech chat message, in view of *Zydney* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process to enable the attachment of one or more files to a speech chat message. *Zydney* explains that a user may specify a file to "associate" with a voice container. (Ex. 1006, Fig. 6; *see also id.*, Figs. 16 ("associating the multimedia file with the originator's voice container"), 17-18.) As I explained regarding claim 4 (Part IX.B.1.a), *Zydney* describes formatting instant voice messages using the MIME standard, which "allows for non-textual messages and multipart message bodies attachments to be specified in the message headers." (Ex. 1006, 19:7-10; *see also*

id., 19:13-20:9 (expressly incorporating by reference several documents regarding "technical information on the MIME protocol," including RFC 1521).)

202. While neither *Griffin* nor *Zydney* state that attaching a file to a message creates a "link," based on the disclosures of *Griffin* and *Zydney*, a person of ordinary skill in the art would have understood that attaching one or more files to a speech chat message ("instant voice message") creates an association between the message and the file, which in my opinion discloses a "link" between the message and the file, as recited in this claim element. Indeed, creating a link in such a way was well known in the art, as acknowledged by the '433 Patent, which explains that making "linkages" is "enabled conventionally" using "flags," "drag-and-drop and the like." (Ex. 1001, 13:35-40.) Thus, the '433 Patent does not confine the term "link" to a particular technique, but instead contemplates various known techniques for creating an association between messages and files, including the conventional techniques described in *Griffin* and *Zydney*. Additionally, as I discussed above, *Zydney* describes formatting voice containers using the MIME standard, which provides another conventional way to create a link between a message and a file, as a MIME message may include multiple parts that are associated to one another, such as by one or more internal "links," as

described in RFC 2387. (Ex. 1016.)[9] A person of ordinary skill in the art at the time of the alleged invention would have been motivated to use a similar approach to create an association between speech chat messages and files in the combined *Griffin-Zydney* system/process so that recipients are aware of the association between messages and files to facilitate proper handling.

4. Claim 15

a) "The system according to claim 9, wherein the instant voice messaging application displays the attachment."

203. In my opinion, the combination of *Griffin* and *Zydney* discloses these features. As I explained above with respect to claim 9 (Part IX.D.1), the combination of *Griffin* and *Zydney* discloses software (and related components) ("instant voice message application") that operates to generate an outbound speech chat message and attach one or more files to the message.

204. *Griffin* also explains that after receiving an inbound chat message 500 containing an attachment, the selected recipient of the inbound speech message can "view[]…available attachments" by click-holding the right softkey label 607 (labeled "write"). (*Id.*, 12: 39-40; *see also* 12:24-26 (inbound speech message

[9] I am citing Exhibit 1016 in Part IX.D.3 only to show what was generally known in the field before late 2003. I am not relying on Exhibit 1016 as one of the references that discloses the features recited in this claim element.

includes an indicator that notifies user of the availability of any attachments).)

205. As I described regarding claim 11 (Part IX.D.2.a), while these portions of *Griffin* refer to the instant voice messaging application on the recipient's terminal 100, and not necessarily the sender's (originating) terminal 100, a person of ordinary skill in the art would have understood that the same features described in these portions of *Griffin* would have also existed on the sender's terminal 100 to display attachments to messages sent to sender's terminal 100. For example, *Griffin* explains that outbound speech chat messages sent from the sender's terminal 100 are preferably echoed back to the sender's terminal 100. (Ex. 1005, 10:25-30.) In this way, the sender's terminal 100 would receive the outbound message in the same way any recipient would receive the message and would provide the same ability to display available attachments.

5. Claim 16

a) "The system according to claim 9, wherein the instant voice messaging application displays one or more controls for performing at least one of reviewing, re-recording or deleting the instant voice message."

206. In my opinion, *Griffin* discloses these features. For example, as shown in Figure 11 of *Griffin* (reproduced below), *Griffin* explains that terminal 100's software (and related components) ("instant voice messaging application") can display a "chat history" containing stored inbound and outbound chat messages (e.g., element 1105 is a stored speech chat message). (Ex. 1005, 10:20-25; *see also*

id., 10:39-47.) Additionally, server complex 204 may include a speech-to-text translator to convert the speech contained in a speech chat message to text, such that a stored speech chat message can be displayed as text on the display of 100. (*Id.*, 5:42-48, 10:39-47.) Thus, displaying the chat history allows for reviewing speech chat messages ("instant voice messages").

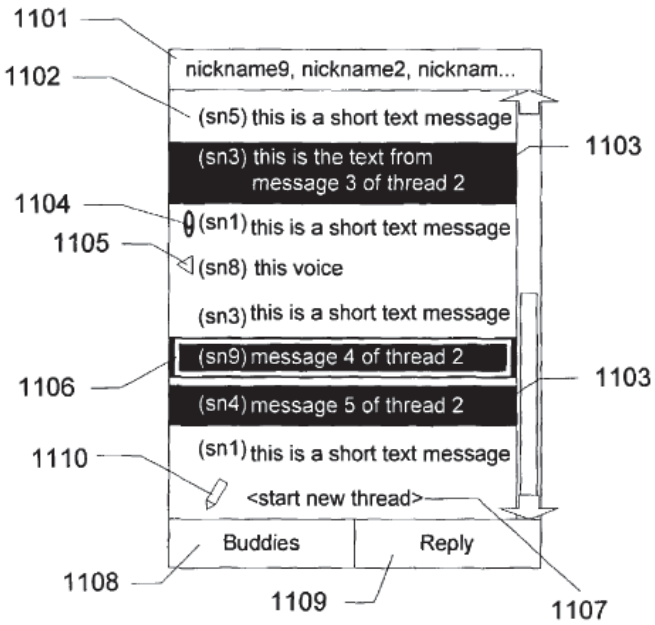


FIG. 11

207. *Griffin* explains that the chat history is displayed in response to a user request to view the user's chat history by, for example, clicking a displayed "softkey." (*Id.*, 9:5-13 (activating the displayed "left softkey" causes the software to present an option to "switch to other displays (e.g., chat history display[])]"), 9:17-20 ("If no buddies are selected, the right softkey label is 'chat.' Single-clicking or click-holding the right softkey in this context switches the user to chat

history display described in more detail with reference to FIG. 11.").) The softkey for displaying the chat history therefore discloses displaying controls for reviewing speech chat messages.

208. Moreover, while viewing the chat history display, *Griffin* explains that "click-holding the right softkey presents the user options similar to those described in more detail with reference to FIG. 13." (*Id.*, 11:36-39.) Figure 13 of *Griffin* "illustrates a detail view display of an inbound chat message 500" (*id.*, 12:18-19, Fig. 3), from which the user is presented with "options such as playing back the available speech" (*id.*, 12:38-39). Additionally, as I noted above, *Griffin* explains that a speech-to-text translator may be used to display the speech contained in a speech chat message as text. (*Id.*, 5:42-48, 10:39-47.) Therefore, in my opinion, the softkey displayed in the chat history for displaying the details of a message also discloses displaying controls for reviewing speech chat messages, which in turn displays additional controls for reviewing the messages in the form of displayed options for audibly playing a speech chat message, as I discussed above with respect to claim 11 (Part IX.D.2).

6. Claim 17

a) "The system according to claim 9 further comprising an instant voice messaging server receiving the instant voice message and an indication of one or more intended recipients of the instant voice message."

209. The language of this claim does not provide any detail about what an "instant voice messaging server" is beyond the functions that it performs—i.e., "receiving the instant voice message and an indication of one or more intended recipients of the instant voice message." Referring to Figure 4, the specification of the '433 Patent describes the "IVM server 202" as a "general-purpose programmable computer" having various generic components and/or functionalities, which work in conjunction to provide the instant voice messaging features described in the specification. (Ex. 1001, 13:41-65; *see also id.*, Fig. 4). Consistent with this disclosure, it is my opinion that *Griffin*'s "server complex 204" discloses an "instant voice message server" as recited in claim 17.

210. For example, *Griffin* explains that the server complex 204 comprises a plurality of networked server computers programmed to perform the speech chat messaging functionalities described in *Griffin*, including the functionalities performed by the "instant voice messaging server" recited in claim 17. (Ex. 1005, 3:65-4:5; *see also id.*, 4:62-5:17 (describing components and functionalities of server complex 204, including components/functionalities for receiving outbound speech chat messages and determining message recipient user terminals 100 and

their availability), 6:56-7:11 (describing components and functionalities of server complex 204, including components/functionalities for determining the availability of recipient user terminals 100 and composing and transmitting inbound speech chat messages to available recipients).

211. In particular, *Griffin* explains that an outbound speech (i.e. voice) chat message 400 ("instant voice message") is transmitted by terminal 100 and received by server complex 204. (Ex. 1005, 3:51-61 ("The terminals 100 communicate with at least one chat sever complex 204 by wirelessly transmitting data to a corresponding wireless carrier's infrastructure 202….The data packets are sent on to a communication network 203 that forwards them onto the server complex 204."), 4:11-15 ("Preferably, when a plurality of users chat together (i.e., send chat messages from one terminal 100 to another), data comprising text, speech, and/or graphical messages (or some combination thereof) are sent to the server complex 204."), 4:44-54 (outbound and inbound speech chat messages "pass through the network interface 306 that provides connectivity between the terminal and the data network"), 4:62-65 ("speech and text messages…flow[] into the server complex 204 preferably via the router 301"), 5:2-5, 9:20-31 (by pushing the push-to-talk button 101, terminal 100 "is able to record and transmit a speech message"), 12:61-13:2("the right softkey causes the software to build and send an outbound text message").)

212. Each outbound speech chat message received by server complex 204 includes "an indication of one or more intended recipients of the instant voice message," as recited in claim 17. For example, as shown in Figure 4 of *Griffin* (reproduced and annotated below), *Griffin* explains that each outbound chat message 400 sent from terminal 100 includes a plurality of recipient identifiers in field 403. (Ex. 1005, 6:37-41, Fig. 4.)[10] According to *Griffin*, "the first recipient identifier in the recipient identifier list 403" is "the sender's identifier." (*Id.*, 6:56-59.) The other recipient identifiers in field 403 identify one or more terminals 100 and users that are intended recipients of message 400 ("indication"). (*Id.*, 6:59-61.) The server complex 204 sends inbound speech chat messages 500 to the identified recipients. (*Id.*, 5:2-11, 6:56-7:11.)

[10] While Figure 4 of *Griffin* illustrates an outbound text chat message 400, for the reasons that I discussed previously (Part IX.A.1.a), *Griffin* explains that chat message 400 may be a speech (i.e., voice) chat message, which *Griffin* explains is transmitted in the same way. (Ex. 1005, 3:51-61, 4:11-18, 4:44-54, 4:62-65, 5:2-15, 6:56-7:11, 7:18-25, 9:20-31, 12:61-13:2.)

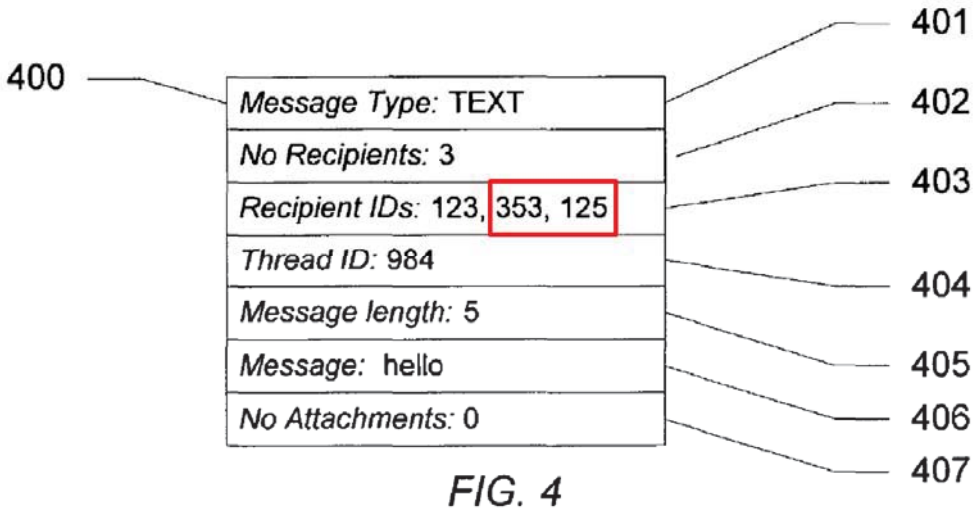


FIG. 4

7. Claim 25

a) "The system of claim 17 wherein the instant voice messaging server determines availability of the one or more intended recipients for receipt of the instant voice message."

213. It is my opinion that the combination of *Griffin* and *Zydney* discloses these features. As I explained above with respect to claim 17 (Part IX.D.6), *Griffin* discloses the claimed "instant voice messaging server" in the form of server complex 204 programmed to perform the speech chat messaging functionalities described in *Griffin*, including determining the availability of intended recipients of speech chat messages.

214. For example, an outbound speech chat message "flows into the server complex 204 preferably via the router 301," which "directs the outbound chat message 400 toward a message broadcaster 303 that determines the plurality of inbound chat message copies…needed and their destinations." (Ex. 1005, 4:62-

5:5.) Message broadcaster 303 (i) decomposes received outbound chat messages to determine target recipients of the message by locating the list of recipient identifiers 402 (*id.*, 6:56-61), (ii) composes inbound chat messages for each available target recipient (*id.*, 6:61-7:1), and (iii) sends the inbound chat message to each available target recipient (*id.*, 7:8-11). (*See also id.*, 5:2-15.) Message broadcaster 303 determines the availability of each target recipient by "quer[ying] a presence manager 302 to establish the recipients' current status 702." (*Id.*, 5:9-15; *see also id.*, 6:61-7:11.)

215. As I discussed above with respect to claim 7 (Part IX.B.2), *Griffin* explains that server complex 204's presence manager 302 maintains the current status 702 of each terminal 100 in a table with "presence data records 700." (*Id.*, 4:62-5:2, 5:11-30.) As shown in Figure 7 of *Griffin*, each presence data record includes a status indicator 702 of a terminal 100 (e.g., "Available" or "Off"), which is "an indicator of whether the recipient is ready to receive the particular type of message, speech and/or text messages only, etc." (*Id.*, 5:11-30.) Accordingly, *Griffin*'s server complex 204 determines the availability of the one or more intended recipients for receipt of the speech chat message.

216. As I discussed above for claim 7 (Part IX.B.2), while *Griffin* does not provide additional details regarding what precisely current status 702 indicates, a person of ordinary skill in the art would have been motivated to modify *Griffin*'s

system/process based on the teachings of *Zydney* so that status 702 to includes connectivity information indicating whether client 100 is currently connected to server complex 204 and therefore available for messaging.

217. Accordingly, claim 25 is disclosed by the combination of *Griffin* and *Zydney*. A person of ordinary skill in the art would have been motivated to make such a combination for many of the same reasons that I discussed previously, including improved utility. (*See* Part IX.B.2.) For example, based on the knowledge of a person of ordinary skill in the art and the teachings of *Griffin* and *Zydney*, a person of ordinary skill in the art would have recognized that such a combination would have provided a convenient and straightforward way for the server to track whether a potential recipient is currently available to exchange messages. (*See* Part IX.B.2.) As such, the server could determine whether to communicate with a potential recipient and the appropriate mode of communication. (*See* Part IX.B.2.)

8. Claim 26

a) [26a] "The system of claim 25, wherein the instant voice messaging server: delivers the instant voice message to the one or more intended recipients who are determined to be currently available"

218. It is my opinion that the combination of *Griffin* and *Zydney* discloses these features. As I explained above with respect to claim 17 (Part IX.D.6), *Griffin* discloses the claimed "instant voice messaging server" in the form of server

complex 204 programmed to perform the speech chat messaging functionalities described in *Griffin*, including delivering speech (i.e. voice) chat messages to recipients who are determined to be currently available.

219. For example, *Griffin* explains that when server complex 204 receives an outbound speech chat message 400, message broadcaster 303 decomposes message 400, identifies the list of target recipients of message 400, and queries presence manager 302 "to establish the recipients' current status 702." (Ex. 1005, 4:62-5:15; *see also id.*, 6:56-64 ("For each target, the message broadcaster 303, determines the status 702 of the target by locating the target's identifier in a presence record 700 with the matching identifier 701.").) For each recipient that presence manager 302 identifies as available based on current status 702, message broadcaster 303 composes an inbound chat message 500 and sends the message to the recipient's terminal 100. (*Id.*, 6:64-7:11.) As I discussed above in Part IX.B.2, current status 702 indicates whether a terminal 100 is currently "Available" or "Off." (Ex. 1005, Fig. 7, 4:62-5:2, 5:11-30.)

220. *Griffin* does not, however, provide additional details regarding what precisely current status 702 indicates. But, as I discussed above with respect to claim 7 (Part IX.B.2), based on the teachings of *Zydney* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to configure status 702 to

include connectivity information indicating whether client 100 is currently connected to server complex 204 ("currently available"). By combining the teachings of *Griffin* and *Zydney* in such a way, message broadcaster 303 composes and sends an inbound chat message 500 only to terminals 100 that are currently connected to server complex 204 ("currently available"), as indicated by current status 702.

221. Accordingly, in my opinion, claim 26 is disclosed by the combination of *Griffin* and *Zydney*. A person of ordinary skill in the art would have been motivated to make such a combination for many of the same reasons that I discussed previously, including improved utility. (*See* Parts IX.B.2, IX.D.6.) For example, based on the knowledge of a person of ordinary skill in the art and the teachings of *Griffin* and *Zydney*, a person of ordinary skill in the art would have recognized that such a combination would have provided a convenient and straightforward way for the server to track whether a potential recipient is currently available to exchange messages. (*See* Part IX.B.2.) As such, the server could determine whether to communicate with the potential recipient and the appropriate mode of communication. (*See* Part IX.B.2.)

b) [26b] "stores the instant voice message for the one or more intended recipients who are not currently available; and delivers the instant voice message to the one or more intended recipients who are not currently available when the instant voice messaging server determines that the not currently available one or more intended recipients become available."

222. In my opinion, the combination of *Griffin* and *Zydney* discloses these features. As I discussed above, *Griffin* explains that server complex 204 only sends inbound speech (i.e., voice) chat messages 500 to available recipients based on the recipient's current status 702. (Ex. 1005, 6:61-7:11 ("For each available target (i.e., where the presence record indicates that the recipient can receive the message type401), the broadcast manager 303, compose an inbound chat message 500.").)

223. *Griffin* also explains that if a speech chat message arrives while the chat history display is not visible to the user, the user is not available to receive the message and therefore the message is "queued" at server complex 204 (and/or terminal 100) "such that the recipient can request playback within a predetermined period of time." (*Id.*, 11:48-67.) According to *Griffin*, "[w]hen the user switches back to the chat history display, if the speech entry is visible on the screen," the speech chat message "is automatically played back." (*Id.*, 11:62-64.) Accordingly, *Griffin* discloses storing a speech chat message if the recipient is not viewing the chat history display, and delivering the stored speech chat message to the recipient once the recipient is viewing the chat history display.

224. As I discussed above for claim 7 (Part IX.B.2), while *Griffin* does not provide additional details regarding what precisely status 702 indicates, based on the teachings of *Zydney* and the knowledge of a person of ordinary skill in the art, it is my opinion that such a person would have been motivated to modify *Griffin*'s system/process so that status 702 includes connectivity information indicating whether terminal 100 is currently connected to server complex 204 ("currently available").

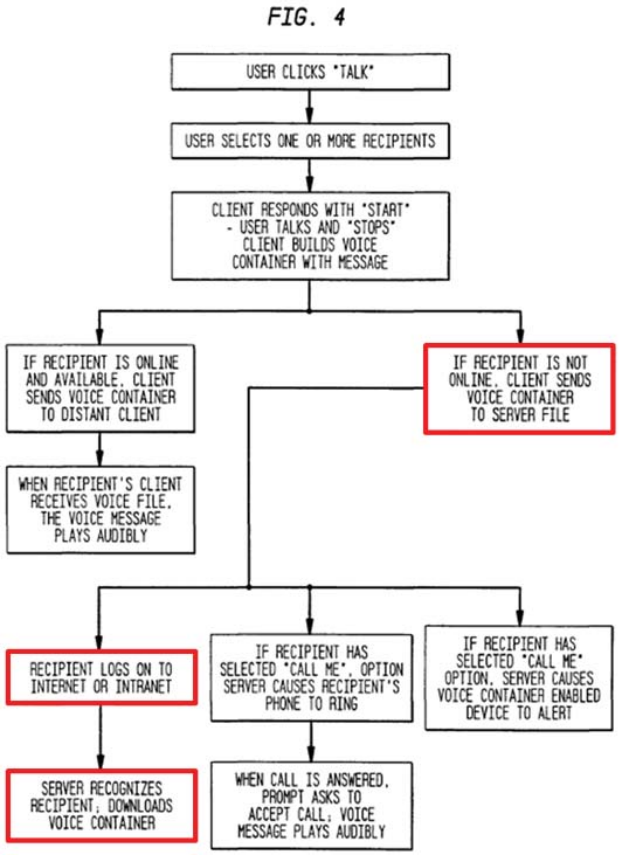
225. Also, while *Griffin* explains that server complex 204 stores and delivers messages based on whether a user is viewing the chat history display, *Griffin* does not explicitly disclose storing a message if a recipient is not currently available as determined based on status 702, and delivering the stored message to the recipient once the recipient becomes available, as determined based on status 702. However, as I discuss below, based on the teachings of *Zydney* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have also been motivated to modify *Griffin*'s system/process so that inbound speech chat messages are stored at server complex 204 and delivered depending on whether the recipient's status 702 indicates a current connection between the recipient terminal 100 and server complex 204 ("currently available").

226. For example, *Zydney* explains that its system can "store messages

both locally and centrally at the server when the recipient is not available for a prescribed period of time." (Ex. 1006, 2:3-5; *see also id.*, 11:3-6, 13:12-15 (central server provides functionality to "store the voice container if the recipients are not available"), 14:9-11 (central server "will store the voice container for the intended recipient if the recipient is not available"), claim 1 ("storing said message at said central server when said recipient is not available").) Specifically, *Zydney* explains that the server operates to "track and maintain the status of all software agents." (*Id.*, 14:8-9.) As shown in the highlighted steps of Figure 4 of *Griffin* (reproduced and annotated below), when the message recipient is "not online," the voice message is sent to a "server file" for storage at the central server. (*Id.*, Figs. 4, 8.)

227. When the recipient reconnects, the server transmits the stored voice container to the recipient. (*Id.*, Figs. 4, 8, 13:19-22 (recipient retrieves any undelivered voice containers after logging into the central server), 14:14-16 ("If the recipient is not on-line, the messages will be transported to them when they log on to a network"), 15:15-16 (if the recipient is offline, the voice message "will be delivered the next time the recipient logs in"), 16:10-12, 25:1-4, 30:1-7 (after a "successful log-in" the user downloads all messages waiting in the message server), 33:7-10 ("Messages will be stored on the server until the software agent has gone on line and authenticated. Once authenticated all of the messages for that software agent will be sent to the software agent."), claim 1 ("storing said message

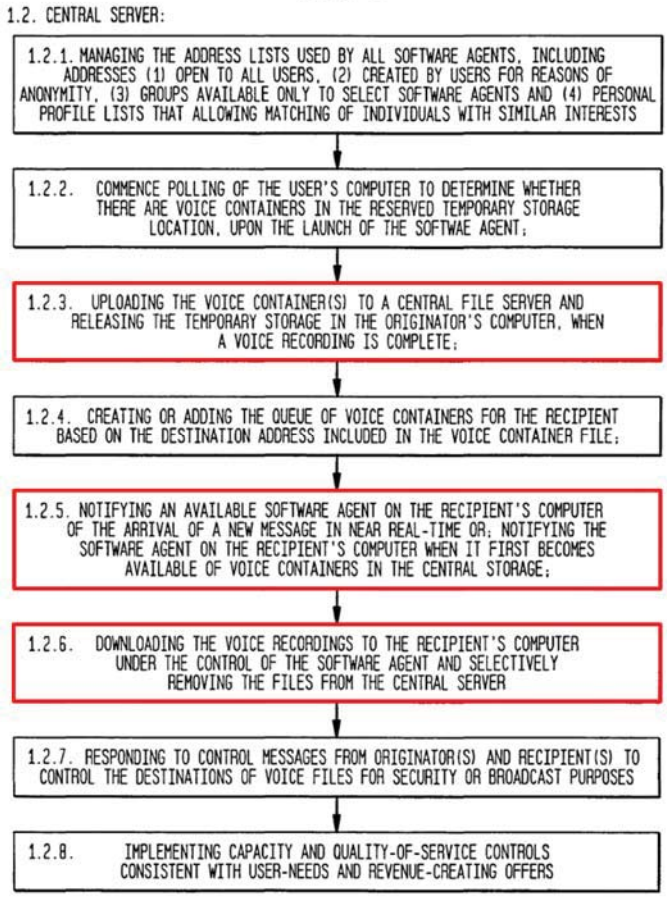
at said central server when said recipient is not available for forwarding when said recipient is available").)



228. *Zydney* also describes an embodiment where voice containers are uploaded to the central server prior to determining whether the recipient computer is online and available for receiving messages (e.g., using a polling technique). For example, with reference to Figure 8 of *Zydney* (reproduced and annotated below), *Zydney* explains that, if an originator's computer includes voice containers in temporary storage, the voice containers are uploaded to the central server and released from the originator's temporary storage. (*Id.*, Fig. 8 (Step 1.2.3).) The

central server then "notif[ies] an available software agent on the recipient's computer of the arrival of a new message in near real-time," or "notif[ies] the software agent on the recipient's computer when it first becomes available of voice containers in the central storage." (*Id.*, Fig. 8 (Step 1.2.5).) The voice container can then be downloaded to the recipient's computer, after which the central server "remov[es] the files from the central server." (*Id.*, Fig. 8 (Step 1.2.6).)

FIG. 8



229. Accordingly, *Zydney*'s central server "stores the instant voice message for the one or more intended recipients who are not currently available; and

delivers the instant voice message to the one or more intended recipients who are not currently available when the instant voice messaging server determines that the not currently available one or more intended recipients become available," as recited in claim element 26b.

230. Based on the disclosure of *Zydney* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my opinion that such a person would have been motivated to configure *Griffin*'s system/process such that server complex 204 stores speech chat messages intended for terminals 100 that are not currently connected to server complex 204 ("not currently available") and delivers the stored messages when the terminals 100 re-establish a connection ("become available") (similar to that disclosed by *Zydney*) in order to enhance the capabilities and convenience of *Griffin*'s system/process by addressing scenarios when recipient terminals 100 are temporarily unavailable to receive a speech chat message, which is a common scenario in such instant messaging systems.

231. A person of ordinary skill in the art would have recognized that configuring *Griffin's* system/process in such a way would have prevented recipient terminals 100 from missing any messages while disconnected and eliminated the need to re-send messages that were not received by disconnected recipient terminals 100 when the recipient re-establishes a connection. Additionally, such a

configuration would have improved the usability and convenience of *Griffin*'s system/process by enabling terminal 100 users to send messages to disconnected recipients for subsequent delivery instead of only to currently connected recipients. Therefore, such a configuration would have improved the overall user experience of *Griffin*'s system/process.

232. A person of ordinary skill in the art would have recognized that such a modification would have been a straightforward combination of a system/process having a server for storing and delivering speech chat messages, similar to as described in *Griffin*, and a server storing and delivering speech chat messages depending on connectivity status, similar to as described in *Zydney*.

233. In fact, *Griffin* already discloses that server complex 204 may temporarily store messages for subsequent playback by terminals 100 in certain circumstances. For example, *Griffin* explains that, if a speech chat message arrives while the chat history display is not visible to a terminal 100 user, the message is queued at server complex 204 (and/or terminal 100) "such that the recipient can request playback within a predetermined period of time":

> It should be noted, that **if an inbound speech message arrives while the chat history display is not visible to the user, the received speech is queued up**. In a current implementation, the most recently received speech message (or at least that portion that will fit in available memory) are queued at the receiving

> terminal. In an alternate embodiment, **such queuing can occur at the server complex such that the recipient can request playback within a predetermined period of time**. Further still, queuing could occur at both the terminal and the server-side such that playback may be requested from the server in the event that a given speech message is no longer available at the terminal.

(Ex. 1005, 11:48-67 (emphasis added).)

234. According to *Griffin*, "[w]hen the user switches back to the chat history display, if the speech entry is visible on the screen," the speech chat message "is automatically played back." (*Id.*, 11:59-64.) Thus, a person of ordinary skill in the art would have recognized that configuring server complex 204 to also store messages intended for recipient terminals 100 that are not currently connected to server complex 204 and to deliver the messages when a connection is re-established, as disclosed in *Zydney*, would have been merely an apparent, commonsense, and natural extension of *Griffin*'s system.

235. Such a configuration could have been implemented in much the same way that *Griffin*'s server complex 204 queues messages while the chat history display is not visible to a terminal 100 user. (*See id.*, 11:48-67.) The primary difference would have been simply that server complex 204 temporarily stores and delivers messages based on status 702, in addition to, or instead of, temporarily

storing and delivering based on whether or not the chat history display is visible. Therefore, a person of ordinary skill in the art would have reasonably anticipated that the modification described above would have successfully resulted in a properly working system and process consistent with the operations and features disclosed by *Griffin* and *Zydney*.

236. Additionally, a person of ordinary skill in the art would have been encouraged to look to *Zydney* to complement the features of *Griffin* for reasons similar to those that I discussed above with respect to claim element 9c. (*See* Part IX.D.1.d.) Also, such a person would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of *Griffin*'s system/process related to instant voice messaging. (*See*, *e.g.*, my discussion in Part V.)

E. The Combination of *Griffin, Zydney*, and *Vaananen* Discloses Every Feature of Claim 12

1. Claim 12

a) "The system according to claim 9, wherein the instant voice messaging application encrypts the instant voice message."

237. It is my opinion that the combination of *Griffin, Zydney*, and *Vaananen* discloses these features. For example, as I explained above with respect to claim element 1a (Part IX.A.1.b), *Griffin* discloses the claimed "instant voice

messaging application" in the form of software (and related components) that is stored and executed on terminal 100 to perform the speech chat messaging functionalities described in *Griffin*.

238. *Griffin* also explains that its system/process may include an "encryption server" to "secure the privacy of [message] content" (Ex. 1005, 5:38-40), but does not explicitly disclose that the software (and related components) of mobile terminal 100 encrypts speech chat messages. For the same reasons that I discussed for claim 5 (Part IX.C.1), a person of ordinary skill in the art at the time of the alleged invention would have been motivated to modify the system/process of the *Griffin-Zydney* combination in view of the teachings of *Vaananen* and the knowledge of a person of skill in the art at the time of the alleged invention so that the software (and related components) of mobile terminal 100 encrypts speech chat messages.

F. The Combination of *Griffin, Zydney*, and *Lee* Discloses Every Feature of Claim 10

1. Claim 10

a) "The system according to claim 9, wherein the packet-switched network comprises a WiFi network."

239. In my opinion, the combination of *Griffin*, *Zydney*, and *Lee* discloses these features. As I discussed previously, *Griffin* explains that "data packets" are communicated between wireless mobile terminals 100 via server complex 204.

(Ex. 1005, 3:49-54.) As shown in Figure 2 of *Griffin* (reproduced and annotated below), these data packets are transmitted to/from server complex 204 over wireless carrier 202 and communication network 203. (*Id.*, 3:51-54 (terminals 100 communicate with chat server 204 by wirelessly transmitting data to carrier 202), 3:59-61 (carrier 202 forwards the data packets to network 203, which forwards them to server complex 204), Fig. 2.) As I discussed above with respect to claim element 1a (Part IX.A.1.b), because communication network 203 "is a packet-based network," such as "the Internet or World Wide Web, a private network such as a corporate intranet, or a combination of public and private network elements," network 203 discloses a "packet-switched network," as recited in claim element 1a. (Ex. 1005, 3:61-65.)

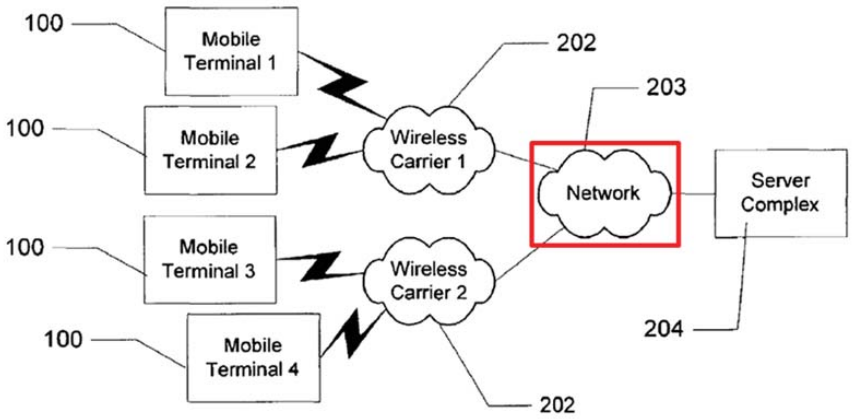


FIG. 2

240. Even though *Griffin*'s packet-based network 203 does not expressly include a WiFi network, based on the teachings of *Lee* and the knowledge of a person of ordinary skill in the art at the time of the alleged invention, it is my

opinion that such a person would have been motivated to include a WiFi network within network 203. *Griffin* only notes one of the well-known ways to wirelessly connect to a packet-switched network. In particular, *Griffin* explains that a terminal 100 can wirelessly connect to network 203 via a wireless carrier's infrastructures 202, which "comprise those elements necessary to support wireless communications with the terminals 100." (*Id.*, 3:51-59.)

241. At the time of the alleged invention, other technologies for wirelessly connecting to a packet-switched network were well-known and widely used. As I discussed in detail in Part V.C, one of the most popular wireless technologies at the time was based on the IEEE 802.11 wireless networking specification, commonly known as "WiFi." (*See* my discussion and citations in Part V.C.) As was known by those of ordinary skill in the art, IEEE 802.11 refers to wireless networking specifications published by the Institute of Electrical and Electronics Engineers (IEEE). (*Id.*) The original version of IEEE 802.11 was published in 1997, and was soon after amended into other versions, such as IEEE 802.11b, which was published in 1999 and widely used before the date of the alleged invention. (*Id.*) At the time of the alleged invention, a POSA would have been familiar with WiFi and its use with computing devices, including handheld devices, as WiFi was extremely popular at the time of the alleged invention. (*Id.*)

242. This understanding is consistent with the specification of the '433

Patent, which explains that prior art systems used "IEEE 802.11 (also known as 'WiFi')" to connect a mobile terminal to a packet-switched network. (Ex. 1001, 1:67-2:5 ("the terminal device is connected to the IP network 102 via a networking standard such as…IEEE 802.11 (also known as 'WiFi')").)

243. Accordingly, a person of ordinary skill in the art would have been well aware of WiFi networks for wirelessly connecting devices to a packet-switched network prior to the time of the alleged invention, and would have considered and been motivated to use a WiFi network in implementing an instant messaging system, like the system described in *Griffin*.

244. This is further confirmed by *Lee*, which describes various ways to connect wireless devices to a packet-switched network. (Ex. 1014, Abstract.) For example, *Lee* explains that a wireless device could connect to the Internet via "a conventional cellular phone telecommunication network," similar to as described in *Griffin*. (*Id.*, ¶15.) *Lee* also identifies other solutions for wireless connectivity—including a WiFi network:

> For personal wireless connectivity, technologies employing infrared or radio frequency (RF) carrier have emerged as viable solutions. Various industrial working groups are in the process of establishing standards for higher performance systems. These include **IEEE 802.11 (Wireless LAN)**, HomeRF, Bluetooth, and standard wireless access protocol (SWAP).

(*Id.*, ¶8 (emphasis added); *see also id.*, ¶54 ("The extent of each wireless service area is dictated by the power transmission and the protocol adopted in its common air interface, such as Bluetooth or IEEE 802.11.").)

245. As shown in Figure 5 of *Lee* (reproduced below), a "wireless network system enables connectivity between a wireless device 10 and an IP network that is part of an intranet 20 and the Internet 30." (*Id.*, ¶53.) Wireless device 10 (e.g., "a smart mobile phone") is connected to wireless gateway 40, which serves as an access point to the IP networks (e.g., intranet 20 and Internet 30). (*Id.*, ¶54.) In this way, gateway 40, as a part of the IP network, "provides not only WLAN (Wireless LAN) functions, but also a conduit to resources on the Internet/Intranet." (*Id.*) As was known in the art, IP networks are an example of packet-switched networks. (*See* my discussion in Part V.B.1.) As explained in *Lee*, data on an IP network "is cast into a number of packets" and that "transmission on the IP network is packet-switched." (Ex. 1014, ¶6; *see also id.* ¶¶16 ("The WAP gateway provides translation between HTTP packets on the Internet and the WAP packets on the wireless network."), 30-31, 56 ("Wireless signals of the wireless device 10 are translated across a wireless gateway 40 into IP packets on the IP network and vice versa."), 58 ("network interface 110 simply needs to route the packets between the intranet 20 and the Internet 30").)

246. *Lee* also explains that the wireless network system of Figure 5 of *Lee*

may employ WiFi. (*Id.*, ¶54; *see also id.*, ¶8 (identifying "IEEE 802.11 (Wireless LAN)" for wireless connectivity).) Accordingly, *Lee* describes at least two packet-switched networks—WLAN 20 and Internet 30—each of which comprises a WiFi network.

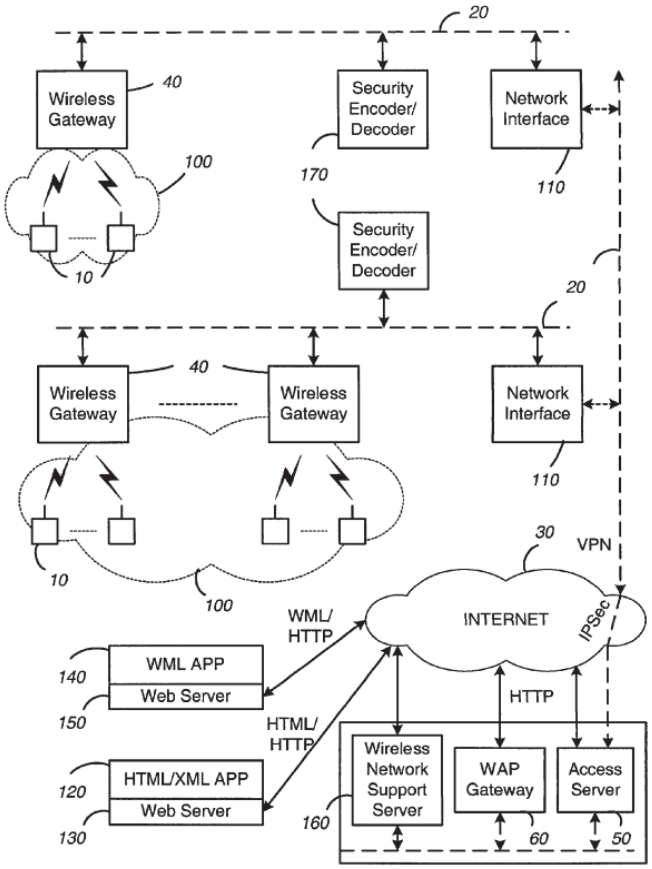


FIG. 5

247. A person of ordinary skill in the art would have been motivated to modify the *Griffin-Zydney* system/process at the time of the alleged invention based on these teachings of *Lee* and the knowledge of such a person. Such a modification would have resulted in a configuration wherein *Griffin*'s wireless mobile terminals 100 are enabled to connect to network 203 via a WiFi network,

similar to the configuration described in *Lee*, or via a wireless carrier's infrastructure 202.

248. At the time of the alleged invention, a person of ordinary skill in the art would have been motivated to make such a modification for several reasons. For example, a person of ordinary skill in the art would have been aware of the many well-known benefits of using a WiFi network to connect to network 203 instead of (or in addition to) using wireless carrier's infrastructure 202. In particular, each type of connection has advantages over the other that allow it to offer higher quality services under different conditions. For example, while infrastructure 202 may provide access to network 203 over a large geographic area (in the form of a wireless carrier's network infrastructure), a person of ordinary skill in the art would have recognized that WiFi would have allowed terminal 100 to connect to network 203 without being tethered to a physical connection and without having to rely on infrastructure 202, which may be slow or unavailable. Additionally, a person of ordinary skill in the art would have known that by using WiFi, the user could potentially avoid or reduce the cost of a service fee for the use of infrastructure 202. Therefore, a person of ordinary skill in the art would have understood that the use of a WiFi network and infrastructure 202 would have complemented each other by providing ubiquitous connectivity and a wider set of valuable services.

249. Additionally, a person of ordinary skill in the art would have recognized that there were only a few types of wireless networking technologies suitable for use with mobile devices at the time of the alleged invention—WiFi being one of them. Therefore, a person of ordinary skill in the art looking to implement an instant messaging system like that described in *Griffin* and *Zydney* would have been encouraged to implement a WiFi network for providing connectivity to a packet-switched network, and reasonably anticipated that the modification described above would have successfully resulted in a properly working system and process consistent with the operations and features disclosed by *Griffin*, *Zydney*, and *Lee*, especially given the popularity and widespread use of WiFi at the time for similar purposes. (*See* my discussion and citations in Part V.C.) For example, as was known in the art, WiFi was "the most common" wireless local network as of 2002 and was "commonly installed in offices, airports, coffee shops, etc." (Ex. 1033, 18.)[11]

250. Additionally, *Lee*, *Griffin*, and *Zydney* are all in the same field of networked communication systems, describe solutions to similar problems in the field, and describe techniques that were well known, similar, and compatible. (Ex.

[11] I am citing Exhibit 1033 in Part IX.F.1 only to show what was generally known in the field before late 2003. I am not relying on Exhibit 1033 as one of the references that discloses the features recited in this claim element.

1005, 1:8-12, 3:59-65, 4:10-15; Ex. 1006, Abstract, 5:1-5, 10:11-18; Ex. 1014, ¶¶52-66.) For example, both *Griffin* and *Zydney* describe instant voice messaging systems using wireless devices and networks, and *Lee* describes wireless connectivity technologies that could have been used to implement such systems. Therefore, a person of ordinary skill in the art would have been encouraged to look to the teachings of *Lee* to complement the teachings of *Griffin* and *Zydney*, and would have recognized that the modification described above would have been well within the capabilities of such a person. Also, such a person would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of the combined *Griffin-Zydney* system/process. (*See*, *e.g.*, my discussion in Part V.)

251. In my opinion, the combination of *Griffin*, *Zydney*, and *Lee* discloses the features of claim 10 in a second, independent way. In particular, instead of using a WiFi network for connecting terminals 100 to packet-based network 203, as I discussed above, network 203 can by itself be implemented using WiFi. For example, *Griffin* explains that network 203 can be a private network, such as a corporate intranet. (Ex. 1005, 3:61-65.) *Lee* explains that such a private network (e.g., a corporate intranet) may be a "WLAN (Wireless LAN)" implemented using WiFi. (Ex. 1014, ¶54.) Therefore, a person of ordinary skill in the art would have

recognized that the combination of *Griffin*, *Zydney*, and *Lee* could have resulted in a system/process that transmits speech chat messages over a private WLAN implemented using WiFi.

252. A person of ordinary skill in the art would have been motivated to modify the *Griffin-Zydney* system/process based on the teachings of *Lee* in such a way for many of the same reasons that I discussed above, as well as to increase mobility, communication, and collaboration among users in a private network. Additionally, as a person of ordinary skill in the art would have known, WiFi was particularly well suited for implementing private networks confined to a limited geographic area (e.g., WLANs), as WiFi typically provides sufficient coverage, speed, low-cost, and bandwidth for such networks.

253. Because of these benefits, WLANs based on WiFi were popular at the time of the alleged invention, and therefore would have been considered by a person of ordinary skill in the art when implementing an instant messaging system over a private network. (Ex. 1038, 1:12-13 ("Wireless local networks (WLANs) based on the IEEE 802.11 standard have proven to be popular."); Ex. 1039, ¶18 ("Wireless Local Area Networks (WLANs) are gaining increasing popularity today by establishing anywhere and anytime connections. According to recent predictions, the market of WLAN adapters will reach 35 million units in 2005. However, a larger market for WLAN lies in the mobile device world such as

cellular phones and PDAs, whose market is projected to reach 500 million units in 2005."); *See* my discussion and citations in Part V.C.)[12]

G. The Combination of *Griffin*, *Zydney*, and *Vuori* Discloses Every Feature of Claim 26

1. Claim 26

a) [26a-26b] "The system of claim 25, wherein the instant voice messaging server: delivers the instant voice message to the one or more intended recipients who are determined to be currently available stores the instant voice message for the one or more intended recipients who are not currently available; and delivers the instant voice message to the one or more intended recipients who are not currently available when the instant voice messaging server determines that the not currently available one or more intended recipients become available."

254. As I discussed in Part IX.D.8, *Griffin* does not explicitly disclose all of the features of claim 26. However, as I discussed above in Part IX.D.8, these features are disclosed by *Zydney*, and a person of ordinary skill in the art would have been motivated to modify *Griffin*'s system/process to incorporate these features based on *Zydney*.

255. I have been asked to consider whether *Vuori* also discloses these

[12] I am citing Exhibits 1038 and 1039 in Part IX.B.1 only to show what was generally known in the field before late 2003. I am not relying on these exhibits as references that disclose the features recited in this claim element.

features of claim 26. In my opinion, it does, and a person of ordinary skill in the art would have been motivated to modify the system/process of the *Griffin-Zydney* combination to incorporate these features of claim 26 based on *Vuori*, so that a speech chat message is stored at server complex 204 and delivered depending on whether the recipient's status 702 indicates a current connection ("currently available"), as determined by server complex 204 upon receipt of the messages.

256. For example, *Vuori* describes a system for sending "short voice messages" (SVMs) "as instant messages." (Ex. 1015, ¶31; *see also id.*, Abstract, ¶¶3, 32-34, 41, Figs. 1, 6.) To do so, a user 10 speaks into equipment 14 (e.g., mobile phone) to record a SVM, selects one or more intended recipients, and then causes equipment 14 to send the SVM to an "SVM service center" (SVMSC). (*Id.*, ¶¶32-34.)

257. Upon receipt of the SVM, the SVMSC will determine the availability of the intended recipients, such as "on-line/off-line/busy/away/do not disturb." (*Id.*, ¶47; *see also id.*, ¶¶43-46, 50 ("The SVMSC is able to check the availability of the second terminal by means 322 for checking such availability.").) The SVMSC will "send the SVM immediately to those intended recipients who are available." (*Id.*, ¶34; *see also id.*, ¶50.) For any intended recipients who are not available, SVMSC will temporarily store and deliver the SVM when the recipients become available (or there is a time out): "The service center…[will] continue attempting to send to

those not then available until they become available or until a time out occurs." (*Id.*; *see also id.*, ¶¶8 ("the voice message can be stored until the second terminal is determined to be available"), 54 ("The voice message may be stored temporarily in a means 326 for storing short voice messages in the SVMC until it is determined that the second terminal is available.").)

258. In other words, *Vuori* describes a server that determines the availability of intended recipients to receive an instant voice message upon receipt of the message, and, if any intended recipients are not available, stores and delivers the message when the recipients become available.

259. A person of ordinary skill in the art would have been motivated to combine these teachings of *Vuori* with the teachings of *Griffin* and *Zydney* for the same reasons that I discussed in Part IX.D.8. For example, such a combination would have improved the usability and convenience of the *Griffin-Zydney* system/process in scenarios where recipient terminals 100 are determined to not be currently connected by server complex 204 upon receipt of the message. Based on the teachings of *Vuori*, messages intended for such recipients are stored by server complex 204 and delivered when the terminals 100 re-establish a connection.

260. A person of ordinary skill in the art would have been encouraged to look to *Vuori* to complement the teachings of *Griffin* and *Zydney*, because these references are in the same technical field of network communication systems,

teach solutions to common problems in the field, and describe technologies that were well known, similar, and compatible. (Ex. 1005, 1:8-12, 3:59-65, 4:10-15; Ex. 1006, Abstract, 5:1-5, 10:11-18; Ex. 1015, Abstract, ¶¶3, 31-34, 41, Figs. 1, 6.) Also, such a person would have had the capability, knowledge, and motivation to make such a modification to achieve a functional system/process and without changing or hindering the fundamental operation of the combined *Griffin-Zydney* system/process. (*See*, *e.g.*, my discussion in Part V.)

X. CONCLUSION

261. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: July 20, 2017

By: _____
Dr. Zygmunt J. Haas