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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,030	12/18/2003	Michael J. Rojas	17188	1731

23389 7590 03/06/2008  
SCULLY SCOTT MURPHY & PRESSER, PC  
400 GARDEN CITY PLAZA  
SUITE 300  
GARDEN CITY, NY 11530

EXAMINER

SMITH, CREIGHTON H

ART UNIT PAPER NUMBER

2614

MAIL DATE DELIVERY MODE

03/06/2008 PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/740,030	<b>Applicant(s)</b> ROJAS, MICHAEL J.	
	<b>Examiner</b> Creighton H. Smith	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on \_\_\_\_\_.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-5, 7-20, 22-35, 37-45, 47-57, 59-69 and 71-76 is/are pending in the application.
  - 4a) Of the above claim(s) 6, 21, 36, 46, 58, 70 is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-5, 7-20, 22-35, 37-45, 47-57, 59-69, 71-76 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some \*    c)  None of:
    - 1.  Certified copies of the priority documents have been received.
    - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4)  Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 5)  Notice of Informal Patent Application
- 6)  Other: \_\_\_\_\_.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 11-18, 26-29, 43, 45, 51-54, 65, 66 rejected under 35 U.S.C.

103(a) as being unpatentable over McZeal in view of Barry, U.S. Pat. App. Pub. #2007/0174403.

McZeal discloses in col. 4, lines 18 et seq. that until his invention there was no device which would take full advantage of the Internet and instant messaging for voice quality purposes, and which uses computer data networks for voice.

In col. 28, lines 5 et seq., McZeal discloses that his invention provides customers with instant voice messaging which uses Voice over Internet Protocol (VoIP). In col. 16, lines 39 et seq., McZeal discloses that his invention can use both the Internet and the PSTN. Barry discloses in [0031] that instant messages/IM are stored in server 150. To have provided Barry's teaching of an IM server, that will store the IM until a user is ready to retrieve them, in McZeal's communication system would have been obvious to a person having ordinary skill in the art, because the skilled practitioner in this communications art would realize the need to store messages if the called party lacked the present ability to receive the IM.

For claims 2 & 3, McZeal discloses in cols. 1 & 16, lines 42-43 & 25-30 that his invention can be used in local or wide area networks, i.e., LAN/WAN.

Regarding claim 11, see McZeal @ col. 16, lines 42 & 59-60.

Pertaining to claim 30, with McZeal's disclosure that his device can be used in either a WAN (internet) or LAN (local area network). If the voice message is to be routed out beyond a LAN, then an external serving system will be employed until the message reaches the recipient inside of the LAN, whereupon the LAN and its associated server will route the message to the intended recipient.

Claims 4, 19, 20, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry, U.S. Pat. App. Pub. #2007/0174403 and Williams et al.

Williams et al disclose in ¶-0055 that a messaging server (105) will save a voice message and send a list of recipients to the user from an address book. To have provided Williams teaching of a server providing a user a calling list of recipients in McZeal's Instant Voice Messaging server system would have been obvious to a person having ordinary skill in the art, because the skilled practitioner in the communications and server arts will readily realize that there are an unlimited amount of commands and information that a server can hold which can be communicated to anyone throughout the world that has the proper equipment.

Claims 7, 22, 47, are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry, U.S. Pat. App. Pub. #2007/0174403 and to Sagi et al.

Sagi et al disclose in claim 24 where a server will receive an audio file from a subscriber, and then in claim 29 Sagi et al disclose that the transmission is sent to a second subscriber. To have similarly used Sagi et al disclosure of transmitting an audio file to a server in McZeal's device would have been obvious to a person having ordinary skill in the art, because the skilled practitioner in the communications art will realize that

the sending party can either directly record a voice message or send an audio file.

Either way, a called party will receive the voice message.

Claims 8, 23, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry, U.S. Pat. App. Pub. #2007/0174403 and Goodman et al.

Goodman et al disclose in ¶-0033 that an audio message can be transformed from any of encrypted, decrypted, compressed, or decompressed format. To have similarly provided Goodman's teaching of encrypting, decrypting, compressing, and decompressing audio into McZeal's device would have been obvious to a person having ordinary skill in the art, because by compressing the audio will take up less memory in the server.

Claims 9, 24, 49, are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry, U.S. Pat. App. Pub. #2007/01774403 and Gierachf.

Gierachf discloses in ¶-0044 in Step 266 that the audio data, or voice message, is sent to an audio buffer 19B'. To have similarly used Gierachf method of buffering the audio data in McZeal's device would have been obvious to a person having ordinary skill in the art.

Claims 10, 25, 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry, U.S. Pat. App. Pub. #2007/0174403 and Hollowell et al.

Hollowell et al teach in ¶-0031 attaching an email message to an audio message. To have provided this teaching in McZeal would have been obvious to a person having ordinary skill in the art because the skilled practitioner in this communications art will realize the efficiency of alerting a multitude of persons located throughout the world that

an email from the sender is being sent to the recipients, such as the minutes of an important meeting.

Claims 30-33, 35, 41, 55, 57, 63, 64, 67, 69, 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry, U.S. Pat. App. Pub. 32007/0174403 and Monroe.

Monroe discloses in col. 20, lines 28 et seq. and in Fig. 9 a local server (460) connected to a LAN, which provides a gateway to a wide area network like the Internet. In col. 32, lines 11 et seq. Monroe discloses that pre-recorded voice messages can be delivered to a modem and then delivered throughout the Network. To have used Monroe's teaching of connecting a local server to an Internet server into McZeal's device would have been obvious to a person having ordinary skill in the art because a local server will only reach a few, select individuals in close proximity to each other, whereas the Internet will have global reach, thus insuring connectivity to clients worldwide.

Claims 42 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry and Monroe as applied to claim 30 above, and further in view of Boukobza, U.S. Pat. App. Pub. #2006/0167883.

Boukobza's method as disclosed in [0020] and claim 14 is for load balancing databases within a network having a plurality of servers. To have provided Boukobza's method of load balancing servers in Monroe as applied to McZeal would have been obvious to a person having ordinary skill in the art, because the skilled practitioner would realize that as one server becomes filled with IM, or as one server is being

inundated with high traffic volume, it would be necessary to route some of those IM to another server for storing.

Claims 34, 56, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry and Monroe as applied to claim 30 above, and further in view of Williams et al.

Claims 37, 59, 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry and Monroe as applied to claim 30 above, and further in view of Sagi et al.

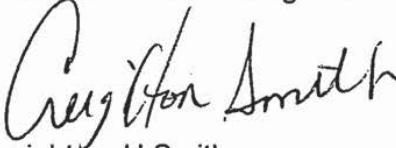
Claims 38, 60, 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry and Monroe as applied to claim 30 above, and further in view of Goodman et al.

Claims 39, 61, 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal, Jr. in view of Barry and Monroe as applied to claim 30 above, and further in view of Gierachf.

Claims 40, 62, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal, jr. in view of Barry and Monroe as applied to claim 30 above, and further in view of Hollowell et al.

Any inquiry concerning this communication should be directed to Creighton H. Smith at telephone number 571/272-7546.

02 MAR '08

  
Creighton H Smith  
Primary Examiner  
Art Unit 2614

<b>Notice of References Cited</b>	Application/Control No. 10/740,030	Applicant(s)/Patent Under Reexamination ROJAS, MICHAEL J.	
	Examiner Creighton H. Smith	Art Unit 2614	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2007/0174403	07-2007	Barry, Mona Elisabeth	709/207
*	B US-2006/0167883	07-2006	Boukobza, Eric	707/010
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

**NON-PATENT DOCUMENTS**

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



**Index of Claims**



Application/Control No.

10/740,030

Examiner

Creighton H. Smith

Applicant(s)/Patent under Reexamination

ROJAS, MICHAEL J.

Art Unit

2614

√	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim	Date
Final	Original
1	✓
2	✓
3	✓
4	✓
5	✓
6	✓
7	✓
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9	✓
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11	✓
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Claim	Date
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51	✓
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Claim	Date
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## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1127	((plural\$3 or multipl\$5) with servers with load near3 balanc\$3) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/03/03 09:46
L2	1032	((plural\$3 or multipl\$5) with servers with (load adj balanc\$3)) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/03/03 09:46
L3	0	((plural\$3 or multipl\$5) with servers with (load adj balanc\$3)) same (global with IM) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/03/03 09:51
L4	935	((plural\$3 or multipl\$5) near5 servers with (load adj balanc\$3)) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2008/03/03 09:57



## IN THE CLAIMS

This version of the claims replaces and supercedes all prior versions of the claims.

1. (Currently Amended) An instant voice messaging system for delivering instant messages over a packet-switched network, the system comprising:

a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the network; and

a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients enabled to audibly play the instant voice message, and the server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available.

2. (Original) The instant voice messaging system according to Claim 1, wherein the packet-switched network is a local network.

3. (Original) The instant voice messaging system according to Claim 1, wherein the packet-switched network is the Internet.

4. (Original) The instant voice messaging system according to Claim 1, wherein the client requests a list of recipients associated with the client from the server

and the server transmits the list of recipients to the client for selection of the one or more recipients.

5. (Original) The instant voice messaging system according to Claim 1, wherein the server delivers the instant voice message to the selected recipients that are available.

6. Cancelled

7. (Original) The instant voice messaging system according to Claim 1, wherein the client records the instant voice message in an audio file, transmits the audio file to the server, and the server delivers the audio file to the selected recipients, the selected recipients being enabled to audibly play the audio file.

8. (Original) The instant voice messaging system according to Claim 7, wherein the client signal processes, compresses and encrypts the audio file, and the selected recipients being enabled to decrypt and decompress the audio file before audibly playing the audio file.

9. (Original) The instant voice messaging system according to Claim 1, wherein the client buffers each of a plurality of successive portions of the instant voice message as the instant message is recorded, and the client transmits each successive

buffered portion to the server for delivery to the to the selected recipients, the selected recipients being enabled to audibly playing each successive portion as it is delivered.

10. (Original) The instant voice messaging system according to Claim 1, wherein the client is enabled to attach one or more files to the instant voice message and the selected recipients are enabled to store or display the one or more attached files.

11. (Original) The instant voice messaging system according to Claim 1, the system further comprising a public switched telephone network (PSTN) telephone connected to the network to provide input audio of the instant voice message to the client.

12. (Original) The instant voice messaging system according to Claim 1, the system further comprising a voice-over-internet-protocol (VoIP) telephone connected to the network to provide input audio of the instant voice message to the client.

13. (Currently Amended) An instant voice messaging system for delivering instant messages over a packet-switched network enabling public switched telephone network (PSTN) support, the system comprising:

a PSTN telephone connected to the network for providing input audio;

a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor using the input audio provided by the PSTN telephone, and transmitting the selected recipients and the instant voice message therefor over the network;

a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message, and the server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available.

14. (Currently Amended) An instant voice messaging system for delivering instant messages over a packet-switched network, the system comprising:

a voice-over-internet-protocol (VoIP) telephone connected to the network for providing input audio;

a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor using the input audio provided by the VoIP telephone, and transmitting the selected recipients and the instant voice message therefor over the network;

a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message, and the server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available.



15. (Currently Amended) An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising:

a client connected to a local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network; and

a server connected to the external network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message, and the server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available.

16. (Original) The instant voice messaging system according to Claim 15, the client further selects one or more local recipients connected to the local network and transmits the selected local recipients and the instant voice message therefor over the local network, wherein the system further comprises:

a local server connected to the local network, the local server receiving the selected local recipients and the instant message therefor from the client, and delivering the instant voice message to the selected local recipients over the local network, the selected local recipients being enabled to audibly play the instant voice message.

17. (Original) The instant voice messaging system according to Claim 15, wherein the local network is a network within an enterprise.

18. (Original) The instant voice messaging system according to Claim 15, wherein the external network is the Internet.

19. (Original) The instant voice messaging system according to Claim 15, wherein the client requests a list of recipients associated with the client from the server and the server transmits the list of recipients to the client for selection of the one or more recipients.

20. (Original) The instant voice messaging system according to Claim 15, wherein the server delivers the instant voice message to the selected recipients that are available.

21. Cancelled

22. (Original) The instant voice messaging system according to Claim 15, wherein the client records the instant voice message in an audio file, transmits the audio file to the server, and the server delivers the audio file to the selected recipients, the selected recipients being enabled to audibly play the audio file.

23. (Original) The instant voice messaging system according to Claim 22, wherein the client signal processes, compresses and encrypts the audio file, and the selected recipients are enabled to decrypt and decompress the audio file before audibly playing the audio file.

24. (Original) The instant voice messaging system according to Claim 15, wherein the client buffers each of a plurality of successive portions of the instant voice message as the instant message is recorded, and the client transmits each successive portion to the server for delivery to the selected recipients, the selected recipients being enabled to audibly playing each successive portion as it is delivered.

25. (Original) The instant voice messaging system according to Claim 15, wherein the client is enabled to attach one or more files to the instant voice message and the selected recipients are enabled to store or display the one or more attached files.

26. (Original) The instant voice messaging system according to Claim 15, the system further comprising a public switched telephone network (PSTN) telephone connected to the local network to provide input audio of the instant voice message to the client.

27. (Original) The instant voice messaging system according to Claim 15, the system further comprising a voice-over-internet-protocol (VoIP) telephone connected to the local network to provide input audio of the instant voice message to the client.

28. (Currently Amended) An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks enabling public switched telephone network (PSTN) support, the system comprising:

a PSTN telephone connected to a local network for providing input audio;

a client connected to the local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor using the input audio provided by the PSTN telephone, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

a server connected to the external network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message, and the server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available.

29. (Currently Amended) An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising:

a voice-over-internet-protocol (VoIP) telephone connected to a local network for providing input audio;

a client connected to the local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor using the input audio provided by the VoIP telephone, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

an server connected to the external network, the external server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message, and the server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available.

30. (Currently Amended) An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising:

a client connected to an external network, the client selecting one or more recipients connected to a local network, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the external network; and

a external server system connected to the external network, the external server system receiving the selected recipients and the instant voice message, and routing

the selected recipients and the instant voice message over the external network and the local network;

a local server connected to the local network, the local server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the local network, the selected recipients being enabled to audibly play the instant voice message, and the local server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available.

31. (Original) The instant voice messaging system according to Claim 30, the client further selects one or more external recipients connected to the external and transmits the selected external recipients over the external network to the external server, and the external server receives the selected external recipients and delivers the instant voice message to the selected external recipients over the external network, the selected external recipients being enabled to audibly play the instant voice message.

32. (Original) The instant voice messaging system according to Claim 30, wherein the local network is a network within an enterprise.

33. (Original) The instant voice messaging system according to Claim 30, wherein the external network is the Internet.

34. (Original) The instant voice messaging system according to Claim 30, wherein the client requests a list of recipients associated with the client from the external server system and the external server system transmits the list of recipients to the client for selection of the one or more recipients.

35. (Original) The instant voice messaging system according to Claim 30, wherein the local server delivers the instant voice message to the selected recipients that are available.

36. Cancelled

37. (Original) The instant voice messaging system according to Claim 30, wherein the client records the instant voice message in an audio file, transmits the audio file to the external server, the external server system routes the audio file to the local server, and the local server delivers the audio file to the selected recipients, the selected recipients being enabled to audibly play the audio file.

38. (Original) The instant voice messaging system according to Claim 37, wherein the client signal processes, compresses and encrypts the audio file, and the selected recipients are enabled to decrypt and decompress the audio file before audibly playing the audio file.

39. (Original) The instant voice messaging system according to Claim 30, wherein the client buffers each of a plurality of successive portions of the instant voice message as the instant message is recorded, and the client transmits each successive buffered portion to the external server system, the external server system routes each successive portion to the local server, and the local server delivers each successive portion to the to the selected recipients, the selected recipients being enabled to audibly play each successive portion as it is delivered.

40. (Original) The instant voice messaging system according to Claim 30, wherein the client is enabled to attach one or more files to the instant voice message and the selected recipients are enabled to store or display the one or more attached files.

41. (Original) The instant voice messaging system according to Claim 30, the system further comprising a voice-over-internet-protocol (VoIP) telephone connected to the client via a local network, the client providing input audio of the instant voice message to the client via the local network.

42. (Original) The instant voice messaging system according to Claim 30, wherein the external server system comprises:

a transport server mesh including a plurality of transport servers for routing instant voice messages;

a directory server for maintaining the transport server mesh and facilitating load-balancing of the instant voice messages within the transport server mesh.



43. (Currently Amended) A method for instant voice messaging over a packet-switched network, the method comprising:

- selecting one or more recipients for instant voice messaging at a client;
- generating an instant voice message for the selected recipients at the client;
- transmitting the selected recipients and the instant voice message therefor over the network from the client to a server;
- receiving the selected recipients and the instant voice message therefor at the server;
- delivering the instant voice message from the server to the selected recipients over the network;
- temporarily storing at the server the instant voice message if a selected recipient is unavailable;
- delivering from the server the stored instant voice message to the selected recipient once the selected recipient becomes available; and
- audibly playing the instant voice message at the selected recipients.

44. (Original) The method for instant voice messaging according to Claim 43, wherein the method further comprises:

- requesting from the client a list of recipients associated with the client from the server; and
- transmitting from the server the list of recipients to the client for selection of the one or more recipients.

45. (Original) The method for instant voice messaging according to Claim 43, wherein the method further comprises:

delivering the instant voice message from the server to the selected recipients that are available.

46. Cancelled.

47. (Original) The method for instant voice messaging according to Claim 43, wherein the method further comprises:

recording the instant voice message at the client in an audio file;  
transmitting the audio file to the server;  
delivering the audio file from the server to the selected recipients; and  
audibly playing the audio file at the least one of the selected recipients.

48. (Original) The method for instant voice messaging according to Claim 47, wherein the method further comprises:

signal processing, compressing and encrypting the audio file at the client;  
decrypting and decompressing the audio file at the at least one selected recipient; and  
audibly playing the decrypted and decompressed audio file at the least one of the selected recipients.

49. (Original) The method for instant voice messaging according to Claim 43, further comprising:

buffering each of a plurality of successive portions of the instant voice message at the client as the instant message is recorded;

transmitting from the client each successive buffered portion to the server;

delivering each successive portion from the server to the selected recipients, the selected recipients audibly playing each successive portion as it is delivered.

50. (Original) The method for instant voice messaging according to Claim 43, wherein the method further comprises:

attaching one or more files to the instant voice message at the client;

storing or displaying the one or more attached files at the selected recipients.

51. (Original) The method for instant voice messaging according to Claim 43, wherein the method further comprises:

providing input audio of the instant voice message to the client from a public switched telephone network (PSTN) telephone connected to the network.

52. (Original) The method for instant voice messaging according to Claim 43, wherein the method further comprises:

providing input audio of the instant voice message to the client from a voice-over-internet-protocol (VoIP) telephone connected to the network.

53. (Currently Amended) A method for instant voice messaging over a packet-switched network enabling public switched telephone network (PSTN) support, the method comprising:

providing input audio via a PSTN telephone connected over the network;  
selecting one or more recipients for instant voice messaging at a client;  
generating an instant voice message using the input audio from the PSTN telephone for the selected recipients at the client;

transmitting the selected recipients and the instant voice message therefor over the network from the client to a server;

receiving the selected recipients and the instant voice message therefor at the server;

delivering the instant voice message from the server to the selected recipients over the network;

temporarily storing at the server the instant voice message if a selected recipient is unavailable;

delivering from the server the stored instant voice message to the selected recipient once the selected recipient becomes available; and

audibly playing the instant voice message at selected recipients.

54. (Currently Amended) A method for instant voice messaging over a packet-switched network, the method comprising:

providing input audio via a voice-over-internet-protocol (VoIP) telephone connected over the network;

selecting one or more recipients for instant voice messaging at a client;

generating an instant voice message using the input audio from the VoIP telephone for the selected recipients at the client;

transmitting the selected recipients and the instant voice message therefor over the network from the client to a server;

receiving the selected recipients and the instant voice message therefor at the server;

delivering the instant voice message from the server to the selected recipients over the network;

temporarily storing at the server the instant voice message if a selected recipient is unavailable;

delivering from the server the stored instant voice message to the selected recipient once the selected recipient becomes available; and

audibly playing the instant voice message at the selected recipients.

55. (Currently Amended) A method for instant voice messaging over a plurality of packet-switched networks, the method comprising:

selecting one or more external recipients for instant voice messaging at a client connected to a local network, the one or more external recipients connected to an external network outside the local network;

generating an instant voice message for the selected external recipients at the client;

transmitting the selected external recipients and the instant voice message therefor over the local network and the external network;

receiving the selected external recipients and the instant voice message therefor at an external server connected to the external network;

delivering the instant voice message to the selected external recipients over the external network;

temporarily storing the instant voice message at the external server if a selected recipient is unavailable;

delivering the stored instant voice message to the selected recipient once the selected recipient becomes available; and

audibly playing the instant voice message at the selected external recipients.

56. (Original) The method for instant voice messaging according to Claim 55, wherein the method further comprises:

requesting from the external server a list of external recipients associated with the client; and

transmitting the list of external recipients from the external server to the client for selection of the one or more external recipients.

57. (Original) The method for instant voice messaging according to Claim 55, wherein the method further comprises:

delivering the instant voice message from the external server to the selected recipients that are available.

58. Cancelled.

59. (Original) The method for instant voice messaging according to Claim 55, wherein the method further comprises:

recording the instant voice message in an audio file at the client;

transmitting the audio file to the external server;

delivering the audio file to the selected recipients from the external server;

and

audibly playing the audio file at the selected recipients.

60. (Original) The method for instant voice messaging according to Claim 59, wherein the method further comprises:

signal processing, compressing and encrypting the audio file at the client;

and

decrypting and decompressing the audio file at the selected recipients; and

audibly playing the decrypted and decompressed audio file at the selected recipients.

61. (Original) The method for instant voice messaging according to Claim 55, wherein the method further comprises:

buffering each of a plurality of successive portions of the instant voice message at the client as the instant message is recorded;

transmitting from the client each successive portion to the external server;

delivering each successive portion from the external server to the selected external recipients,

audibly playing each successive portion at the selected external recipients as it is delivered.

62. (Original) The method for instant voice messaging according to Claim 55, wherein the method further comprises:

attaching one or more files to the instant voice message;

storing or displaying the one or more attached files at the selected external recipients.

63. (Original) The method for instant voice messaging according to Claim 55, wherein the method further comprises providing input audio of the instant voice message to the client from a public switched telephone network (PSTN) telephone over the local network.



64. (Original) The method for instant voice messaging according to Claim 55, wherein the method further comprises providing input audio of the instant voice message to the client from a voice-over-internet-protocol (VoIP) telephone over the local network.

65. (Currently Amended) A method for instant voice messaging system over a plurality of packet-switched networks enabling public switched telephone network (PSTN) support, the method comprising:

providing input audio via a PSTN telephone connected to a local network;

selecting one or more external recipients for instant voice messaging at a client, the one or more external recipients connected to an external network outside the local network;

generating an instant voice message for the one or more external recipients using the input audio provided by the PSTN telephone;

transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

receiving the selected recipients and the instant voice message therefor at a server connected to the external network;

delivering the instant voice message to the selected recipients from the server over the external network;

temporarily storing at the server the instant voice message if a selected recipient is unavailable;

delivering from the server the stored instant voice message to the selected recipient once the selected recipient becomes available; and

audibly playing the instant voice message at the selected recipients.

66. (Currently Amended) A method for instant voice messaging system over a plurality of packet-switched networks, the method comprising:

providing input audio via a voice-over-internet-protocol (VoIP) telephone connected to a local network;

selecting one or more external recipients for instant voice messaging at a client, the one or more external recipients connected to an external network outside the local network;

generating an instant voice message for the one or more external recipients using the input audio provided by the VoIP telephone;

transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

receiving the selected recipients and the instant voice message therefor at a server connected to the external network;

delivering the instant voice message to the selected recipients from the server over the external network;

temporarily storing at the server the instant voice message if a selected recipient is unavailable;

delivering from the server the stored instant voice message to the selected recipient once the selected recipient becomes available; and

audibly playing the instant voice message at the selected recipients.

67. (Currently Amended) A method for instant voice messaging over a plurality of a plurality of packet-switched networks, the method comprising:

selecting one or more recipients connected to a local network at a client connected to an external network;

generating an instant voice message for the selected recipients at the client;

transmitting the selected recipients and the instant voice message therefor over the external network from the client to an external server system;

receiving the selected recipients and the instant voice message at the external server system;

routing the selected recipients and the instant voice message over the external network and the local network;

receiving the selected recipients and the instant voice message therefor at a local server connected to the local network;

delivering the instant voice message to the selected recipients over the local network;

temporarily storing the instant voice message at the local server if a selected recipient is unavailable;

delivering the stored instant voice message to the selected recipient once the selected recipient becomes available; and

audibly playing the instant voice message at the selected recipients.

68. (Original) The method for instant voice messaging according to Claim 67, wherein the method further comprises:

requesting a list of recipients associated with the client from the external server system; and

transmitting the list of recipients from the external server system to the client for selection of the one or more recipients.

69. (Original) The method for instant voice messaging according to Claim 67, wherein the method further comprises:

delivering the instant voice message from the local server to the selected recipients that are available.

70. Cancelled

71. (Original) The method for instant voice messaging according to Claim 67, wherein the method further comprises:

recording the instant voice message in an audio file at the client;

transmitting the audio file from the client to the external server system;

routing the audio file from the external server system to the local server;

and

delivering the audio file from the local server to the selected recipients;  
and  
audibly playing the audio file at the selected recipients.

72. (Original) The method for instant voice messaging according to Claim 71, wherein the method further comprises:

signal processing, compressing and encrypting the audio file at the client;  
decrypting and decompressing the audio file at the selected recipients;  
audibly playing the decrypted and decompressed audio file at the selected recipients.

73. (Original) The method for instant voice messaging according to Claim 67, wherein the method further comprises:

buffering each of a plurality of successive portions of the instant voice message at the client as the instant message is recorded;  
transmitting from the client each successive portion to the external server system;  
routing each successive portion from the external server system to the local server;  
delivering each successive portion from local server to the selected external recipients; and  
audibly playing each successive portion at the selected recipients as it is delivered.

74. (Original) The method for instant voice messaging according to Claim 67, wherein the method further comprises:

attaching one or more files to the instant voice message at the client;  
storing or displaying the one or more attached files at the selected recipients.

75. (Original) The method for instant voice messaging according to Claim 67, wherein the method further comprises:

providing input audio of the instant voice message from a voice-over-internet-protocol (VoIP) telephone to the client via a local network connecting the VoIP telephone to the client.

76. (Original) The method for instant voice messaging according to Claim 67, wherein the method further comprises:

maintaining a transport server mesh including a plurality of transport servers for routing instant voice messages; and

load-balancing the instant voice messages within the transport server mesh.

## REMARKS

Applicant has filed the present Amendment and Response in reply to the outstanding Official Action of September 18, 2007, and the Applicant believes the Amendment and Response to be fully responsive to the Official Action for at least the reasons set forth herein.

Applicant would like to thank the Examiner for indicating that claims 6, 21, 36, 42, 58, 70 and 76 have allowable subject matter and would be allowed if rewritten in independent form including all of the limitations of the base claim and all intervening claims. Accordingly, independent claims 1, 15, 30, 43, 55 and 67 have been rewritten incorporating the subject matter of allowable claims 6, 21, 36, 46, 58 and 70, respectively. Applicant submits that the independent claims should be allowed in view of the aforementioned amendments.

Additionally, Applicant notes that independent claims 13, 14, 28, 29, 53, 54, 65 and 66 have been amended. Each of the above-identified independent claims have been amended to recite similar limitations as the allowable claims, e.g., the server temporarily storing the instant voice message if a selected recipient is unavailable and delivering the stored instant voice message to the selected recipient once the selected recipient becomes available or temporarily storing at the server the instant voice message if a selected recipient is unavailable and delivering from the server the stored instant voice message to the selected recipient once the selected recipient becomes available. Claims 6, 21, 36, 46, 58 and 70 have been cancelled. No new matter has been added to the application by way of the aforementioned amendments. Applicant submits that all of the pending claims should be allowable in view of the aforementioned amendments.

Claims 1-3, 5, 11-18, 26-29, 43, 45, 51-54, 65, and 66 were rejected under 35 U.S.C. § 102(e) as being anticipated by McZeal Jr., U.S. Patent No. 6,763,226. Claims 4, 19, 20, and 44 were rejected under § 103(a) as being unpatentable over McZeal, U.S. Patent No. 6,763,226 in view of Williams et al., U.S. Pat. Pub 2004/0252679 (Williams). Claims 7, 22 and 47 were rejected under 35 U.S.C § 103(a) as being unpatentable over McZeal in view of Sagi et al., U.S. Pat. Pub. 2003/0087632. Claims 8, 23, and 48 were rejected under 35 U.S.C § 103(a) as being unpatentable over McZeal in view of Goodman et al., U.S. Pat. Pub 2004/0122906. Claims 9, 24 and 49 were rejected under 35 U.S.C § 103(a) as being unpatentable over McZeal in view of Gierachf, U.S. Pat. Pub 2005/0053230. Claims 10, 25 and 50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McZeal in view of Hollowell et al., U.S. Pat. Pub 2005/0105697.

Claims 30-33, 35, 41, 55, 57, 63, 64, 67, 69 and 75 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McZeal in view of Monroe, U.S. Patent No. 6,970,183. Claims 34, 56 and 68 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McZeal, Williams and Monroe. Claims 37, 59 and 71 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McZeal, Sagi in view of Monroe.

Claims 38, 60 and 72 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McZeal, Goodman and Monroe. Claims 39, 61 and 73 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McZeal, Gierachf and Monroe. Claims 40, 62 and 74 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McZeal, Hollowell in view of Monroe.

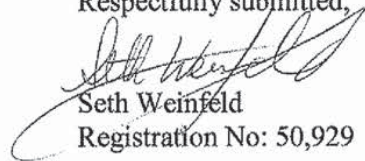
Applicant submits that the rejections set forth in the outstanding Official Action and listed above are rendered moot by the aforementioned amendments.



Based upon the foregoing, Applicant respectfully requests that the Examiner withdraw all of the pending rejections pursuant to either 35 U.S.C. § 102(e) or § 103(a).

In conclusion, the Applicant believes that the above-identified application is in condition for allowance and henceforth respectfully solicits the Examiner to allow the application. If the Examiner believes a telephone conference might expedite the allowance of this application, the Applicant respectfully requests that the Examiner call the undersigned, Applicant's attorney, at the following telephone number: (516) 742-4343.

Respectfully submitted,



Seth Weinfeld  
Registration No: 50,929

Scully, Scott, Murphy & Presser, P.C.  
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516-742-4343

SW:reg

**COMBINED AMENDMENT & PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) (Small Entity)**

Docket No.  
17188

In Re Application Of: **Michael J. Rojas**

Application No. <b>10/740,030</b>	Filing Date <b>December 18, 2003</b>	Examiner <b>Creighton Smith</b>	Customer No. <b>23389</b>	Group Art Unit <b>2614</b>	Confirmation No. <b>1731</b>
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Invention: **SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING**

COMMISSIONER FOR PATENTS:

This is a combined amendment and petition under the provisions of 37 CFR 1.136(a) to extend the period for filing a response to the Office Action of September 18, 2007 in the above-identified application.  
*Date*

The requested extension is as follows (check time period desired):

One month     Two months     Three months     Four months     Five months

from: December 18, 2007 until: February 18, 2007  
*Date* *Date*

Applicant claims small entity status. See 37 CFR 1.27.

The fee for the amendment and extension of time has been calculated as shown below:

**CLAIMS AS AMENDED**

	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST # PREV. PAID FOR	NUMBER EXTRA CLAIMS PRESENT	RATE	ADDITIONAL FEE
TOTAL CLAIMS	70 -	76 =	0	x \$25.00	\$0.00
INDEP. CLAIMS	14 -	14 =	0	x \$105.00	\$0.00
FEE FOR AMENDMENT					\$0.00
FEE FOR EXTENSION OF TIME					\$230.00
<b>TOTAL FEE FOR AMENDMENT AND EXTENSION OF TIME</b>					<b>\$230.00</b>

**COMBINED AMENDMENT & PETITION FOR EXTENSION OF  
TIME UNDER 37 CFR 1.136(a) (Small Entity)**

Docket No.  
**17188**

The fee for the amendment and extension of time is to be paid as follows:

- A check in the amount of \_\_\_\_\_ for the amendment and extension of time is enclosed.
- Please charge Deposit Account No. **19-1013/SSMP** in the amount of **\$230.00**
- The Director is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. **19-1013/SSMP**
  - Any additional filing fees required under 37 C.F.R. 1.16.
  - Any patent application processing fees under 37 CFR 1.17.
- If an additional extension of time is required, please consider this a petition therefor and charge any additional fees which may be required to Deposit Account No.
- Payment by credit card. Form PTO-2038 is attached.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**



Signature

Dated: February 19, 2008

Seth Weinfeld  
Registration No.: 50,929  
Scully, Scott, Murphy & Presser, P.C.  
400 Garden City Plaza - Suite 300  
Garden City, New York 11530  
(516) 742-4343

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

(Date)

Signature of Person Mailing Correspondence

Typed or Printed Name of Person Mailing Correspondence

CC:

P28SMALL/REV08

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	10740030			
<b>Filing Date:</b>	18-Dec-2003			
<b>Title of Invention:</b>	System and method for instant VoIP messaging			
First Named Inventor/Applicant Name:	Michael J. Rojas			
<b>Filer:</b>	Paul J. Esatto/Roseann Gallo			
<b>Attorney Docket Number:</b>	17188			
Filed as Small Entity				
<b>Utility Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
Post-Allowance-and-Post-Issuance:				
<b>Extension-of-Time:</b>				
Extension - 2 months with \$0 paid	2252	1	230	230

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
<b>Total in USD (\$)</b>				<b>230</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	2881556
<b>Application Number:</b>	10740030
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	1731
<b>Title of Invention:</b>	System and method for instant VoIP messaging
<b>First Named Inventor/Applicant Name:</b>	Michael J. Rojas
<b>Customer Number:</b>	23389
<b>Filer:</b>	Paul J. Esatto/Roseann Gallo
<b>Filer Authorized By:</b>	Paul J. Esatto
<b>Attorney Docket Number:</b>	17188
<b>Receipt Date:</b>	19-FEB-2008
<b>Filing Date:</b>	18-DEC-2003
<b>Time Stamp:</b>	18:43:01
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 230
RAM confirmation Number	4208
Deposit Account	191013
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

<b>File Listing:</b>						
<b>Document Number</b>	<b>Document Description</b>	<b>File Name</b>	<b>File Size(Bytes) /Message Digest</b>	<b>Multi Part /.zip</b>	<b>Pages (if appl.)</b>	
1		AMEND1EOT.pdf	1389410 <small>23f5737b15542285efd889fd6d95doda578688a6</small>	yes	32	
<b>Multipart Description/PDF files in .zip description</b>						
		<b>Document Description</b>	<b>Start</b>	<b>End</b>		
		Amendment - After Non-Final Rejection	1	1		
		Claims	2	27		
		Applicant Arguments/Remarks Made in an Amendment	28	30		
		Extension of Time	31	32		
<b>Warnings:</b>						
<b>Information:</b>						
2	Fee Worksheet (PTO-06)	fee-info.pdf	8139 <small>395425fd3fc9a5b8804651233797ab1b1789be7</small>	no	2	
<b>Warnings:</b>						
<b>Information:</b>						
<b>Total Files Size (in bytes):</b>			1397549			
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>						

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875				Application or Docket Number <b>10/740,030</b>		Filing Date <b>12/18/2003</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>									
(Column 1)			(Column 2)			SMALL ENTITY <input checked="" type="checkbox"/> OR		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)		
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A			N/A			
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A			
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A			
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =		OR	X \$ =			
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =			X \$ =			
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>									
* If the difference in column 1 is less than zero, enter "0" in column 2.									
TOTAL			TOTAL						
<b>APPLICATION AS AMENDED – PART II</b>									
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY OR		OTHER THAN SMALL ENTITY
AMENDMENT	02/19/2008	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	* 70	Minus ** 76	= 0	X \$25 =	0	OR	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	* 14	Minus *** 14	= 0	X \$105 =	0	OR	X \$ =	
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>									
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	
TOTAL			TOTAL						
<b>AMENDMENT</b>									
(Column 1)			(Column 2)		(Column 3)		SMALL ENTITY OR		OTHER THAN SMALL ENTITY
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)
	Total <small>(37 CFR 1.16(i))</small>	*	Minus **	=	X \$ =		OR	X \$ =	
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus ***	=	X \$ =		OR	X \$ =	
<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>									
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
TOTAL			TOTAL						
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.									
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".									
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".									
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									
					Legal Instrument Examiner: /TRINA L. RIDDICK/				

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,030	12/18/2003	Michael J. Rojas	17188	1731

23389 7590 09/18/2007  
SCULLY SCOTT MURPHY & PRESSER, PC  
400 GARDEN CITY PLAZA  
SUITE 300  
GARDEN CITY, NY 11530

EXAMINER

SMITH, CREIGHTON H

ART UNIT	PAPER NUMBER
2614	

MAIL DATE	DELIVERY MODE
09/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/740,030	ROJAS, MICHAEL J.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Creighton H. Smith	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on \_\_\_\_\_.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) \_\_\_\_\_ is/are pending in the application.  
    4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-5, 7-20, 22-35, 37-41, 43-45, 47-57, 59-69 and 71-75 is/are rejected.
- 7)  Claim(s) 6, 21, 36, 42, 46, 58, 70 and 76 is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
    a)  All    b)  Some \*    c)  None of:
1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>23.08.04</u> . | 6) <input type="checkbox"/> Other: _____  |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5, 11-18, 26-29, 43, 45, 51-54, 65, 66 are rejected under 35 U.S.C. 102(E) as being anticipated by McZeal, Jr., U.S. Patent #6,763,226.

McZeal discloses in col. 4, lines 18 et seq. that until his invention there was no device which would take full advantage of the Internet and instant messaging for voice quality purposes, and which uses computer data networks for voice.

In col. 28, lines 5 et seq., McZeal discloses that his invention provides customers with instant voice messaging which uses Voice over Internet Protocol (VoIP). In col. 16, lines 39 et seq., McZeal discloses that his invention can use both the Internet and the PSTN.

For claims 2 & 3, McZeal discloses in cols. 1 & 16, lines 42-43 & 25-30 that his invention can be used in local or wide area networks, i.e., LAN/WAN.

Regarding claim 11, see McZeal @ col. 16, lines 42 & 59-60.

Pertaining to claim 30, with McZeal's disclosure that his device can be used in either a WAN (internet) or LAN (local area network). If the voice message is to be routed out beyond a LAN, then an external serving system will be employed until the

message reaches the recipient inside of the LAN, whereupon the LAN and its associated server will route the message to the intended recipient.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 19, 20, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Williams et al, U.S. Patent Publication #2004/0252679.

Williams et al disclose in ¶-0055 that a messaging server (105) will save a voice message and send a list of recipients to the user from an address book. To have provided Williams teaching of a server providing a user a calling list of recipients in McZeal's Instant Voice Messaging server system would have been obvious to a person having ordinary skill in the art, because the skilled practitioner in the communications and server arts will readily realize that there are an unlimited amount of commands and information that a server can hold which can be communicated to anyone throughout the world that has the proper equipment.

Claims 7, 22, 47, are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Sagi et al, U.S. Patent Publication #2003/0087632.

Sagi et al disclose in claim 24 where a server will receive an audio file from a a subscriber, and then in claim 29 Sagi et al disclose that the transmission is sent to a second subscriber. To have similarly used Sagi et al disclosure of transmitting an audio file to a server in McZeal's device would have been obvious to a person having ordinary

skill in the art, because the skilled practitioner in the communications art will realize that the sending party can either directly record a voice message or send an audio file.

Either way, a called party will receive the voice message.

Claims 8, 23, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Goodman et al, U.S. Patent Publication #2004/0122906.

Goodman et al disclose in ¶-0033 that an audio message can be transformed from any of encrypted, decrypted, compressed, or decompressed format. To have similarly provided Goodman's teaching of encrypting, decrypting, compressing, and decompressing audio into McZeal's device would have been obvious to a person having ordinary skill in the art, because by compressing the audio will take up less memory in the server.

Claims 9, 24, 49, are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Gierachf, U.S. Patent Publication #2005/0053230.

Gierachf discloses in ¶-0044 in Step 266 that the audio data, or voice message, is sent to an audio buffer 19B'. To have similarly used Gierachf method of buffering the audio data in McZeal's device would have been obvious to a person having ordinary skill in the art.

Claims 10, 25, 50, are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Hollowell et al, U.S. Patent Publication #2005/0105697.

Hollowell et al teach in ¶-0031 attaching an email message to an audio message. To have provided this teaching in McZeal would have been obvious to a person having ordinary skill in the art because the skilled practitioner in this communications art will

realize the efficiency of alerting a multitude of persons located throughout the world that an email from the sender is being sent to the recipients, such as the minutes of an important meeting.

Claims 30-33, 35, 41, 55, 57, 63, 64, 67, 69, 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Monroe, U.S. Patent #6970183.

Monroe discloses in col. 20, lines 28 et seq. and in Fig. 9 a local server (460) connected to a LAN, which provides a gateway to a wide area network like the Internet. In col. 32, lines 11 et seq. Monroe discloses that pre-recorded voice messages can be delivered to a modem and then delivered throughout the Network. To have used Monroe's teaching of connecting a local server to an Internet server into McZeal's device would have been obvious to a person having ordinary skill in the art because a local server will only reach a few, select individuals in close proximity to each other, whereas the Internet will have global reach, thus insuring connectivity to clients worldwide.

Claims 34, 56, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Monroe as applied to claim 30 above, and further in view of Williams et al.

Claims 37, 59, 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Monroe as applied to claim 30 above, and further in view of Sagi et al.

Claims 38, 60, 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Monroe as applied to claim 30 above, and further in view of Goodman et al.

Claims 39, 61, 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal, Jr. in view of Monroe as applied to claim 30 above, and further in view of Gierachf.

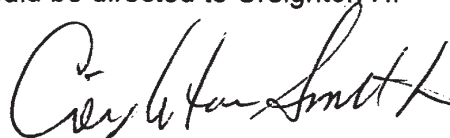
Claims 40, 62, 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal, jr. in view of Monroe as applied to claim 30 above, and further in view of Hollowell et al.

Claims 6, 21, 36, 42, 46, 58, 70, 76 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

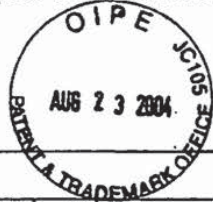
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Malik, Grabelsky et al, Weiner

Any inquiry concerning this communication should be directed to Creighton H. Smith at telephone number 571/272-7546.

11 SEP '07

  
Creighton H Smith  
Primary Examiner  
Art Unit 2614

Form PTO-1449 U.S. DEPARTMENT OF COMMERCE (REV. 7-80) PATENT AND TRADEMARK OFFICE	<b>Atty. Docket No. (Optional)</b> 17188	<b>Application Number</b> 10/740,030
<b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)	<b>Applicant(s)</b> Michael Rojas	
	<b>Filing Date</b> December 18, 2003	<b>Group Art Unit</b> 2661



**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL*	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (if appropriate)
AA						
AB						
AC						

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

CHS	<a href="http://www.cisco.com/warp/public/cc/pd/nemnsw/callmn/prodlit/cm33_ds.htm">http://www.cisco.com/warp/public/cc/pd/nemnsw/callmn/prodlit/cm33_ds.htm</a> ; "Data Sheet Cisco CallManager Version 3.3"
CHS	<a href="http://www.cisco.com/en/US/products/hw/switches/ps1925/products_data_sheet_09186a00800a3c3d.html">http://www.cisco.com/en/US/products/hw/switches/ps1925/products_data_sheet_09186a00800a3c3d.html</a> ; "Data Sheet Cisco MGX 8000 Series"
CHS	<a href="http://www.hsteliann.com/english/?zone=3100-V21P">http://www.hsteliann.com/english/?zone=3100-V21P</a> ; "Telephone 3100-V21P"
CHS	<a href="http://www.linuxdevices.com/articles/AT5199947519.html">http://www.linuxdevices.com/articles/AT5199947519.html</a> ; "Device Profile: snom 100 VoIP phone"
CHS	<a href="http://www.pingtel.com/pr_xpressa.jsp">http://www.pingtel.com/pr_xpressa.jsp</a> ; "No limits with the advanced industry standard SIP phone"
CHS	AudioCoded Enabling Technology Products, TPM-1100 VoP Media Gateway Modules

EXAMINER <i>Christy</i>	DATE CONSIDERED <i>9/07</i>
----------------------------	--------------------------------

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



<b>Notice of References Cited</b>	Application/Control No. 10/740,030	Applicant(s)/Patent Under Reexamination ROJAS, MICHAEL J.	
	Examiner Creighton H. Smith	Art Unit 2614	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification	
*	A	US-6,763,226	07-2004	McZeal, Jr., Alfred	455/90.2
*	B	US-2004/0252679	12-2004	Williams et al.	370/356
*	C	US-2004/0122906	06-2004	Goodman et al.	709/206
*	D	US-2005/0053230	03-2005	Gierachf, Karl	379/406.06
*	E	US-2005/0105697	05-2005	Hollowell et al.	379/088.13
*	F	US-2003/0087632	05-2003	Sagi et al.	455/414
*	G	US-2006/0268750	11-2006	Weiner, Moshe	370/260
*	H	US-2004/0030046	02-2004	Schultes et al.	525/71
*	I	US-2007/0112925	05-2007	Malik, Dale W.	709/206
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
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**NON-PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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Bib Data Sheet

CONFIRMATION NO. 1731

<b>SERIAL NUMBER</b> 10/740,030	<b>FILING OR 371(c) DATE</b> 12/18/2003 <b>RULE</b>	<b>CLASS</b> 370	<b>GROUP ART UNIT</b> 2614	<b>ATTORNEY DOCKET NO.</b> 17188
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**APPLICANTS**  
 Michael J. Rojas, North Canton, OH;  
**\*\* CONTINUING DATA \*\*\*\*\*** *No CAS*  
**\*\* FOREIGN APPLICATIONS \*\*\*\*\*** *No CAS*  
**IF REQUIRED, FOREIGN FILING LICENSE GRANTED\*\* SMALL ENTITY \*\***  
**\*\* 03/30/2004**

Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY OH	SHEETS DRAWING 9	TOTAL CLAIMS 76	INDEPENDENT CLAIMS 14
Verified and Acknowledged	Examiner's Signature <i>CAS</i> Initials				

**ADDRESS**  
23389

**TITLE**  
System and method for instant VoIP messaging

<b>FILING FEE RECEIVED</b> 1362	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees ( Filing ) <input type="checkbox"/> 1.17 Fees ( Processing Ext. of time ) <input type="checkbox"/> 1.18 Fees ( Issue ) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit
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**Index of Claims**



Application/Control No.

10/740,030

Examiner

Creighton H. Smith

Applicant(s)/Patent under Reexamination

ROJAS, MICHAEL J.

Art Unit

2614

✓	Rejected
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-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
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A	Appeal
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Claim		Date	
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	Type	Hits	Search Text	DBs
1	BRS	7	instant adj voice adj messag\$3 with (internet or packet- switch\$3 or packet adj switch\$3) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
2	BRS	1	server with stor\$3 with temporar\$3 with unavailabl\$3 and (voice adj messag\$3) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
3	BRS	128	((audio or voice) with compress\$3 with encrypt\$3 with decrypt\$3 with decompress\$3) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
4	BRS	7	server and S1	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
5	BRS	38	(voice near4 messag\$3) with ((list near7 recipients) or (calling near4 list)) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
6	BRS	38	((voice near4 messag\$3) with ((list near7 recipients) or (calling near4 list))) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
7	BRS	4	(lan or local adj network or local adj area adj network) and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
8	BRS	0	recipient adj list and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
9	BRS	1	recipient\$1 near4 list and S2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
10	BRS	2	server with stor\$3 with temporar\$3 with message with unavailabl\$3 and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
11	BRS	124	(attach\$4 or add\$3 or suppl\$3) with file\$1 with (voice adj messag\$3) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
12	BRS	15	(server with stor\$3 with temporar\$3 with unavailabl\$3) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
13	BRS	165	(buffer\$3 with (voice adj messag\$3)) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Type	Hits	Search Text	DBs
14	BRS	1	(buffer\$3 with (instant adj voice adj messag\$3)) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
15	BRS	98	((voice adj messag\$3) with (audio adj file)) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
16	BRS	24	((voice adj messag\$3) with (audio adj file) with server) and (@ad<="20031218")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB



4. <http://www.linuxdevices.com/articles/AT5199947519.html>; "Device Profile: snom 100 VoIP phone".

5. [http://www.pingtel.com/pr\\_xpressa.jsp](http://www.pingtel.com/pr_xpressa.jsp); "No limits with the advanced industry standard SIP phone.

6. AudioCoded Enabling Technology Products, TPM-1100 VoP Media Gateway Modules.

Applicant is submitting a copy of the above-cited references.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. § 1.97(b), no statement or fee is required.

Respectfully submitted,



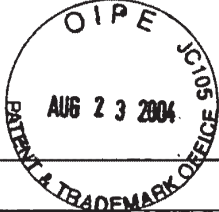
Paul J. Esatto, Jr.  
Registration No. 30,749

Scully, Scott, Murphy & Presser  
400 Garden City Plaza  
Garden City, New York 11530  
(516) 742-4343

PJE:ae



Form PTO-1449 (REV. 7-80) PATENT AND TRADEMARK OFFICE	U.S. DEPARTMENT OF COMMERCE	<b>Atty. Docket No. (Optional)</b> 17188	<b>Application Number</b> 10/740,030
<b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)		<b>Applicant(s)</b> Michael Rojas	
		<b>Filing Date</b> December 18, 2003	<b>Group Art Unit</b> 2661



**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL*	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (if appropriate)
AA						
AB						
AC						

**FOREIGN PATENT DOCUMENTS**

REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

	<a href="http://www.cisco.com/warp/public/cc/pd/nemnsw/callmn/prodlit/cm33_ds.htm">http://www.cisco.com/warp/public/cc/pd/nemnsw/callmn/prodlit/cm33_ds.htm</a> ; "Data Sheet Cisco CallManager Version 3.3"
	<a href="http://www.cisco.com/en/US/products/hw/switches/ps1925/products_data_sheet_09186_a00800a3c3d.html">http://www.cisco.com/en/US/products/hw/switches/ps1925/products_data_sheet_09186_a00800a3c3d.html</a> ; "Data Sheet Cisco MGX 8000 Series"
	<a href="http://www.hsteliann.com/english/?zone=3100-V21P">http://www.hsteliann.com/english/?zone=3100-V21P</a> ; "Telephone 3100-V21P"
	<a href="http://www.linuxdevices.com/articles/AT5199947519.html">http://www.linuxdevices.com/articles/AT5199947519.html</a> ; "Device Profile: snom 100 VoIP phone"
	<a href="http://www.pingtel.com/pr_xpressa.jsp">http://www.pingtel.com/pr_xpressa.jsp</a> ; "No limits with the advanced industry standard SIP phone"
	AudioCoded Enabling Technology Products, TPM-1100 VoP Media Gateway Modules

<b>EXAMINER</b>	<b>DATE CONSIDERED</b>
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

J.F.W

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT  
(Under 37 CFR 1.97(b) or 1.97(c))**

Docket No.  
17188

In Re Application Of: **Michael J. Rojas**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/740,030	December 18, 2003	Unassigned	23389	2661	1731

Title:

**SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING**



Address to:  
**Commissioner for Patents**  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

**37 CFR 1.97(b)**

1.  The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

**37 CFR 1.97(c)**

2.  The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:
- the statement specified in 37 CFR 1.97(e);
- OR**
- the fee set forth in 37 CFR 1.17(p).

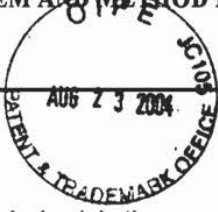
**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT  
(Under 37 CFR 1.97(b) or 1.97(c))**

Docket No.  
17188

In Re Application: **Michael J. Rojas**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/740,030	December 18, 2003	Unassigned	23389	2661	1731

**SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING**



**Payment of Fee**

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- A check in the amount of \_\_\_\_\_ is attached.
- The Director is hereby authorized to charge and credit Deposit Account **19-1013/SSMP** as described below.
  - Charge the amount of \_\_\_\_\_
  - Credit any overpayment.
  - Charge any additional fee required.

**Certificate of Transmission by Facsimile\***

I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. \_\_\_\_\_)

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(Date)

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Signature

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Typed or Printed Name of Person Signing Certificate

**Certificate of Mailing by First Class Mail**

I certify that this document and fee is being deposited on **8/19/04** th the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature of Person Mailing Correspondence

Paul J. Esatto, Jr.

\_\_\_\_\_  
Typed or Printed Name of Person Mailing Certificate

**\*This certificate may only be used if paying by deposit account.**

\_\_\_\_\_  
Signature

Dated: **August 19, 2004**

**Paul J. Esatto, Jr.**  
Registration No. 30,749  
Scully, Scott, Murphy & Presser  
400 Garden City Plaza  
Garden City, New York 11530  
516-742-4343

cc:

16669 US PTO  
121803

# UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No. 17188
Total Pages in this Submission 4

### TO THE COMMISSIONER FOR PATENTS

Mail Stop Patent Application  
P.O. Box 1450  
Alexandria, VA 22313-1450

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING

22887 U.S. PTO  
10/740030

and invented by:

MICHAEL J. ROJAS

If a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Which is a:

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Which is a:

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

Enclosed are:

#### Application Elements

1.  Filing fee as calculated and transmitted as described below
2.  Specification having 75 pages and including the following:
  - a.  Descriptive Title of the Invention
  - b.  Cross References to Related Applications (if applicable)
  - c.  Statement Regarding Federally-sponsored Research/Development (if applicable)
  - d.  Reference to Sequence Listing, a Table, or a Computer Program Listing Appendix
  - e.  Background of the Invention
  - f.  Brief Summary of the Invention
  - g.  Brief Description of the Drawings (if filed)
  - h.  Detailed Description
  - i.  Claim(s) as Classified Below
  - j.  Abstract of the Disclosure



**UTILITY PATENT APPLICATION TRANSMITTAL  
(Small Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
17188

Total Pages in this Submission  
4

**Accompanying Application Parts (Continued)**

17.  Applicant claims small entity status. See 37 CFR 1.27.  
 (Optional) Small Entity Statement(s) - Specify Number of Statements Submitted: \_\_\_\_\_

18.  Additional Enclosures *(please identify below)*:

Assignee: Ayalogic, Inc.  
Akron, Ohio 44311

**Request That Application Not Be Published Pursuant To 35 U.S.C. 122(b)(2)**

19.  Pursuant to 35 U.S.C. 122(b)(2), Applicant hereby requests that this patent application not be published pursuant to 35 U.S.C. 122(b)(1). Applicant hereby certifies that the invention disclosed in this application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication of applications 18 months after filing of the application.

**Warning**

***An applicant who makes a request not to publish, but who subsequently files in a foreign country or under a multilateral international agreement specified in 35 U.S.C. 122(b)(2)(B)(i), must notify the Director of such filing not later than 45 days after the date of the filing of such foreign or international application. A failure of the applicant to provide such notice within the prescribed period shall result in the application being regarded as abandoned, unless it is shown to the satisfaction of the Director that the delay in submitting the notice was unintentional.***

**UTILITY PATENT APPLICATION TRANSMITTAL  
(Small Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
17188

Total Pages in this Submission  
4

**Correspondence Address:**

**Customer No. 23389**

**Fee Calculation and Transmittal**

**CLAIMS AS FILED**

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	76	- 20 =	56	x \$9.00	\$504.00
Ind p. Claims	14	- 3 =	11	x \$43.00	\$473.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
<b>BASIC FEE</b>					\$385.00
<b>OTHER FEE (specify purpose)</b> _____					\$0.00
<b>TOTAL FILING FEE</b>					\$1,362.00

- A check in the amount of \_\_\_\_\_ to cover the filing fee is enclosed.
- The Director is hereby authorized to charge and credit Deposit Account No. **19-1013 SSMP** as described below.
- Charge the amount of **\$1,362.00** as filing fee.
  - Credit any overpayment.
  - Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
  - Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: **December 18, 2003**

  
\_\_\_\_\_  
Signature

**Paul J. Esatto, Jr.  
Registration No. 30,749**

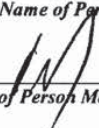
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<b>CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)</b>			Docket No.
Applicant(s): <b>MICHAEL J. ROJAS</b>			<b>17188</b>

Serial No. <b>unassigned</b>	Filing Date <b>herewith</b>	Examiner <b>unassigned</b>	Group Art Unit <b>unassigned</b>
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Invention:  
**SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING**

I hereby certify that this **NEW PATENT APPLICATION**  
*(Identify type of correspondence)*  
 is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Director of the United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on **December 18, 2003**  
*(Date)*

**Paul J. Esatto, Jr.**  
*(Typed or Printed Name of Person Mailing Correspondence)*  
  
*(Signature of Person Mailing Correspondence)*  
**EV-244-125-044-US**  
*("Express Mail" Mailing Label Number)*

**Note: Each paper must have its own certificate of mailing.**



16669 US PTO  
121803

# UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.  
17188

Total Pages in this Submission  
4

## TO THE COMMISSIONER FOR PATENTS

Mail Stop Patent Application  
P.O. Box 1450  
Alexandria, VA 22313-1450

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING

22887 U.S. PTO  
10740030  
121803

and invented by:

MICHAEL J. ROJAS

If a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:

Continuation  Divisional  Continuation-in-part (CIP) of prior application No.: \_\_\_\_\_

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**UTILITY PATENT APPLICATION TRANSMITTAL  
(Small Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
17188

Total Pages in this Submission  
4

**Accompanying Application Parts (Continued)**

17.  Applicant claims small entity status. See 37 CFR 1.27.  
 (Optional) Small Entity Statement(s) - Specify Number of Statements Submitted: \_\_\_\_\_

18.  Additional Enclosures *(please identify below)*:

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**UTILITY PATENT APPLICATION TRANSMITTAL  
(Small Entity)**

*(Only for new nonprovisional applications under 37 CFR 1.53(b))*

Docket No.  
17188

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**Correspondence Address:**

**Customer No. 23389**

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**CLAIMS AS FILED**

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Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
<b>BASIC FEE</b>					\$385.00
<b>OTHER FEE (specify purpose)</b> _____					\$0.00
<b>TOTAL FILING FEE</b>					<b>\$1,362.00</b>

- A check in the amount of \_\_\_\_\_ to cover the filing fee is enclosed.
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- Charge the amount of **\$1,362.00** as filing fee.
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  - Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
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Dated: **December 18, 2003**

  
\_\_\_\_\_  
Signature

**Paul J. Esatto, Jr.**  
**Registration No. 30,749**

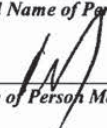
cc:

<b>CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)</b>		Docket No.
Applicant(s): <b>MICHAEL J. ROJAS</b>		<b>17188</b>

Serial No. <b>unassigned</b>	Filing Date <b>herewith</b>	Examiner <b>unassigned</b>	Group Art Unit <b>unassigned</b>
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Invention:  
**SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING**

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*(Identify type of correspondence)*  
 is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Director of the United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on December 18, 2003  
*(Date)*

Paul J. Esatto, Jr.  
*(Typed or Printed Name of Person Mailing Correspondence)*  
  
*(Signature of Person Mailing Correspondence)*  
EV-244-125-044-US  
*("Express Mail" Mailing Label Number)*

**Note: Each paper must have its own certificate of mailing.**

**SYSTEM AND METHOD  
FOR INSTANT VoIP MESSAGING**

**BACKGROUND OF THE INVENTION**

5

Technical Field of the Invention

The present invention generally relates to Internet telephony (IP telephony). More particularly, the present invention is directed to a system and method for enabling local and global instant VoIP messaging over an IP network, such as the Internet, with PSTN support.

Description of the Prior Art

15 Traditional telephony is based on a public switched telephone network (i.e., "PSTN"). In the PSTN, a telephone terminal is electrically connected to a conventional or legacy switch. The telephone terminal and the legacy switch communicate via a proprietary protocol, which may be different depending on the vendor of the legacy switch. Circuit switching provides a communication path (i.e., dedicated circuit) for a telephone call from the telephone terminal to another device over the PSTN, including another telephone terminal. During the telephone call, voice communication takes place over that communication path.

25 An alternative to the PSTN is Voice over Internet Protocol (i.e., "VoIP"), also known as IP telephony or Internet telephony. In the IP telephony, a VoIP terminal device is connected to a packet-switched network (e.g., Internet) and voice

communication from the VoIP terminal device is digitized, packetized and transmitted over the packet-switched network to a destination VoIP terminal device, which reconstructs the packets and audibly plays, stores or otherwise processes the transmission. The VoIP terminal device may be a VoIP telephone or a general-purpose personal computer (PC) enabled for IP telephony. More specifically, the PC is  
5 programmed with the software and equipped with audio input/output devices (e.g., a combination of microphone and speaker or a headset) to serve as a VoIP terminal device. The PC so enabled and equipped will herein be referred to as a VoIP terminal device or a VoIP softphone.

10

Figure 1 is an illustrative example of a prior art IP telephony system 100. The IP telephony system 100 comprises a packet-switched IP network 102, such as the Internet, which transmits VoIP traffic from and to a plurality of terminal devices 104, 106 and 110. Terminal device 104 is a VoIP softphone that is enabled for IP telephony over  
15 the network 102. Terminal device 106 is a VoIP telephone, which is connected to the network 102 via a softswitch 108. The VoIP softswitch 108 is disposed on the packet-switched network (e.g., Internet) 102 between an origination terminal device (such as VoIP softphone 104) and a destination terminal device (such as VoIP telephone 106), and routes packets over the packet-switched IP network 102. The softswitch 108 may also  
20 manage and perform administrative functions for the terminal device or devices (e.g., VoIP telephone 106) to which it is connected. Whether the terminal device is a VoIP softphone 104 or a VoIP telephone 106, the terminal device is connected to the IP network 102 via a networking standard such as Ethernet, Bluetooth, IEEE 1394 (also

known as “Firewire”), IEEE 802.11 (also known as “WiFi”), or networking over serial communication channels such as the Universal Serial Bus (i.e., “USB”). Data communication over the network then takes place using a connection protocol, e.g., transfer control protocol/Internet protocol (i.e., “TCP/IP”).

5

Further regarding Fig. 1, terminal device 110 is a legacy telephone that is connected to a legacy switch 112 for (circuit-switched) voice communications over the PSTN 116 with other terminal devices. A media gateway 114 may be provided between the legacy switch 112 and the packet-switched network 102 to enable IP telephony  
10 between the legacy telephone 110 and a VoIP terminal device, such as a VoIP softphone 104 or VoIP telephone 106. More specifically, the media gateway 114 converts the audio signal carried over PSTN to packets carried over the packet-switched IP network 102. In addition, a media gateway 118 may be disposed over the PSTN 116 and connected to a softswitch 120 to convert the audio signal from the legacy telephone 110 to packets  
15 routed over the IP network 102 via the softswitch 120.

Voice messaging in both the VoIP and PSTN is known. More specifically, the foregoing systems may be provided with a facility to allow users to leave voice messages for recipients, which is a feature that is familiar to anyone who uses a  
20 telephone. Conventionally, leaving a voice message involves dialing the recipient's telephone number (often without knowing whether the recipient will answer), waiting for the connection to be established, speaking to an operator or navigating through a menu of options, listening to a greeting message, and recording the message for later pickup by



the recipient. In that message, the user must typically identify himself or herself in order for the recipient to return the call.

Instant text messaging is likewise known. More specifically, a user is  
5 provided with a client terminal, which is typically a general-purpose PC programmed with instant text messaging software and in data communication over an IP network with an instant text-messaging server. The instant text-messaging server presents the user, via the client terminal, with a list of persons who are currently “online” and ready to receive text messages on their own client terminals. The user then uses the client terminal to  
10 select one or more persons to whom the message will be sent and types in a text message. The text message is sent immediately via the text-messaging server to the selected one or more persons and is displayed on their respective client terminals.

However, notwithstanding the foregoing advances in the VoIP/PSTN  
15 voice communication and voice/text messaging, there is still a need in the art for providing a system and method for providing instant VoIP messaging over an IP network. More particularly, there is a need in the art for providing local and global instant voice messaging over VoIP with PSTN support.

20

### **SUMMARY OF THE INVENTION**

The present invention is directed to a system and method for enabling local and global instant VoIP messaging over an IP network, such as the Internet.

According to an embodiment of the present invention, there is provided an instant voice messaging system for delivering instant messages over a packet-switched network, the system comprising: a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the network; and a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message.

According to another embodiment of the present invention, there is provided an instant voice messaging system for delivering instant messages over a packet-switched network enabling public switched telephone network (PSTN) support, the system comprising: a PSTN telephone connected to the network for providing input audio; a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor using the input audio provided by the PSTN telephone, and transmitting the selected recipients and the instant voice message therefor over the network; a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message.

According to a further embodiment of the present invention, there is provided an instant voice messaging system for delivering instant messages over a packet-switched network, the system comprising: a voice-over-internet-protocol (VoIP) telephone connected to the network for providing input audio; a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor using the input audio provided by the VoIP telephone, and transmitting the selected recipients and the instant voice message therefor over the network; a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message.

According to still another embodiment of the present invention, there is provided an instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising: a client connected to a local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network; and a server connected to the external network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message.

According to yet another embodiment of the present invention, there is provided an instant voice messaging system for delivering instant messages over a plurality of packet-switched networks enabling public switched telephone network (PSTN) support, the system comprising: a PSTN telephone connected to a local network for providing input audio; a client connected to the local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor using the input audio provided by the PSTN telephone, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network; a server connected to the external network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message.

According to yet a further embodiment of the present invention, there is provided an instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising: a voice-over-internet-protocol (VoIP) telephone connected to a local network for providing input audio; a client connected to the local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor using the input audio provided by the VoIP telephone, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network; an server connected to the external network, the external server

receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message.

5                   According to still a further embodiment of the present invention, there is provided an instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising: a client connected to an external network, the client selecting one or more recipients connected to a local network, generating an instant voice message therefor, and transmitting the selected recipients and  
10 the instant voice message therefor over the external network; an external server system connected to the external network, the external server system receiving the selected recipients and the instant voice message, and routing the selected recipients and the instant voice message over the external network and the local network; a local server connected to the local network, the local server receiving the selected recipients and the  
15 instant voice message therefor, and delivering the instant voice message to the selected recipients over the local network, the selected recipients being enabled to audibly play the instant voice message.

                  According to an embodiment of the present invention, there is provided a  
20 method for instant voice messaging over a packet-switched network, the method comprising: selecting one or more recipients for instant voice messaging at a client; generating an instant voice message for the selected recipients at the client; transmitting the selected recipients and the instant voice message therefor over the network from the

client to a server; receiving the selected recipients and the instant voice message therefor at the server; delivering the instant voice message from the server to the selected recipients over the network; and audibly playing the instant voice message at the selected recipients.

5

According to another embodiment of the present invention, there is provided a method for instant voice messaging over a packet-switched network enabling public switched telephone network (PSTN) support, the method comprising: providing input audio via a PSTN telephone connected over the network; selecting one or more recipients for instant voice messaging at a client; generating an instant voice message using the input audio from the PSTN telephone for the selected recipients at the client; transmitting the selected recipients and the instant voice message therefor over the network from the client to a server; receiving the selected recipients and the instant voice message therefor at the server; delivering the instant voice message from the server to the selected recipients over the network; and audibly playing the instant voice message at the selected recipients.

According to a further embodiment of the present invention, there is provided a method for instant voice messaging over a packet-switched network, the method comprising: providing input audio via a voice-over-internet-protocol (VoIP) telephone connected over the network; selecting one or more recipients for instant voice messaging at a client; generating an instant voice message using the input audio from the VoIP telephone for the selected recipients at the client; transmitting the selected

recipients and the instant voice message therefor over the network from the client to a server; receiving the selected recipients and the instant voice message therefor at the server; delivering the instant voice message from the server to the selected recipients over the network; and audibly playing the instant voice message at the selected recipients.

5

According to still another embodiment of the present invention, there is provided a method for instant voice messaging over a plurality of packet-switched networks, the method comprising: selecting one or more external recipients for instant voice messaging at a client connected to a local network, the one or more external recipients connected to an external network outside the local network; generating an instant voice message for the selected external recipients at the client; transmitting the selected external recipients and the instant voice message therefor over the local network and the external network; receiving the selected external recipients and the instant voice message therefor at an external server connected to the external network; delivering the instant voice message to the selected external recipients over the external network; and audibly playing the instant voice message at the selected external recipients.

According to yet another embodiment of the present invention, there is provided a method for instant voice messaging system over a plurality of packet-switched networks enabling public switched telephone network (PSTN) support, the method comprising: providing input audio via a PSTN telephone connected to a local network; selecting one or more external recipients for instant voice messaging at a client, the one or more external recipients connected to an external network outside the local network;

generating an instant voice message for the one or more external recipients using the input audio provided by the PSTN telephone; transmitting the selected recipients and the instant voice message therefor over the local network and the external network; receiving the selected recipients and the instant voice message therefor at a server connected to the external network; delivering the instant voice message to the selected recipients from the server over the external network; and audibly playing the instant voice message at the selected recipients.

According to still a further embodiment of the present invention, there is provided a method for instant voice messaging system over a plurality of packet-switched networks, the method comprising: providing input audio via a voice-over-internet-protocol (VoIP) telephone connected to a local network; selecting one or more external recipients for instant voice messaging at a client, the one or more external recipients connected to an external network outside the local network; generating an instant voice message for the one or more external recipients using the input audio provided by the VoIP telephone; transmitting the selected recipients and the instant voice message therefor over the local network and the external network; receiving the selected recipients and the instant voice message therefor at a server connected to the external network; delivering the instant voice message to the selected recipients from the server over the external network; and audibly playing the instant voice message at the selected recipients.

According to yet a further embodiment of the present invention, there is provided a method for instant voice messaging over a plurality of a plurality of packet-



switched networks, the method comprising: selecting one or more recipients connected to a local network at a client connected to an external network; generating an instant voice message for the selected recipients at the client; transmitting the selected recipients and the instant voice message therefor over the external network from the client to an external server system; receiving the selected recipients and the instant voice message at the external server system; routing the selected recipients and the instant voice message over the external network and the local network; receiving the selected recipients and the instant voice message therefor at a local server connected to the local network; delivering the instant voice message to the selected recipients over the local network; audibly playing the instant voice message at the selected recipients.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The objects, features and advantages of the present invention will become apparent to one skilled in the art, in view of the following detailed description taken in combination with the attached drawings, in which:

Figure 1 illustrates an example of a prior art IP telephony system;

Figure 2 illustrates an exemplary local IVM system for enabling instant voice messaging according to the present invention;

Figure 3 illustrates an exemplary IVM client of Figure 2 for enabling instant voice messaging according to the present invention;

Figure 4 illustrates an exemplary IVM server of Figure 2 for enabling instant voice messaging according to the present invention;

Figure 5 illustrates an exemplary global IVM system comprising a local IVM system and global IVM clients, according to the present invention;

Fig. 6 illustrates an exemplary global IVM server system depicted in Fig. 5, according to the present invention;

5 Fig. 7 illustrates an exemplary transport server depicted in Fig. 6, according to the present invention;

Fig. 8 illustrates an exemplary directory server depicted in Fig. 6, according to the present invention; and

10 Fig. 9 illustrates an exemplary global IVM system comprising a plurality of local IVM systems and global IVM clients, according to the present invention.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION**

15 The present invention is directed to a system and method for enabling local and global instant VoIP messaging over an IP network with PSTN support.

Figure 2 is an exemplary illustration of a local instant voice messaging (IVM) system 200 according to the present invention. The instant voice messaging  
20 system 200 comprises a local IVM server 202 that provides the core functionality for enabling instant voice messaging with PSTN support according to the present invention. The architecture of the local IVM server 202 will be described in detail hereinbelow with reference to Fig. 4. According to the exemplary IVM system 200, the local IVM server 202 is enabled to provide instant voice messaging to one or more IVM clients 206 and  
25 208, as well support instant voice messaging for PSTN legacy telephones 110. It is noted

that although Fig. 2 depicts one of each IVM client 206, 208 and legacy telephone 110 for clarity and brevity, the local IVM server 202 is enabled to support a plurality of each of the foregoing IVM clients 206, 208 and legacy telephone 110. The local packet-switched IP network 204 interconnects the IVM clients 206, 208 and the legacy telephone 110 to the local IVM server 202 as well as interconnecting the local IVM server 202 to the local IP network 204. The network 204 may be a local area network (LAN), a wide area network (WAN), or the like, which supports both wired and wireless devices. The exemplary IVM client 208 is a VoIP softphone, the architecture of which will be described in detail hereinbelow with reference to Fig. 3. A microphone 212 is connected to the IVM client 208 and enables the recording of an instant voice message according to the present invention into an audio file 210 for transmission to the local IVM server 202 over the network 204. An input device 218 (e.g., a keyboard) is connected to the IVM client 208 to select one or more recipients that are to receive the recorded instant voice message. Although not depicted in Fig. 2, the input device 218 may include a trackball, digitizing pad or mouse, or the like. A display device 216 is connected to the IVM client 208 to display instant voice messages recorded and/or received by a user of the IVM client 208. An audio device 214, such as external speaker, is connected to the IVM client 208 to play received instant voice messages. It is noted that the microphone 212, audio device 214, display device 216 and input device 218 may form integral parts of the IVM client 208.

Further with reference to Fig. 2, IVM client 206 is interconnected via the network 204 to the local IVM server 202. An exemplary IVM client 206 is a VoIP

telephone, which comprises a screen display (not shown) capable of displaying instant voice messages recorded and/or received by a user of the IVM client 206 according to the present invention. The VoIP telephone 206 further comprises a handset and/or speakerphone for recording instant voice messages and listening to instant voice messages received at the VoIP telephone 206 according to the present invention. The VoIP telephones which may be implemented to provide instant voice messaging functionality according to the present invention are commercially available from many vendors, including Alcatel™, Lucent™, NEC™ and Cisco™, to name just a few. In addition to the foregoing IVM clients 206, 208, the IVM system 200 supports a legacy telephone 110 for instant voice messaging according to the present invention. The legacy telephone 110 is connected to a legacy switch 112. The legacy switch 112 is further connected to a media gateway 114. Both the legacy switch 112 and the media gateway 114 interconnect the legacy telephone 110 via the network 204 to the local IVM server 202, thereby facilitating instant voice messaging according to the present invention. The media gateway 114 may be a gateway that supports trunk pack network control (i.e., “TPNCP”) protocol, media gateway control protocol (i.e., “MGCP”), or a media gateway control H.428 protocol (i.e., “MEGACO”). As previously mentioned, the media gateway 114 converts the audio signal carried over PSTN to packets to be transmitted over a packet-switched IP network, such as the local network 204.

20

The implementation of the instant voice messaging for IVM client 208 will be described first and will be followed by the implementations for IVM client 206 and legacy telephone 110, with reference to the local IVM system 200 depicted in Fig. 2.

These implementations implement a “record mode” of the instant voice messaging according to the present invention. There will further be described an “intercom mode” of the instant voice messaging according to the present invention. Therefore, in operation of the IVM client 208 according to Fig. 2, the IVM client (IVM softphone) 208 is

5 connected over the network 204 to the IVM server 202, which as aforementioned enables instant voice messaging functionality over the network 204. The IVM client 208 displays a list of one or more IVM recipients on its display 216, provided and stored by the local IVM server 202, as will be particularly described hereinbelow with reference to Fig. 4.

The user operates the IVM client 208 by using the input device 218 to indicate a selection

10 of one or more IVM recipients from the list. The user selection is transmitted to the IVM server 202. The user selection also generates a start signal to the IVM client 208 that the user is ready to begin instant voice messaging according to the present invention. In response to the start signal, the IVM client (softphone) 208 listens to the input audio device 212 and records the user’s speech into a digitized audio file 210 (i.e., instant voice

15 message) stored on the IVM client 208. The audio file 210 at the IVM client 208 is finalized via a stop signal, which is generated by the user via the input device 218 or a preset time period without speech input via the input audio device 212 on the IVM client 208. Once the recording of the user’s speech is finalized, IVM client 208 generates a send signal indicating that the digitized audio file 210 (instant voice message) is ready to

20 be sent to the selected recipients. The user generates the send signal when the user operates the IVM client 208 via the input device 218, e.g., pressing a key on a keyboard or clicking a button on a mouse. The IVM client 208 transmits the digitized audio file 210 and the send signal to the local IVM server 202. In response to the send signal

indicating that the instant voice message is ready to be sent, the IVM client 208 sends the recorded audio file 210 destined for the selected one or more recipients via local IVM server 202. After receiving the audio file 210, the IVM server 202 thereafter delivers the transmitted instant voice message to the selected one or more recipients via the local IP  
5 network 204. The one or more recipients are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message to an associated user. It should be understood that only the available IVM recipients, currently connected to the IVM server 202, will receive the instant voice message. It is noted that if a recipient IVM client is not currently connected to the local IVM server 202 (i.e., is  
10 unavailable), the IVM server temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the local IVM server 202 (i.e., is available).

There are several embodiments for the operation of the IVM client (VoIP telephone) 206 within the IVM system 200, according to the present invention. In the  
15 first embodiment, the VoIP telephone 206 is a standalone IVM client 206 enabled for instant voice messaging according to the present invention. In the second embodiment, the VoIP telephone 206 operates synchronously either with the IVM client 208 or IVM server 202 to enable instant voice messaging according to the present invention. Thus, in operation according to the first embodiment in Fig. 2, the IVM client (VoIP telephone)  
20 206 is connected over the network 204 to the IVM server 202, which as aforementioned enables instant voice messaging functionality over the local network 204. The IVM client 206 displays a list of one or more IVM recipients on its associated display provided and stored by the local IVM server 202, as will be particularly described hereinbelow

with reference to Fig. 4. The user operates the IVM client 206 by using a keypad on the VoIP telephone 206 to indicate a selection of one or more IVM recipients from the list. The VoIP telephone 206 transmits the selection to the IVM server 202. The user selection also generates a start signal to the IVM client 206 indicating the user is ready to begin instant voice messaging according to the present invention. The user speaks into the handset of the IVM client 206 or a speakerphone on the IVM client 206. Although not shown in Fig. 2, the VoIP telephone 206 may provide a dedicated storage device, which in response to the start signal records an audio file, similar to the audio file 210 in the IVM client 208. The audio file is finalized via a stop signal. The stop signal is generated when the user presses a button on the keypad, a preset time period without speech input to the VoIP telephone 206, or when the user returns the handset to the cradle of the VoIP telephone 206. Once the recording of the user's speech is complete, a send signal is generated indicating that the instant voice message is ready to be sent to the selected recipients. The user generates the send signal when the user presses a button on the keypad or returns the handset of the VoIP telephone 206 to its cradle (on-hook). In response to the send signal, the IVM client 206 sends the recorded audio to the local IVM server 202 via the network 204. The IVM server 202 thereafter delivers the instant voice message to the selected one or more recipients via the IP network 204. As before, the one or more recipients are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message. As aforementioned, if a recipient IVM client is not currently connected to the local IVM server 202, the IVM server 202 temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the local IVM server 202.

In the second embodiment of the IVM client 206 according to Fig. 2, the VoIP telephone 206 operates synchronously either with the IVM client 208 or the IVM server 202 to enable instant voice messaging according to the present invention. Thus, in operation according to the second embodiment, the IVM client (VoIP telephone) 206 is still connected over the network 204 to the IVM server 202, which as aforementioned enables instant voice messaging functionality over the local network 204. However, VoIP telephone 206 cooperates with the IVM client 208 or IVM server 202 to record and send an instant voice message. More specifically, the VoIP telephone 206 is only used as a recording/listening device for recording or listing to instant voice messages, while the IVM client 208 is used for displaying and selecting instant voice message recipients as described hereinabove. In operation, the IVM client 208 displays a list of IVM recipients on the display device 216 provided and stored by the local IVM server 202. The user operates the IVM client 208 by using the input device 218 on the IVM client 208 to indicate a selection of one or more IVM recipients from the list. The user selection is transmitted to the IVM server 202. The user selection generates a start signal to the IVM server 202 indicating that the user is ready to begin instant voice messaging according to the present invention. In response to receiving the start signal, the IVM server 202 transmits a ring signal to the VoIP telephone 206, thereby indicating to the user the IVM system 200 is ready to record an instant voice message. The IVM server 202 also signals the IVM client 208 to generate audio file 210 to record the instant voice message. As the user picks up the handset of the VoIP telephone 206 (off-hook), a connection is established via the network 204 between the local IVM server 202 and the VoIP



telephone 206. Thereafter, the IVM server 202 forwards the user's speech transmitted from VoIP telephone 206 to the IVM client 208 for storage into digitized audio file 210 on the IVM client 208. The audio file 210 is finalized by returning the handset its cradle (on-hook) or by pressing a designated button on the keypad VoIP telephone 206, which  
5 transmits the stop signal to the IVM server 202 and further from the IVM server 202 to the IVM client 208. Returning the handset to its cradle preferably generates a send signal to the IVM server 202, which transmits the signal to the IVM client 208. The IVM client thereafter transmits the recorded audio file 210 (instant voice message) to IVM server  
10 press a key on the keyboard 218 to initiate the send signal. In response to the send signal, the IVM client 206 sends the recorded audio to the local IVM server 202 via the network 204. The IVM server 202 thereafter delivers the instant voice message to the selected one or more recipients via the IP network 204. The one or more recipients are enabled to display an indication that the instant voice message has been received and audibly play  
15 the instant voice message. If a recipient IVM client is not currently connected to the local IVM server 202, the IVM server 202 temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the local IVM server 202.

20 In operation of the legacy telephone 110 according to Fig. 2, the legacy telephone 110 is connected to the local IVM server 202 via media gateway 114 and legacy switch 112. The legacy telephone 110 cooperates with the IVM client 208 to record and send an instant voice message. More specifically, the legacy telephone 110 is

used as a recording/listening device for recording or listing to instant voice messages, while the IVM client 208 is used for displaying and selecting instant voice message recipients as described hereinabove. Thus, in operation the IVM client 208 displays a list of IVM recipients on the display device 216 provided and stored by the local IVM server 202. The user operates the IVM client 208 by using the input device 218 on the IVM client 208 to indicate a selection of one or more IVM recipients from the list. The user selection is transmitted to the IVM server 202. The user selection generates a start signal to the IVM server 202 indicating that the user is ready to begin instant voice messaging according to the present invention. In response to receiving the start signal, the IVM server 202 transmits an emulation code to the legacy telephone 110 to ring, thereby indicating to the user the IVM system 200 is ready to record an instant voice message. As the user picks up the handset of the legacy telephone 110 (off-hook), a connection is established via the network 204 between the legacy telephone 110 and the IVM server 202. Thereafter, the IVM server forwards the user's speech transmitted from the legacy telephone 110 to the IVM client 208 for storage into the digitized audio file 210 (i.e., instant voice message). The audio file on the IVM client 208 is finalized by returning the handset of the legacy telephone 110 to its cradle (on-hook) or by pressing a designated button on the keypad of the legacy telephone 110, which transmits a stop signal to the IVM server 202 and further to the IVM client 208. Returning the handset to its cradle also generates a send signal to the IVM server to transmit the recorded audio file (instant voice message) to the selected one or more IVM recipients. The IVM server 202 thereafter delivers the instant voice message to the selected one or more recipients via the IP network 204. The one or more recipients are enabled to display an indication that the

received instant voice message has been received and audibly play the instant voice message. If a recipient IVM client is not currently connected to the local IVM server 202, the IVM server 202 temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the local IVM server 202.

5

Regarding the operational embodiments described with reference to Fig. 2 for recoding and transmitting an instant voice message according to the present invention, the digitized audio file is preferably compressed by applying a compression algorithm before sending the audio file to the one or more selected recipients. The audio file is preferably compressed within the IVM clients 206, 208 before forwarding the audio file to the IVM server 202 for subsequent delivery to the one or more selected recipients. Alternatively, the compression may be implemented within the IVM server 202 before the audio file is transmitted to the one or more selected recipients. A Lempel-Ziv compression algorithm is preferably used to compress the audio file according to the present invention. It is noted that many suitable compression algorithms are known to persons of skill in the art, including Huffman encoding, audio compression standards promulgated by the Moving Pictures Experts Group ("MPEG"), G.722 wideband speech encoding standard, fractal compression, and wavelet compression. Any of the foregoing compression algorithms may be implemented within the scope of the present invention.

20

Further regarding the operational embodiments described with reference to Fig. 2 for recoding and transmitting an instant voice message according to the present invention, the digitized audio file (which may or may not be compressed as described

above) is further preferably encrypted via an encryption algorithm before transmitting the audio file to the one or more selected recipients. The encryption is preferably implemented within the IVM clients 206, 208 before forwarding the audio file to the IVM server 202 for subsequent delivery to the one or more selected recipients.

- 5 Alternatively, the encryption may be implemented within the IVM server 202 before the audio file is transmitted to the one or more selected recipients. An AES (Rijndael) encryption algorithm is preferably used to encrypt the audio file according to the present invention. It is noted that many suitable encryption algorithms are known to persons skilled in the art, including DES, Triple DES, Blowfish, Twofish, Serpent, and the like.
- 10 Any of the foregoing encryption algorithms may be implemented within the scope of the present invention.

Lastly with reference to Fig. 2, in addition to the “record mode” of instant voice messaging, the instant voice messaging system 200 also supports an “intercom

15 mode” of voice messaging. The “intercom mode” represents real-time instant voice messaging. In the “intercom mode,” instead of creating an audio file 210, one or more buffers (not shown) of a predetermined size are generated in the IVM client 206, 208 or local IVM server 202. The one or more buffers are used to automatically write successive portions of the instant voice message. Once a first buffer is full, i.e., input

20 audio of the predetermined size is written to the buffer, the content of the first buffer is automatically transmitted to the IVM server 202 for transmission to the one or more IVM recipients. A second buffer is meanwhile written with the next successive portion of input audio. Once, the second buffer is full, i.e., input audio of the predetermined size is

written to the buffer, the content of the second buffer is transmitted to the IVM server 202 for transmission to the one or more IVM recipients. If the entire instant voice message or a successive portion thereof (such as a last successive portion in the instant voice message) written to either buffer is smaller the predetermined size, then the buffered content of less than the predetermined size is automatically transmitted to the IVM server 202. The foregoing buffering using the first and second buffers is repeated until the entire instant voice message has been transmitted to the IVM server 202 for transmission to the one or more IVM recipients. It is noted that the invention is not limited to a particular number of buffers. The foregoing buffering and transmission allows a “real-time” instant voice message to be transmitted to the one or more IVM recipients. The “intercom mode” may be designated as a default mode when an IVM recipient is on-line, while the “record mode” may be designated as a default if the IVM recipient is unavailable, i.e., not on-line. The user may easily change the “intercom mode” to the “record mode” on the respective IVM client 206, 208. Finally, the audio contents of the buffers may be signal processed (for clarity), encrypted and compressed before transmission, as will be described in more detail hereinbelow with reference to Fig. 3.

Fig 3. an exemplary illustration of the architecture in the IVM client 208 for enabling instant voice messaging according to the present invention. More specifically, the IVM client 208 comprises a client platform 302 for generating an instant voice message and a messaging system 320 for messaging between the IVM client 208 and the IVM server 202 for enabling instant voice messaging according to the present

invention. 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  
5 the scope of the present invention. The client platform 302 comprises a client engine 304, which controls other components, namely the document handler 306, file manager 308, audio file creation 312, signal processing 314, encryption/decryption 316, and compression/decompression 318. The messaging system 320 and the client engine 304 communicate via standard inter-process communication. The messaging system 320 and  
10 client engine 304 also communicate with the IVM server 202 over the network interface via the network 204. The document handler 306 oversees the retrieving, sending, receiving and storing of one or more documents (or files) attached to instant voice messages from/to the one or more selected IVM recipients that may be communicating with the IVM client 208. More specifically, when an instant voice message is to be  
15 transmitted to the one or more IVM recipients, one or more documents may be attached to the instant voice message to be, stored or displayed by the one or more selected IVM recipients. The file manager accesses a message database 310, in which both the received and recorded instant voice messages are represented as database records, each record comprising a message identifier and the instant voice message. The file manager 308  
20 services requests from the user to record, delete or retrieve messages to/from the message database 310. Audio file creation 312 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.

Signal processing 314 performs noise removal and signal optimization in the audio file 210. Encryption/decryption 316 provides for respectively encrypting/decrypting of outgoing/incoming audio files (i.e., instant voice messages), and compression/decompression 318 respectively compresses/decompresses the  
5 outgoing/incoming audio files.

Further with reference to Fig. 3, the reception of an instant voice message is described as follows. It is assumed that the local IVM server 202 has determined that the IVM client 208 is available to receive an instant voice message by checking the IVM  
10 client's 208 current status, i.e., whether the IVM client 208 is "on-line." The local IVM server 202 maintains the current status of the IVM clients connected to the local IVM server 202, i.e., IVM clients 206, 208. It is further assumed that an IVM client has transmitted an instant voice message to the IVM client 208. The local IVM server 202 receives the instant voice message over the local IP network 204 and forwards the instant  
15 voice message to the IVM client 208. Upon receipt at the IVM client 208, the instant voice message is decrypted at 316, decompressed at 318, and stored in the message database 310 using the file manager 308. Any files attached to the instant voice message are also stored in the message database 310 using the file manager 308. A visual and/or sound effect is initiated to notify a user of the IVM client 208 that a new instant voice  
20 message has been received at the IVM client 208. At this point in time, the instant voice message and any file attachments are available to the user. The user can select the instant voice message from a listing of available instant voice messages displayed on the IVM client 208 and play the newly received instant voice message. The user may also open

any file attachments and move or save the files to a separate location on the client using a drag-and-drop process.

Still further with reference to Fig. 3, the generation and transmission of an  
5 instant voice message is described as follows. The user selects the available one or more  
IVM recipients and initiates the creation of an instant voice message as described above  
with reference to Fig. 2. The client engine 304 detects the start signal and invokes audio  
file creation 312 of the audio file 210. The audio file 210 is initialized and captures the  
audio voice message input by the user. Once the client engine 304 detects a stop signal,  
10 the instant voice message is finalized in the audio file 210 via audio file creation 312.  
The audio file 210 is adjusted for gain, and noise is removed via signal processing 314.  
The audio file 210 is further compressed at 318 and encrypted at 316. The completion of  
these processes causes the client engine 304 to inform the user via display 216 that the  
instant voice message is available to be sent. After the client engine 304 detects the send  
15 signal from the user, the instant voice message (audio file 210) is transferred to the local  
IVM server 202. Before the transmission of the instant voice message (i.e., before the  
send signal), the user has the option to review the instant voice message, re-record the  
instant voice message, delete the instant voice, as well as attach one or more files (i.e.,  
documents). The attachment of one or more files is enabled conventionally via a  
20 methodology such as “drag-and-drop” and the like, which invokes the document handler  
306 to make the appropriate linkages to the one or more files and flags the messaging  
system 320 that the instant voice message also has the attached one or more files.



Fig 4. an exemplary illustration of the local IVM server 202 for enabling instant voice messaging according to the present invention. The IVM server 202 is a general-purpose programmable computer equipped with a network interface, such as an Ethernet card, to provide connectivity to a network 204. It is noted that any suitable networking protocol may be implemented to connect the IVM server 202 to a network 204. The IVM server 202 comprises a server communication platform 402, a messaging system 436 and a database 414, thereby enabling instant voice messaging according to the present invention. The server communication platform 402 comprises a server engine 404, client manager 406, station manager 408, gateway manager 410, database manager 412 that accesses database 414, supplemental servers 416 (including particular server subsystems 418-424), as well as a control layer 426 (including non-proprietary server subsystems 428, 430 and proprietary server subsystems 432, 434). The messaging system 436 and the server engine 304 communicate via standard inter-process communication. The messaging system 436 and the server engine are also able to communicate with the IVM clients 206, 208 over the network interface via the network 204. The database 414 stores users (e.g., IVM clients as well as legacy telephone clients) that are known to the IVM server 202 via the database manager 412. The users are represented in the database as records, each record comprising a user name, a password, and a contact list (a list of other users with whom the user wishes to exchange instant voice messages), and other data relating to the user. The database manager 412 services requests to add, update, delete, or retrieve database records to/from the database 414. The password may be stored in the database 414 as plaintext, in encrypted form, or as a

hash (e.g., MD5 hash). The messaging system 436 communicates to the server engine 404 via message objects.

A message object comprises an action field, an ID field, a source field, a destination field, and an object field. The content of the action field is selected from a list of permitted actions, which among other actions includes: connect, disconnect, 5 subscribe, unsubscribe, and post message. In addition, the actions include: determining if an IVM client is awake (i.e., pinging), disconnecting from the IVM client, processing an IVM client message, and notifying IVM clients if the IVM server 202 goes down. The client messages include sending an instant voice message portions, checkin message, 10 send message, set status message, send a phone command message, and send control parameters message. The content of the ID field represents a unique identifier for the message object. The content of the source field is a globally unique identifier (“GUID”) that uniquely identifies the sender of the message. This unique identifier can be generated by any known way, including the Globally Unique ID function call available in 15 the Microsoft Windows and Microsoft .NET environments. In some circumstances, the source field is set to a special value to indicate that the sender of the message object is entitled to special privileges. The senders with special privileges are in fact IVM servers. This allows the IVM servers to broadcast messages to one another, subscribe to special events, and directly send messages to specific IVM servers. These privileges can depend 20 upon whether the IVM servers are local servers or global servers. As an example, there can exist more than one local IVM server, each of these local IVM servers automatically has privileges to communicate to other local IVM server. On a global server system, a directory server can communicate with one or more transport servers. The content of the

destination field is a GUID of an intended IVM recipient of the instant voice message. The content of the object field is a block of data being carried by the message object, which may be, for example, a digitized instant voice message. Depending on the circumstances in which the message object is sent, some of the message object fields may be left blank or ignored. For example, the message object may merely require an action to be performed based upon the GUID supplied. In this case, the action does not necessarily require any data to be sent or received and some of the message object's fields may be left blank or ignored.

Connection objects maintain the logical connections between the IVM server 202 and IVM clients 206, 208 connected to the IVM server 202. More specifically, a connection object comprises data representing the state of the connection and code (one or more methods) for establishing and maintaining the logical connections between the IVM server 202 and the IVM clients 206, 208 within the IVM system 200 of Fig. 2. The connection object can contain both data and/or commands, including information that describes the socket, the size of the data to be transferred, and the priority of the transfer (e.g., high, normal, low, unknown). On start up the local IVM server 202 generates and maintains a list for each IVM client 206, 208. The local IVM server 202 then waits to receive connection objects from the IVM clients 206, 208 that are stored in the respective lists, decodes the received connection objects to obtain specific requests, and then services the specific requests from the IVM clients 206, 208.

Further with reference to Fig. 4, the server engine 404 controls all other subsystems in the server communication platform 402, and it is responsible for startup

and shutdown of the IVM server 202 and the IVM system 200. The client manager 406 controls the IVM clients 206, 208, providing contact presence (connection) information and message scheduling and delivery. The station manager 408 controls the individual legacy telephone 110 and coordinates its activity to work synchronously with the IVM client 208 and server 202. The gateway manager 410 enables the IVM server 202 to communicate with the legacy telephones, such as legacy telephone 110. The control layer 426 comprises a plurality of server subsystems 428-434, each of which provides translation services to different proprietary and non-proprietary gateways 114, such as TPNCIP, MGCP, and MEGACO gateways. The proprietary server subsystems 428, 430 and non-proprietary server subsystems 432, 434 are connected to respective gateways 114 via the local IP network 204. The supplemental server subsystems 416 provide a number of required services such as display manager subsystem 418, dynamic host configuration protocol (i.e., "DHCP") subsystem 420, trivial file transfer protocol (i.e., "TFTP") server subsystem 422, and hypertext transfer protocol (i.e., "HTTP"). Each of the supplemental servers 418-424 in the subsystem 416 is used during the initial set-up of the IVM system 200. The boot-up process and allocation of IP addresses to IVM clients 206, 208 are performed through an LCD panel (not shown) associated with the local IVM server 202. The LCD manager 418 supports this boot-up process. The DHCP server 420 is used to allocate IP addresses as required and allows the advanced configuration of network settings in the instant voice messaging system. The TFTP server 422 provides a TCP/IP file transfer capability. Lastly, the HTTP server 424 provides services for a web server.

Figure 5 is an exemplary illustration of a global instant voice messaging (IVM) system 500, according to the present invention. In the global IVM system 500, the local IVM system 200 is depicted as a local IVM system 510, which is connected to a packet-switched network 102 (i.e., Internet). The global IVM system 500 comprises the local IVM system 510, global IVM server system 502, and global IVM clients 506 and 508 that are optionally connected via local IP network 504. The global IVM server system 502 is connected to the IP network (i.e., Internet) 102 for enabling the local IVM clients 206, 208 and legacy telephone 110 in the local IVM system 510 to generate and send instant voice messages to the global IVM clients 506, 508, as well as the local IVM clients 206, 208 to receive instant voice messages from the global IVM clients 506, 508. The implementation of the global instant voice messaging for the IVM client 208 will be described first and will be followed by the implementations for IVM client 206 and legacy telephone 110, with reference to the global IVM system 500 depicted in Fig. 5. Thereafter, instant voice messaging for global clients 506 and 508 will be described according to the present invention. These implementations implement a “record mode” of the instant voice messaging according to the present invention. Thereafter, there will lastly be described an “intercom mode” of the instant voice messaging according to the present invention.

Therefore, in operation of the IVM client 208 according to Fig. 5, the IVM client 208 is connected via the networks 204, 102 to the global IVM server system 502, which enables the global instant voice messaging functionality outside the local IVM system 510 over the network (i.e., Internet) 102. More specifically, the IVM client 208

requests from the global IVM server system 502 a global contact list (not shown) of global one or more IVM recipients with which the IVM client 208 may exchange instant voice messages. For the purposes of illustration, it is assumed that global IVM clients 506, 508 are in the contact list. The global IVM server system 502 stores and maintains this contact list. Thus, the global IVM server system 502 responds by transmitting the contact list to the IVM client 208. The IVM client 208 displays the contact list on its display 216. Alternatively, the global contact list may be replicated to the local IVM server 202 within the local IVM system 510, in which case the local IVM client 208 obtains the global contact list from the local IVM server 202. The user operates the IVM client 208 by using the input device 218 to indicate a selection of one or more IVM recipients from the global contact list. Here, for the purposes of illustration it is again assumed that IVM client 208 selected global IVM clients 506, 508. The user selection is transmitted to the IVM server 202. The user selection also generates a start signal to the IVM client 208 that the user is ready to begin instant voice messaging. In response to the start signal, the IVM client 208 listens to the input audio device 212 and records the user's speech into a digitized audio file 210 (i.e., instant voice message) stored on the IVM client 208. The audio file 210 is finalized via a stop signal, which is generated by the user via the input device 218 or a preset time period without speech input via the input audio device 212. Once the recording is finalized, the IVM client 208 generates a send signal indicating that the digitized audio file 210 (instant voice message) is ready to be sent to the selected one or more IVM recipients. The user generates the send signal when the user operates the IVM client 208 via the input device 218. The IVM client 208 transmits the digitized audio file 210 and the send signal to the global IVM server system

502 via the local IP network 204 and the global IP network 102. After receiving the audio file 210, the global IVM server system 502 delivers the transmitted instant voice message to the selected one or more recipients (e.g., IVM clients 506 and 508) via the IP network 102. The one or more recipients are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message to an associated user. It is noted that if a recipient IVM client 506, 508 is not currently connected to the global IVM server system 502, the global IVM server system 502 temporarily saves the instant voice message and delivers it to the global IVM client 506, 508 when the IVM client connects to the global IVM server system 502.

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There are several embodiments for the operation of the IVM client (VoIP telephone) 206 within the global IVM system 500 of Fig. 5, according to the present invention. In the first embodiment, the VoIP telephone 206 is a standalone IVM client 206 enabled for instant voice messaging according to the present invention. In the second embodiment, the VoIP telephone 206 operates synchronously with the IVM client 208 to enable instant voice messaging according to the present invention. Thus, in operation according to the first embodiment in Fig. 5, the IVM client 206 is connected via the networks 204, 102 to the global IVM server system 502, which enables instant voice messaging functionality over the IP network (Internet) 102. As mentioned previously, the IVM client 206 is also connected to the local IVM server 202. The IVM client 208 requests from the global IVM server system 502 a global contact list (not shown) of the global one or more IVM recipients with which the IVM client 206 may exchange instant voice messages. For the purposes of illustration, it is assumed that the

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global IVM clients 506, 508 are in the contact list. The global IVM server system 502 stores and maintains this contact list. Thus, the global IVM server system 502 responds by transmitting the global contact list to the IVM client 206. Alternatively, the global contact list may be replicated to the local IVM server 202 within the local IVM system 510, in which case the local IVM client 206 obtains the global contact list from the local IVM server 202. The IVM client 206 displays a list of the one or more IVM recipients on its associated display. The user operates the IVM client 206 by using a keypad on the VoIP telephone 206 to indicate a selection of one or more IVM recipients from the list. The VoIP telephone 206 transmits the selection to the global IVM server system 502.

10 The user selection also generates a start signal to the IVM client 206 indicating the user is ready to begin instant voice messaging according to the present invention. The user speaks into the handset of the IVM client 206 or a speakerphone on the IVM client 206. Although not shown in Fig. 5, the VoIP telephone 206 may provide a dedicated storage device, which in response to the start signal records an audio file, similar to the audio file 15 210 in the IVM client 208. The audio file is finalized via a stop signal. The stop signal is generated when the user presses a button on the keypad, a preset time period without speech input to the VoIP telephone 206, or when the user returns the handset to the cradle of the VoIP telephone 206. Once the recording of the user's speech is complete, a send signal is generated indicating that the instant voice message is ready to be sent to the 20 selected recipients. The user generates the send signal when the user presses a button on the keypad or returns the handset of the VoIP telephone 206 to its cradle. In response to the send signal, the IVM client 206 sends the recorded audio file (instant voice message) to the global IVM server system 502 via the networks 204, 102 for delivery to the



selected one or more IVM recipients. The global IVM server 502 thereafter delivers the instant voice message to the selected one or more recipients (e.g., IVM clients 506 and 508) via the IP network 102. As before, the one or more recipients are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message. If a recipient IVM client is not currently connected to the global IVM server system 502, the global IVM server system 502 temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the global IVM server system 502.

10                   In the second embodiment of the IVM client 206 according to Fig. 5, the VoIP telephone 206 operates synchronously with the IVM client 208 to enable global instant voice messaging according to the present invention. Thus, in operation according to the second embodiment in Fig. 5, the VoIP telephone 206 is connected over the network 204 to the IVM client 208 and the IVM client 208 is connected via the networks  
15 204, 102 to the global IVM server system 502, which enables instant voice messaging functionality over the IP network (Internet) 102. The VoIP telephone 206 cooperates with the IVM client 208 to record and send a global instant voice message outside the local IVM system 510. The IVM client 208 displays a global contact list of IVM recipients (not shown) on the display device 216 provided by the global IVM server  
20 system 502, as described hereinabove. Alternatively, the global contact list may be replicated to the local IVM server 202 within the local IVM system 510, in which case the IVM client 208 obtains the global contact list from the local IVM server 202. The user operates the IVM client 208 by using the input device 218 to indicate a selection of

one or more IVM recipients from the contact list. The user selection generates a start signal in the IVM client 208 indicating that the user is ready to begin instant voice messaging according to the present invention. In response to the start signal, the IVM client 208 generates audio file 210 to record an instant voice message and transmits a ring  
5 signal to the VoIP telephone 206. As the user picks up the handset of the VoIP telephone 206 (off-hook), a connection is established via the network 204 between the local IVM client 208 and the VoIP telephone 206. Thereafter, the VoIP telephone 206 forwards the user's speech to the IVM client 208 for storage into the audio file 210. The audio file 210 is finalized by returning the handset its cradle (on-hook) or by pressing a designated  
10 button on the keypad VoIP telephone 206, which transmits the stop signal to the IVM client 208. Returning the handset to its cradle preferably generates a send signal to the IVM client 208. The IVM client thereafter transmits the recorded audio file 210 (instant voice message) to the global IVM server system 502 via networks 204, 102 for delivery to the selected one or more IVM recipients. Alternatively, the user may press a key on  
15 the keyboard 218 to initiate the send signal. In response to the send signal, the IVM client 208 sends the recorded audio file to the global IVM server system 502 for delivery to the selected one or more IVM recipients. The global IVM server system 502 thereafter delivers the instant voice message to the selected one or more recipients (e.g., IVM clients 506 and 508) via the IP network 102. As before, the one or more IVM recipients  
20 are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message. If a recipient IVM client is not currently connected to the global IVM server system 502, the global IVM server system 502

temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the global IVM server system 502.

In operation of the legacy telephone 110 according to Fig. 5, the legacy  
5 telephone 110 is connected to the local IVM client 208 via media gateway 114, legacy  
switch 112 and network 204. The legacy telephone 110 cooperates with the IVM client  
208 to record and send an instant voice message outside the local IVM system 510. More  
specifically, the legacy telephone 110 is used as a recording/listening device for  
recording or listing to instant voice messages, while the IVM client 208 is used for  
10 displaying and selecting instant voice message recipients as described hereinabove.  
Thus, in operation the IVM client 208 requests from the global IVM server system 502 a  
global contact list of global one or more IVM recipients with which the IVM client 208  
may exchange instant voice messages. Alternatively, the global contact list may be  
replicated to the local IVM server 202 within the local IVM system 510, in which case  
15 the IVM client 208 obtains the global contact list from the local IVM server 202. The  
IVM client 208 displays the global list of IVM recipients, as described hereinabove. The  
user operates the IVM client 208 to indicate a selection of one or more IVM recipients  
from the global contact list. The IVM client 208 transmits the user selection to the global  
IVM server system 502. The user selection generates a start signal in the IVM client 208  
20 indicating that the user is ready to begin instant voice messaging according to the present  
invention. In response to the start signal, the IVM client 208 transmits an emulation code  
to the legacy telephone 110 to ring, thereby indicating to the user the global IVM system  
500 is ready to record an instant voice message. As the user picks up the handset of the

legacy telephone 110 (off-hook), a connection is established via the network 204 between the legacy telephone 110 and the IVM client 208. Thereafter, the user's speech is transmitted from the legacy telephone 110 to the IVM client 208 for storage into the digitized audio file 210 (i.e., instant voice message). The audio file 210 is finalized by  
5 returning the handset of the legacy telephone 110 to its cradle (on-hook) or by pressing a designated button on the keypad of the legacy telephone 110, which transmits a stop signal to the IVM client 208. Returning the handset to its cradle may also generate a send signal to the IVM client 208 to transmit the recorded audio file (instant voice message) to the global IVM server system 502 for delivery to the selected one or more IVM  
10 recipients. Alternatively, the send signal is preferably generated from the IVM client 208 as described hereinabove. The global IVM server system 502 thereafter delivers the instant voice message to the selected one or more IVM recipients via the IP network (Internet) 102. The one or more recipients are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message. If a  
15 recipient IVM client is not currently connected to the global IVM server system 502, the global IVM server system 502 temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the global IVM server 502.

Further with reference to Fig. 5, the instant voice messaging for global  
20 clients 506 and 508 will be described according to the present invention. In a first embodiment, each of the global IVM clients 506, 508 is enabled to independently send an instant voice message. The IVM clients 506, 508 have like peripheral devices and functionality described respectively with reference to local IVM clients 206, 208 in Fig.

2. In second embodiment described below, the VoIP telephone 506 operates in conjunction with the IVM client 508 to send an instant voice message. Therefore, in operation of the global IVM clients 506 and 508 according the first embodiment in Fig. 5, the IVM clients 506, 508 are connected via the networks 204, 102 to the global IVM server system 502, which enables the global instant voice messaging functionality outside the local IVM system 510 over the network (i.e., Internet) 102. Each of the global IVM clients 506, 508 is enabled to request from the global IVM server system 502 a contact list (not shown) of global one or more IVM recipients with which each of the global IVM client 506, 508 may exchange instant voice messages. For the purposes of this illustration, it is assumed that the IVM clients 206 and 208 within the local IVM system 510 are in the contact list for each global IVM client 506, 508. The global IVM server system 502 stores and maintains the foregoing contact list for each global IVM client 506, 508. Upon request, the global IVM server system 502 responds by transmitting the contact list to each of the IVM clients 506, 508. Each of the IVM clients 506, 508 displays the contact list on its display. The user operates the IVM client 506, 508 to indicate a selection of one or more IVM recipients from the contact list. Each of the global IVM clients 506, 508 transmits the user selection to the global IVM server system 502. The user selection also generates a start signal to the IVM clients 506, 508 that the user is ready to begin instant voice messaging. In response to the start signal, the IVM clients 506, 508 record the user's speech into a digitized audio file (i.e., instant voice message) stored on the global IVM clients 506, 508. The audio file is finalized via a stop signal, which is generated by the user by operating the global IVM client 506, 508. Once the recording is finalized, the IVM client 506, 508 generates a send signal indicating that

the digitized audio file (instant voice message) is ready to be sent to the selected one or more recipients. The user generates the send signal when the user operates the global IVM client 506, 508. The IVM client 208 transmits the digitized audio file and the send signal to the global IVM server system 502. After receiving the audio file, the global IVM server system 502 delivers the transmitted instant voice message to the local IVM server 202 in the local IVM system 510 for delivery to the selected one or more recipients (e.g., local IVM clients 206 and 208) via the local IP network 204. The one or more recipients IVM 206, 208 are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message to an associated user. It is noted that if a recipient IVM client 206, 208 is not currently connected to the local IVM server 202, the IVM server 202 temporarily saves the instant voice message and delivers it to the local IVM client 206, 208 when the IVM client connects to the local IVM server 202.

In the second embodiment of the IVM client 506 according to Fig. 5, the VoIP telephone 506 operates synchronously with the IVM client 508 to enable global instant voice messaging according to the present invention. In this embodiment, the VoIP telephone 506 and the IVM client 508 may be located in a user's residence and be connected to a local IP network 504. This local IP network 504 can be a WiFi network or a local area network (i.e., LAN), which is also within the user's residence. The local IP network 504 may be connected to the IP network (Internet) 102 via a digital subscriber line (i.e., DSL) connection, cable connection, dialup connection, or the like. As noted above, the IVM clients 506, 508 have like peripheral devices and functionality described

respectively with reference to local IVM clients 206, 208 in Fig. 2. Thus, in operation according to this embodiment in Fig. 5, the global IVM client 508 requests from the global IVM server system 502 a contact list of global one or more IVM recipients with which each of the global IVM client 508 may exchange instant voice messages. For the purposes of this illustration, it is assumed that the IVM clients 206 and 208 within the local IVM system 510 are in the contact list for the global IVM client 508. The global IVM server system 502 stores and maintains the foregoing contact list for the global IVM client 508. The IVM client 508 displays a contact list of IVM recipients on the associated display device provided by the global IVM server system 502, as described hereinabove. The user operates the IVM client 508 by using the associated input device to indicate a selection of one or more IVM recipients from the contact list. The user selection generates a start signal in the IVM client 508 indicating that the user is ready to begin instant voice messaging according to the present invention. In response to the start signal, the IVM client 508 generates audio file to record an instant voice message and transmits a ring signal to the VoIP telephone 506 via local IP network 504. As the user picks up the handset of the VoIP telephone 206 (off-hook), a connection is established via the local network 504 between the local IVM client 508 and the VoIP telephone 506. Thereafter, the VoIP telephone 506 forwards the user's speech to the IVM client 508 for storage into the audio file at the IVM client 508. The audio file is finalized by returning the handset its cradle (on-hook) or by pressing a designated button on the keypad associated with the VoIP telephone 506, which transmits the stop signal to the IVM client 508. Returning the handset to its cradle preferably generates a send signal to the IVM client 508. The IVM client thereafter transmits the recorded audio file (instant voice

message) to the global IVM server system 502 for delivery to the selected one or more IVM recipients. Alternatively, the user may press a key on the input device associated with the IVM client 508 to initiate the send signal. In response to the send signal, the IVM client 508 sends the recorded audio file to the global IVM server system 502 for delivery to the selected one or more IVM recipients. The global IVM server system 502 thereafter transmits the instant voice message to the local IVM server 202 for delivery selected one or more recipients (e.g., local IVM clients 206 and 208) via the local IP network 204. As before, the one or more recipients are enabled to display an indication that the instant voice message has been received and audibly play the instant voice message. If a recipient IVM client is not currently connected to the local IVM server 202, the local IVM server 202 temporarily saves the instant voice message and delivers it to the IVM client when the IVM client connects to the local IVM server 202.

Lastly with reference to Fig. 5, in addition to the “record mode” of instant voice messaging as described above, the instant voice messaging system 500 also supports an “intercom mode” of the instant voice messaging. The “intercom mode” represents real-time instant voice messaging. In the “intercom mode,” instead of creating an audio file as described hereinabove, one or more buffers (not shown) of a predetermined size are generated. The buffers may be generated in any one of the IVM clients 206, 208, 506 and 508, depending on how the global IVM system 500 is defined. The one or more buffers are used to automatically write successive portions of the instant voice message. Once a first buffer is full, i.e., input audio of the predetermined size is written to the buffer, the content of the first buffer is automatically transmitted. If the



transmission is generated at a local IVM client 206, 208 and destined for one or more local IVM recipients, the content of the first buffer is transmitted to the local IVM server 202 for delivery to the local one or more recipients. If the transmission is generated at a local IVM client 206, 208 and destined for one or more global IVM recipients 506, 508, the content of the first buffer is transmitted to the global IVM server system 502 for delivery to the one or more global recipients. In addition, if the transmission is generated at a global IVM client 506, 508 and destined for the other global IVM clients, the content of the first buffer is transmitted to the global IVM server system 502, such as for example clients 506, 508. Lastly, if the transmission is generated at a global IVM client 506, 508 and destined for the local IVM clients 206, 208, the content of the first buffer is transmitted to the global IVM server system 502 and further transmitted by the global IVM server 502 to the local IVM server 202 for delivery to clients 206, 208 within the local IVM system 510. A second buffer is meanwhile written with the next successive portion of input audio. Once, the second buffer is full, i.e., input audio of the predetermined size is written to the buffer, the content of the second buffer is transmitted in similar fashion to the first buffer. If the entire instant voice message or a successive portion thereof (such as a last successive portion in the instant voice message) written to either buffer is smaller the predetermined size, then the buffered content of less than the predetermined size is automatically transmitted to the IVM server 202. The foregoing buffering using the first and second buffers is repeated until the entire instant voice message has been transmitted as described above. It is noted that the invention is not limited to a particular number of buffers. The foregoing buffering and transmission allows a “real-time” instant voice message to be transmitted to the one or more local, as

well as global, IVM recipients. The “intercom mode” may be designated as a default mode when an IVM recipient is on-line, while the “record mode” may be designated as a default if the IVM recipient is unavailable, i.e., not on-line. The user may easily change the “intercom mode” to the “record mode” on the respective IVM client 206, 208, 506, 508. Finally, the audio contents of the buffers may be signal processed (for clarity), encrypted and compressed before transmission, as was described previously.

Fig. 6 is an exemplary detailed illustration 600 of the global IVM server system 502 depicted in Fig. 5, according to the present invention. More specifically, the local IVM system 510 described in Fig. 5 is connected via the IP network (Internet) 102 to the global IVM server system 502. The global IVM server system 502 comprises an IVM transport server mesh 602 and an IVM directory server 608. The IVM transport server mesh 602 comprises a plurality of interconnected IVM transport servers 604, 606. Although the mesh 602 is depicted as having two IVM transport servers 604, 606, it is to be understood that as many IVM transport servers as are desired or required for redundancy and load balancing may be interconnected in a mesh. The IVM transport servers 604, 606 may be centrally located and configured to communicate (i.e., forward and receive messages) with local IVM clients 206, 208, local IVM server 202 and global IVM client 506, 508 (not depicted in Fig. 6). The plurality of IVM transport servers 604, 606 in the IVM transport server mesh 602 permits load balancing and redundancy in the global IVM system 500. The directory server 608 maintains a transport server list of all the IVM transport servers 604, 606 currently connecting to the mesh 602. Each of the IVM transport servers 604, 606 first connects to the directory server 608. The directory

server 608 informs each of the connecting IVM transport servers 604, 606 of all the other IVM transport servers currently in the mesh 602 based on an active list (not shown) of transport servers 604, 606 in the mesh 602. The connecting IVM transport server then connects to each of the IVM transport servers in the transport server list, resulting in an interconnected mesh 602 of IVM transport servers 604, 606. The IVM transport servers 604, 606 and the IVM directory server 608 communicate via messages.

Further with reference to Fig. 6, the IVM transport servers 604, 606 connected in the mesh 602 share a database (not shown) of IVM clients, so that each IVM transport server 604, 606 refers to the same client database. It is preferable that each IVM transport server 604, 606 maintains its own copy of the client database, which is mirrored and replicated conventionally amongst the IVM transport servers 604, 606 in the mesh 602. The client database may further be replicated to the local IVM server 202. Alternatively, the client database is stored on a separate file server (not shown) in data communication with the IVM transport servers 604, 606 over a network (not shown).

Fig. 7 is an exemplary detailed illustration of a transport server 604, 606 depicted in Fig. 6, according to the present invention. The IVM transport server 604, 606 is a general-purpose programmable computer comprising a network interface (not shown) connected to IP network (Internet) 102, a communication platform 702, a message database 712, and a messaging system 714. The communication platform 702 comprises a server engine 704, which controls a user manager 706, a local server manager 708, and a storage manager 710. The messaging system 714 and the server engine 704

communicate via standard inter-process communication. The storage manager 710 handles retrieving, sending, and storing of messages, including instant voice messages and attachments thereto, to/from the message database 712. The user manager 706 is responsible for creating/maintaining IVM clients 206, 208, 506, 508, identifying them  
5 and relaying their status to the server engine 704. When an IVM client communicates an instant voice message within the global IVM system 500, the user manager 706 notifies the server engine 704 whether the one or more recipients are unavailable, and thereby the instant voice message is saved in the message database 712. When the one or more IVM recipients become available, the user manager 706 notifies the server engine 704, which  
10 instructs the storage manager 710 to retrieve any undelivered instant voice messages for the one or more recipients and delivers the instant voice messages to the designated one or more IVM recipients. The local server manager 708 is responsible for creating/maintaining and providing the status of available local IVM servers, such as IVM server 202 in Fig. 2. The availability status of the local IVM servers is checked  
15 periodically and updated.

Fig. 8 is an exemplary detailed illustration of a directory server 608 depicted in Fig. 6, according to the present invention. The directory server 608 is a general-purpose programmable computer equipped with a network interface (not shown)  
20 connected to IP network (Internet) 102, a messaging system 812, and a communication platform 802. The communication platform 802 comprises a server engine 804, which controls a local server manager 806, a user manager 808, and a transport manager 810. The messaging system 812 and the server engine 804 communicate via standard inter-

process communication. The transport manager 810 maintains the status of the IVM transport servers 604, 606 in the IVM transport server mesh 602 within the global IVM system 500 and using a load-balancing mechanism distributes instant voice messages to available transport server 604, 606 for routing to the one or more IVM recipients. The user manager 808 is responsible for creating/maintaining IVM clients 206, 208, 506, 508, identifying and relaying their status via the server engine 804 to the IVM transport server 604, 606 to be used. The local server manager 806 is responsible for creating/maintaining and providing the status of available local IVM servers, such as IVM server 202 in Fig. 2. The availability status of the local IVM servers is checked periodically and updated.

Fig. 9 illustrates an exemplary a global instant voice messaging (IVM) system 900, which comprises a plurality of local IVM systems and a plurality of global IVM clients, according to the present invention. In the global IVM system 900, there are depicted a plurality of local IVM systems 902, 910 connected to the global IP network 102. The internal representation and functionality of each local IVM system 902, 904 is identical to the local IVM system 510 described with reference to Fig. 5. In global IVM system 900 of Fig. 9, there are also depicted a plurality of global IVM clients 918-928 and a global IVM server system 502 connected to the global IP network (i.e., Internet) 102. The internal representations of the global IVM client 918-928 and the global IVM server system 502 are identical to the respective IVM client 508 (and/or IVM client or 506) and the global IVM server system 502 described with reference to Fig. 5. In the local IVM system 902, each local IVM client 206, 208 is enabled to request local IVM

recipients from the local IVM server 202 and global IVM recipients from either the global IVM server system 502 or the local IVM server 202. For example, the local IVM client 1A 208 displays a list 904 to a user, comprising both local and global IVM recipients. More specifically, the list 904 enables IVM client 1A to send instant voice messages according to the present invention to local IVM clients 1B 208 and 1C 206, 5 global IVM client C 922 and global IVM client 2A 208 in the local IVM system 910. Similar lists 906-916 are displayed to the users of the respective IVM clients 1B-1C in local IVM system 902, and 2A-2C in local IVM system 910. In addition, the global clients A-F 918-928 are enabled to request IVM recipients from the global IVM server 10 system 502 and display the respective lists of IVM recipients 930-940 on the respective IVM clients 918-928.

While the invention has been particularly shown and described with regard to preferred embodiments thereof, it will be understood by those skilled in the art that the foregoing and other changes in form and details may be made therein without departing 15 from the spirit and scope of the invention.

CLAIMS:

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1. An instant voice messaging system for delivering instant messages over a packet-switched network, the system comprising:

a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the network; and

a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients enabled to audibly play the instant voice message.

2. The instant voice messaging system according to Claim 1, wherein the packet-switched network is a local network.

3. The instant voice messaging system according to Claim 1, wherein the packet-switched network is the Internet.

4. The instant voice messaging system according to Claim 1, wherein the client requests a list of recipients associated with the client from the server and the server transmits the list of recipients to the client for selection of the one or more recipients.

5. The instant voice messaging system according to Claim 1, wherein the server delivers the instant voice message to the selected recipients that are available.

6. The instant voice messaging system according to Claim 1, wherein the server temporarily stores the instant voice message if a selected recipient is unavailable and delivers the stored instant voice message to the selected recipient once the selected recipient becomes available.

7. The instant voice messaging system according to Claim 1, wherein the client records the instant voice message in an audio file, transmits the audio file to the server, and the server delivers the audio file to the selected recipients, the selected recipients being enabled to audibly play the audio file.

8. The instant voice messaging system according to Claim 7, wherein the client signal processes, compresses and encrypts the audio file, and the selected recipients being enabled to decrypt and decompress the audio file before audibly playing the audio file.

9. The instant voice messaging system according to Claim 1, wherein the client buffers each of a plurality of successive portions of the instant voice message as the instant message is recorded, and the client transmits each successive buffered portion to the server for delivery to the to the selected recipients, the selected recipients being enabled to audibly playing each successive portion as it is delivered.



10. The instant voice messaging system according to Claim 1, wherein the client is enabled to attach one or more files to the instant voice message and the selected recipients are enabled to store or display the one or more attached files.

11. The instant voice messaging system according to Claim 1, the system further comprising a public switched telephone network (PSTN) telephone connected to the network to provide input audio of the instant voice message to the client.

12. The instant voice messaging system according to Claim 1, the system further comprising a voice-over-internet-protocol (VoIP) telephone connected to the network to provide input audio of the instant voice message to the client.

13. An instant voice messaging system for delivering instant messages over a packet-switched network enabling public switched telephone network (PSTN) support, the system comprising:

a PSTN telephone connected to the network for providing input audio;

a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor using the input audio provided by the PSTN telephone, and transmitting the selected recipients and the instant voice message therefor over the network;

a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice

message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message.

14. An instant voice messaging system for delivering instant messages over a packet-switched network, the system comprising:

a voice-over-internet-protocol (VoIP) telephone connected to the network for providing input audio;

a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor using the input audio provided by the VoIP telephone, and transmitting the selected recipients and the instant voice message therefor over the network;

a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message.

15. An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising:

a client connected to a local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network; and

a server connected to the external network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message.

16. The instant voice messaging system according to Claim 15, the client further selects one or more local recipients connected to the local network and transmits the selected local recipients and the instant voice message therefor over the local network, wherein the system further comprises:

a local server connected to the local network, the local server receiving the selected local recipients and the instant message therefor from the client, and delivering the instant voice message to the selected local recipients over the local network, the selected local recipients being enabled to audibly play the instant voice message.

17. The instant voice messaging system according to Claim 15, wherein the local network is a network within an enterprise.

18. The instant voice messaging system according to Claim 15, wherein the external network is the Internet.

19. The instant voice messaging system according to Claim 15, wherein the client requests a list of recipients associated with the client from the server and the

server transmits the list of recipients to the client for selection of the one or more recipients.

20. The instant voice messaging system according to Claim 15, wherein the server delivers the instant voice message to the selected recipients that are available.

21. The instant voice messaging system according to Claim 15, wherein the server temporarily stores the instant voice message if a selected recipient is unavailable and delivers the stored instant voice message to the selected recipient once the selected recipient becomes available.

22. The instant voice messaging system according to Claim 15, wherein the client records the instant voice message in an audio file, transmits the audio file to the server, and the server delivers the audio file to the selected recipients, the selected recipients being enabled to audibly play the audio file.

23. The instant voice messaging system according to Claim 22, wherein the client signal processes, compresses and encrypts the audio file, and the selected recipients are enabled to decrypt and decompress the audio file before audibly playing the audio file.

24. The instant voice messaging system according to Claim 15, wherein the client buffers each of a plurality of successive portions of the instant voice message as

the instant message is recorded, and the client transmits each successive portion to the server for delivery to the selected recipients, the selected recipients being enabled to audibly playing each successive portion as it is delivered.

25. The instant voice messaging system according to Claim 15, wherein the client is enabled to attach one or more files to the instant voice message and the selected recipients are enabled to store or display the one or more attached files.

26. The instant voice messaging system according to Claim 15, the system further comprising a public switched telephone network (PSTN) telephone connected to the local network to provide input audio of the instant voice message to the client.

27. The instant voice messaging system according to Claim 15, the system further comprising a voice-over-internet-protocol (VoIP) telephone connected to the local network to provide input audio of the instant voice message to the client.

28. An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks enabling public switched telephone network (PSTN) support, the system comprising:

a PSTN telephone connected to a local network for providing input audio;

a client connected to the local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor using the input audio provided by the PSTN telephone,

and transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

a server connected to the external network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message.

29. An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising:

a voice-over-internet-protocol (VoIP) telephone connected to a local network for providing input audio;

a client connected to the local network, the client selecting one or more external recipients connected to an external network outside the local network, generating an instant voice message therefor using the input audio provided by the VoIP telephone, and transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

an server connected to the external network, the external server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the external network, the selected recipients being enabled to audibly play the instant voice message.

30. An instant voice messaging system for delivering instant messages over a plurality of packet-switched networks, the system comprising:

a client connected to an external network, the client selecting one or more recipients connected to a local network, generating an instant voice message therefor, and transmitting the selected recipients and the instant voice message therefor over the external network; and

a external server system connected to the external network, the external server system receiving the selected recipients and the instant voice message, and routing the selected recipients and the instant voice message over the external network and the local network;

a local server connected to the local network, the local server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the local network, the selected recipients being enabled to audibly play the instant voice message.

31. The instant voice messaging system according to Claim 30, the client further selects one or more external recipients connected to the external and transmits the selected external recipients over the external network to the external server, and the external server receives the selected external recipients and delivers the instant voice message to the selected external recipients over the external network, the selected external recipients being enabled to audibly play the instant voice message.

32. The instant voice messaging system according to Claim 30, wherein the local network is a network within an enterprise.

33. The instant voice messaging system according to Claim 30, wherein the external network is the Internet.

34. The instant voice messaging system according to Claim 30, wherein the client requests a list of recipients associated with the client from the external server system and the external server system transmits the list of recipients to the client for selection of the one or more recipients.

35. The instant voice messaging system according to Claim 30, wherein the local server delivers the instant voice message to the selected recipients that are available.

36. The instant voice messaging system according to Claim 30, wherein the local server temporarily stores the instant voice message if a selected recipient is unavailable and delivers the stored instant voice message to the selected recipient once the selected recipient becomes available.

37. The instant voice messaging system according to Claim 30, wherein the client records the instant voice message in an audio file, transmits the audio file to the external server, the external server system routes the audio file to the local server, and the local server delivers the audio file to the selected recipients, the selected recipients being enabled to audibly play the audio file.



38. The instant voice messaging system according to Claim 37, wherein the client signal processes, compresses and encrypts the audio file, and the selected recipients are enabled to decrypt and decompress the audio file before audibly playing the audio file.

39. The instant voice messaging system according to Claim 30, wherein the client buffers each of a plurality of successive portions of the instant voice message as the instant message is recorded, and the client transmits each successive buffered portion to the external server system, the external server system routes each successive portion to the local server, and the local server delivers each successive portion to the to the selected recipients, the selected recipients being enabled to audibly play each successive portion as it is delivered.

40. The instant voice messaging system according to Claim 30, wherein the client is enabled to attach one or more files to the instant voice message and the selected recipients are enabled to store or display the one or more attached files.

41. The instant voice messaging system according to Claim 30, the system further comprising a voice-over-internet-protocol (VoIP) telephone connected to the client via a local network, the client providing input audio of the instant voice message to the client via the local network.

42. The instant voice messaging system according to Claim 30, wherein the external server system comprises:

a transport server mesh including a plurality of transport servers for routing instant voice messages;

a directory server for maintaining the transport server mesh and facilitating load-balancing of the instant voice messages within the transport server mesh.

43. A method for instant voice messaging over a packet-switched network, the method comprising:

selecting one or more recipients for instant voice messaging at a client;

generating an instant voice message for the selected recipients at the client;

transmitting the selected recipients and the instant voice message therefor over the network from the client to a server;

receiving the selected recipients and the instant voice message therefor at the server;

delivering the instant voice message from the server to the selected recipients over the network; and

audibly playing the instant voice message at the selected recipients.

44. The method for instant voice messaging according to Claim 43, wherein the method further comprises:

requesting from the client a list of recipients associated with the client from the server; and

transmitting from the server the list of recipients to the client for selection of the one or more recipients.

45. The method for instant voice messaging according to Claim 43, wherein the method further comprises:

delivering the instant voice message from the server to the selected recipients that are available.

46. The method for instant voice messaging according to Claim 43, wherein the method further comprises:

temporarily storing at the server the instant voice message if a selected recipient is unavailable; and

delivering from the server the stored instant voice message to the selected recipient once the selected recipient becomes available.

47. The method for instant voice messaging according to Claim 43, wherein the method further comprises:

recording the instant voice message at the client in an audio file;

transmitting the audio file to the server;

delivering the audio file from the server to the selected recipients; and

audibly playing the audio file at the least one of the selected recipients.

48. The method for instant voice messaging according to Claim 47, wherein the method further comprises:  
signal processing, compressing and encrypting the audio file at the client;  
decrypting and decompressing the audio file at the at least one selected recipient; and  
audibly playing the decrypted and decompressed audio file at the least one of the selected recipients.

49. The method for instant voice messaging according to Claim 43, further comprising:  
buffering each of a plurality of successive portions of the instant voice message at the client as the instant message is recorded;  
transmitting from the client each successive buffered portion to the server;  
delivering each successive portion from the server to the selected recipients, the selected recipients audibly playing each successive portion as it is delivered.

50. The method for instant voice messaging according to Claim 43, wherein the method further comprises:  
attaching one or more files to the instant voice message at the client;  
storing or displaying the one or more attached files at the selected recipients.

51. The method for instant voice messaging according to Claim 43, wherein the method further comprises:

providing input audio of the instant voice message to the client from a public switched telephone network (PSTN) telephone connected to the network.

52. The method for instant voice messaging according to Claim 43, wherein the method further comprises:

providing input audio of the instant voice message to the client from a voice-over-internet-protocol (VoIP) telephone connected to the network.

53. A method for instant voice messaging over a packet-switched network enabling public switched telephone network (PSTN) support, the method comprising:

providing input audio via a PSTN telephone connected over the network;  
selecting one or more recipients for instant voice messaging at a client;  
generating an instant voice message using the input audio from the PSTN telephone for the selected recipients at the client;

transmitting the selected recipients and the instant voice message therefor over the network from the client to a server;

receiving the selected recipients and the instant voice message therefor at the server;

delivering the instant voice message from the server to the selected recipients over the network; and

audibly playing the instant voice message at selected recipients.

54. A method for instant voice messaging over a packet-switched network, the method comprising:

providing input audio via a voice-over-internet-protocol (VoIP) telephone connected over the network;

selecting one or more recipients for instant voice messaging at a client;

generating an instant voice message using the input audio from the VoIP telephone for the selected recipients at the client;

transmitting the selected recipients and the instant voice message therefor over the network from the client to a server;

receiving the selected recipients and the instant voice message therefor at the server;

delivering the instant voice message from the server to the selected recipients over the network; and

audibly playing the instant voice message at the selected recipients.

55. A method for instant voice messaging over a plurality of packet-switched networks, the method comprising:

selecting one or more external recipients for instant voice messaging at a client connected to a local network, the one or more external recipients connected to an external network outside the local network;

generating an instant voice message for the selected external recipients at the client;

transmitting the selected external recipients and the instant voice message therefor over the local network and the external network;

receiving the selected external recipients and the instant voice message therefor at an external server connected to the external network;

delivering the instant voice message to the selected external recipients over the external network; and

audibly playing the instant voice message at the selected external recipients.

56. The method for instant voice messaging according to Claim 55, wherein the method further comprises:

requesting from the external server a list of external recipients associated with the client; and

transmitting the list of external recipients from the external server to the client for selection of the one or more external recipients.

57. The method for instant voice messaging according to Claim 55, wherein the method further comprises:

delivering the instant voice message from the external server to the selected recipients that are available.

58. The method for instant voice messaging according to Claim 55,  
wherein the method further comprises:

temporarily storing the instant voice message at the external server if a  
selected recipient is unavailable;

delivering the stored instant voice message to the selected recipient once  
the selected recipient becomes available.

59. The method for instant voice messaging according to Claim 55,  
wherein the method further comprises:

recording the instant voice message in an audio file at the client;

transmitting the audio file to the external server;

delivering the audio file to the selected recipients from the external server;

and

audibly playing the audio file at the selected recipients.

60. The method for instant voice messaging according to Claim 59,  
wherein the method further comprises:

signal processing, compressing and encrypting the audio file at the client;

and

decrypting and decompressing the audio file at the selected recipients; and

audibly playing the decrypted and decompressed audio file at the selected  
recipients.



61. The method for instant voice messaging according to Claim 55,  
wherein the method further comprises:  
buffering each of a plurality of successive portions of the instant voice  
message at the client as the instant message is recorded;  
transmitting from the client each successive portion to the external server;  
delivering each successive portion from the external server to the selected  
external recipients,  
audibly playing each successive portion at the selected external recipients  
as it is delivered.

62. The method for instant voice messaging according to Claim 55,  
wherein the method further comprises:  
attaching one or more files to the instant voice message;  
storing or displaying the one or more attached files at the selected external  
recipients.

63. The method for instant voice messaging according to Claim 55,  
wherein the method further comprises providing input audio of the instant voice message  
to the client from a public switched telephone network (PSTN) telephone over the local  
network.

64. The method for instant voice messaging according to Claim 55, wherein the method further comprises providing input audio of the instant voice message to the client from a voice-over-internet-protocol (VoIP) telephone over the local network.

65. A method for instant voice messaging system over a plurality of packet-switched networks enabling public switched telephone network (PSTN) support, the method comprising:

providing input audio via a PSTN telephone connected to a local network;

selecting one or more external recipients for instant voice messaging at a client, the one or more external recipients connected to an external network outside the local network;

generating an instant voice message for the one or more external recipients using the input audio provided by the PSTN telephone;

transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

receiving the selected recipients and the instant voice message therefor at a server connected to the external network;

delivering the instant voice message to the selected recipients from the server over the external network; and

audibly playing the instant voice message at the selected recipients.

66. A method for instant voice messaging system over a plurality of packet-switched networks, the method comprising:

providing input audio via a voice-over-internet-protocol (VoIP) telephone connected to a local network;

selecting one or more external recipients for instant voice messaging at a client, the one or more external recipients connected to an external network outside the local network;

generating an instant voice message for the one or more external recipients using the input audio provided by the VoIP telephone;

transmitting the selected recipients and the instant voice message therefor over the local network and the external network;

receiving the selected recipients and the instant voice message therefor at a server connected to the external network;

delivering the instant voice message to the selected recipients from the server over the external network; and

audibly playing the instant voice message at the selected recipients.

67. A method for instant voice messaging over a plurality of a plurality of packet-switched networks, the method comprising:

selecting one or more recipients connected to a local network at a client connected to an external network;

generating an instant voice message for the selected recipients at the client;

transmitting the selected recipients and the instant voice message therefor over the external network from the client to an external server system;

receiving the selected recipients and the instant voice message at the external server system;

routing the selected recipients and the instant voice message over the external network and the local network;

receiving the selected recipients and the instant voice message therefor at a local server connected to the local network;

delivering the instant voice message to the selected recipients over the local network;

audibly playing the instant voice message at the selected recipients.

68. The method for instant voice messaging according to Claim 67, wherein the method further comprises:

requesting a list of recipients associated with the client from the external server system; and

transmitting the list of recipients from the external server system to the client for selection of the one or more recipients.

69. The method for instant voice messaging according to Claim 67, wherein the method further comprises:

delivering the instant voice message from the local server to the selected recipients that are available.

70. The method for instant voice messaging according to Claim 67,  
wherein the method further comprises:  
temporarily storing the instant voice message at the local server if a  
selected recipient is unavailable; and  
delivering the stored instant voice message to the selected recipient once  
the selected recipient becomes available.

71. The method for instant voice messaging according to Claim 67,  
wherein the method further comprises:  
recording the instant voice message in an audio file at the client;  
transmitting the audio file from the client to the external server system;  
routing the audio file from the external server system to the local server;  
and  
delivering the audio file from the local server to the selected recipients;  
and  
audibly playing the audio file at the selected recipients.

72. The method for instant voice messaging according to Claim 71,  
wherein the method further comprises:  
signal processing, compressing and encrypting the audio file at the client;  
decrypting and decompressing the audio file at the selected recipients;  
audibly playing the decrypted and decompressed audio file at the selected  
recipients.

73. The method for instant voice messaging according to Claim 67, wherein the method further comprises:

- buffering each of a plurality of successive portions of the instant voice message at the client as the instant message is recorded;
- transmitting from the client each successive portion to the external server system;
- routing each successive portion from the external server system to the local server;
- delivering each successive portion from local server to the selected external recipients; and
- audibly playing each successive portion at the selected recipients as it is delivered.

74. The method for instant voice messaging according to Claim 67, wherein the method further comprises:

- attaching one or more files to the instant voice message at the client;
- storing or displaying the one or more attached files at the selected recipients.

75. The method for instant voice messaging according to Claim 67, wherein the method further comprises:

providing input audio of the instant voice message from a voice-over-internet-protocol (VoIP) telephone to the client via a local network connecting the VoIP telephone to the client.

76. The method for instant voice messaging according to Claim 67, wherein the method further comprises:

maintaining a transport server mesh including a plurality of transport servers for routing instant voice messages; and

load-balancing the instant voice messages within the transport server mesh.

**SYSTEM AND METHOD**  
**FOR INSTANT VoIP MESSAGING**

**ABSTRACT OF THE DISCLOSURE**

5

There is provided an instant voice messaging system (and method) for delivering instant messages over a packet-switched network, the system comprising: a client connected to the network, the client selecting one or more recipients, generating an instant voice message therefor, and transmitting the selected recipients and the instant  
10 voice message therefor over the network; and a server connected to the network, the server receiving the selected recipients and the instant voice message therefor, and delivering the instant voice message to the selected recipients over the network, the selected recipients being enabled to audibly play the instant voice message.



100

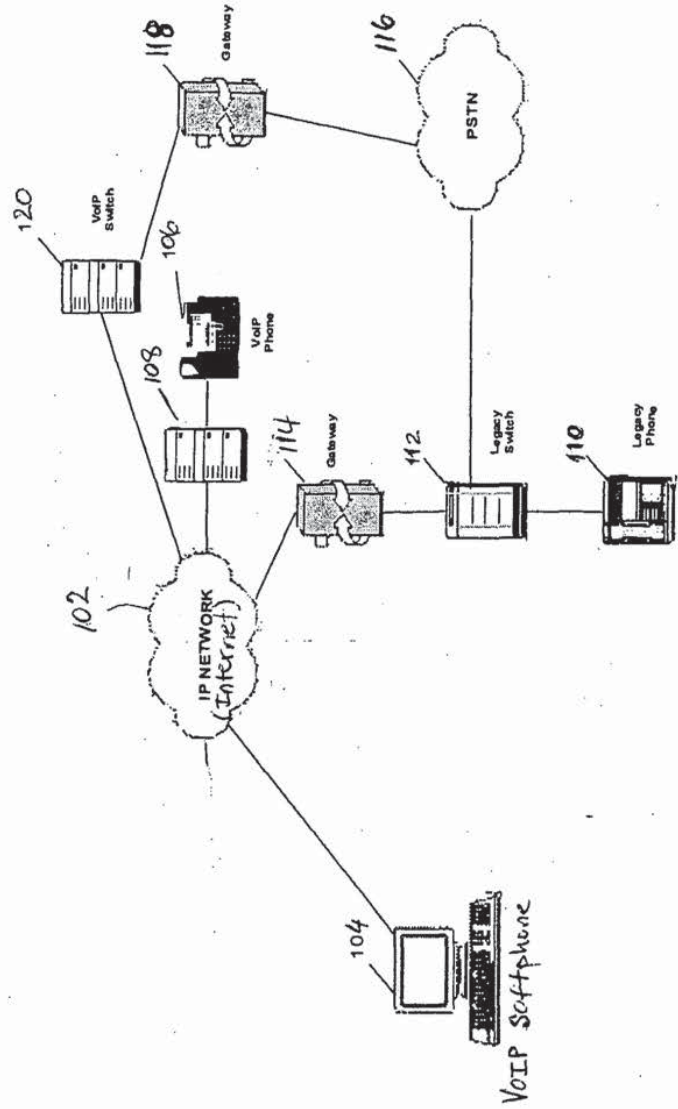


Fig. 1  
(Prior art)

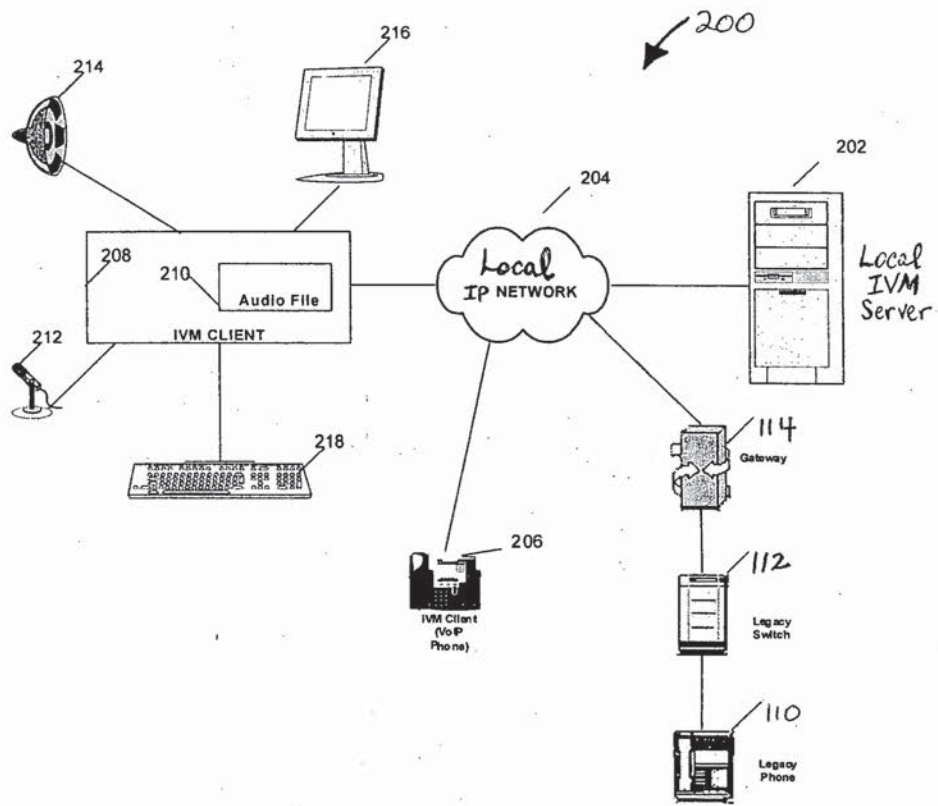


Fig. 2.

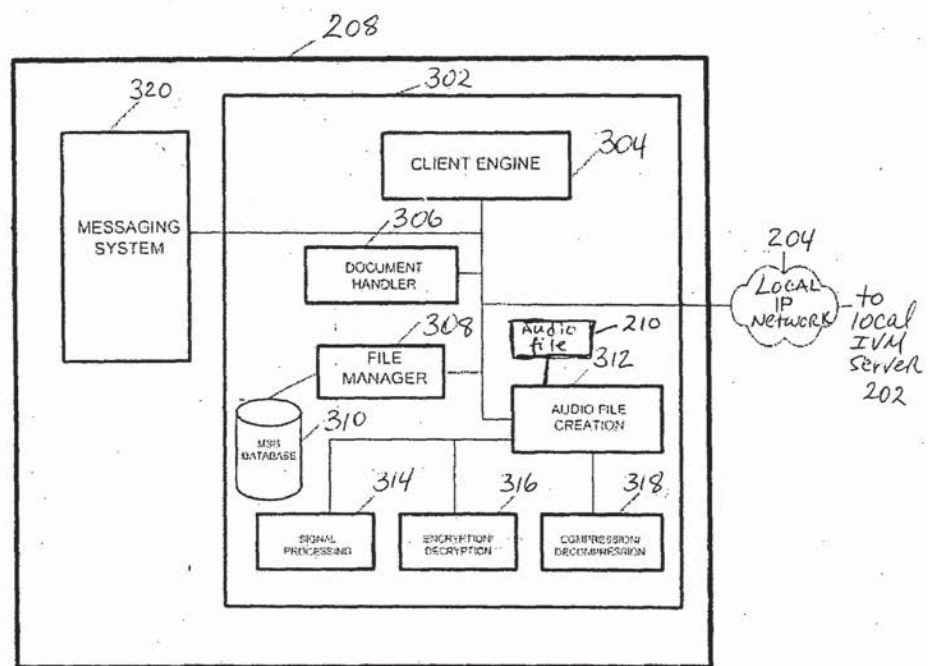


FIG. 3 Client Software Architecture

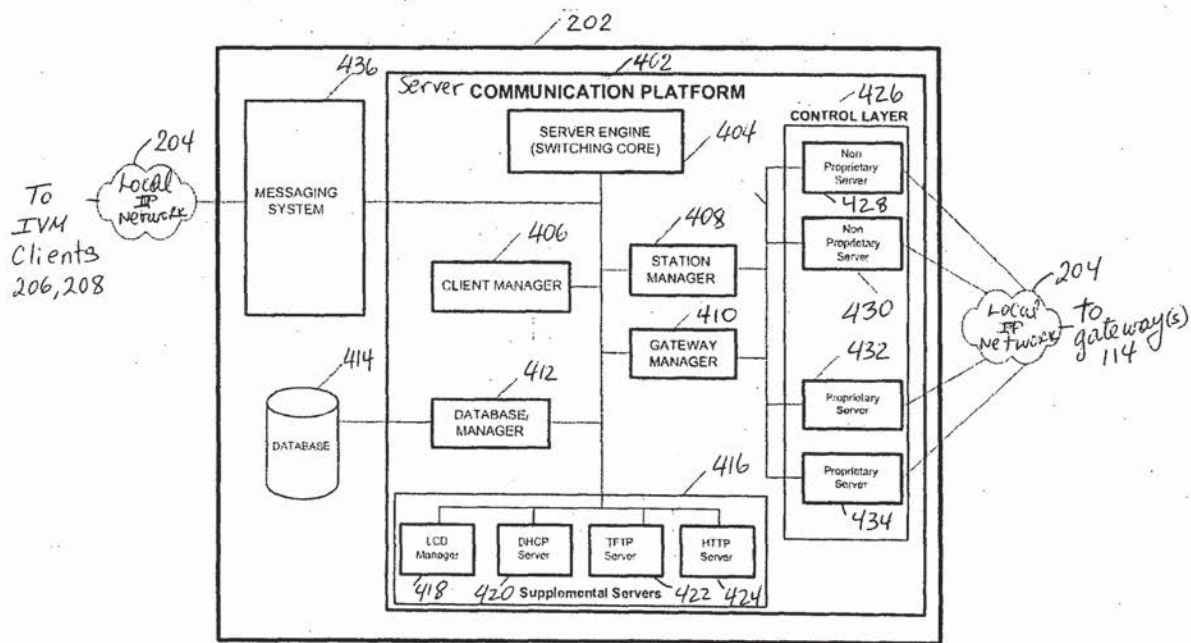


FIG. 4 Local Server (IVM) Architecture

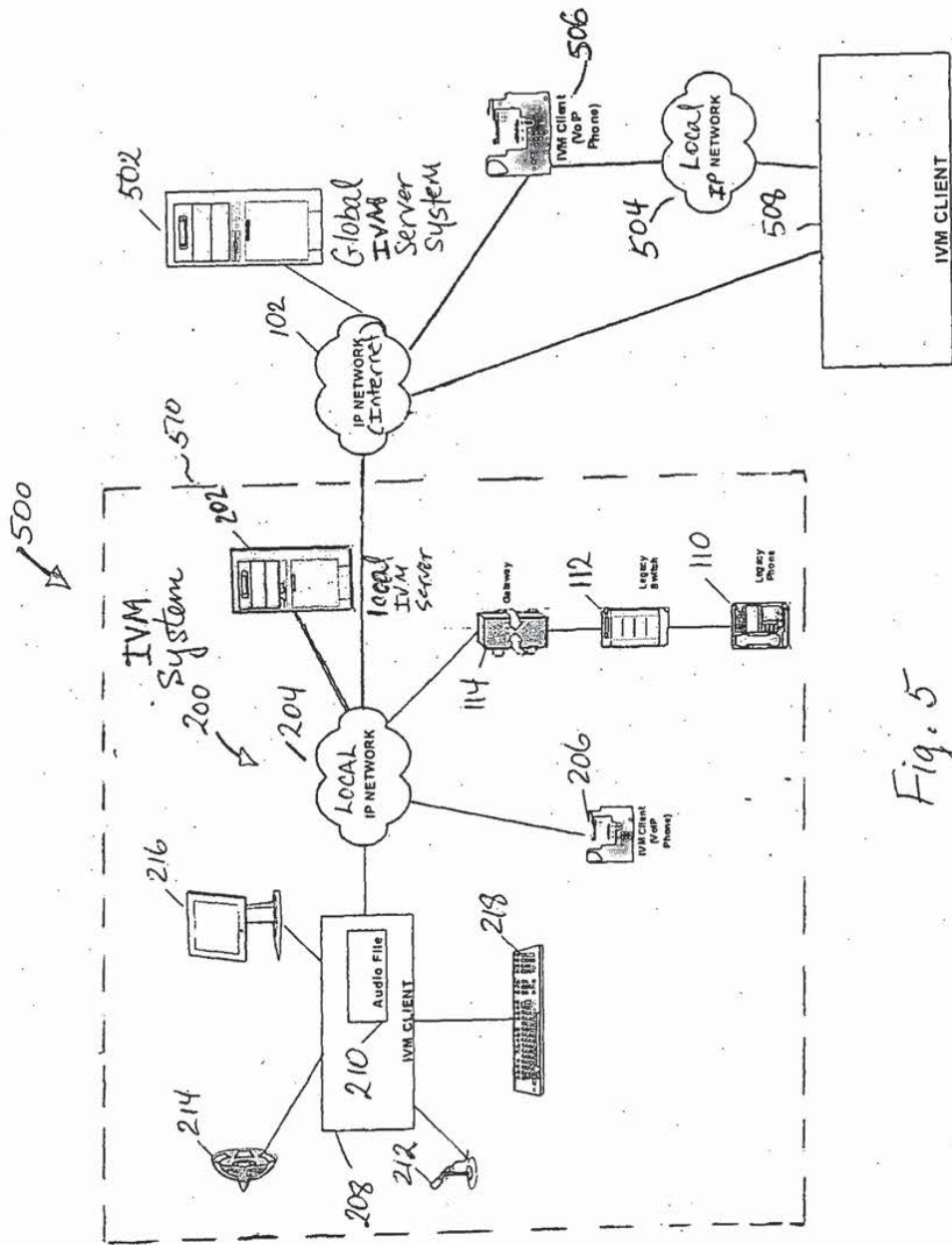


Fig. 5

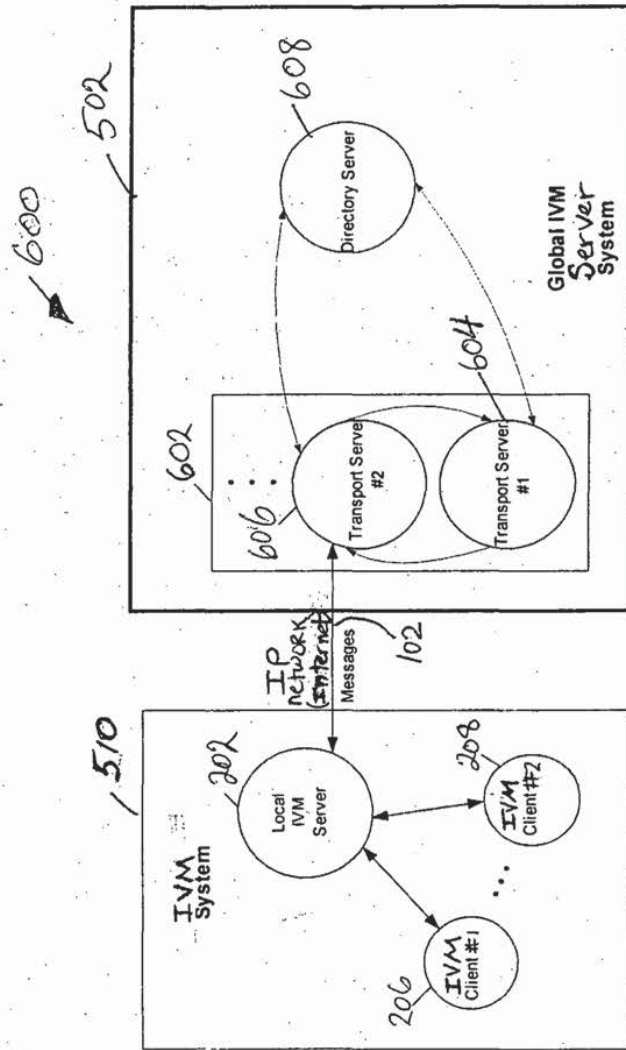


Fig. 6

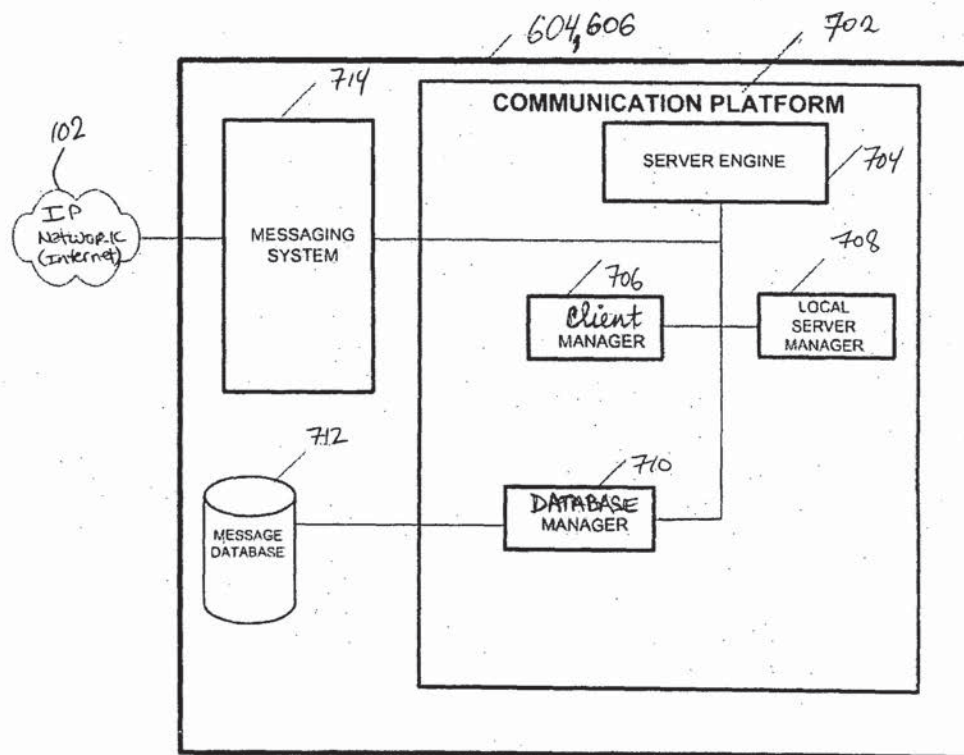


FIG. 7 TRANSPORT SERVER ARCHITECTURE

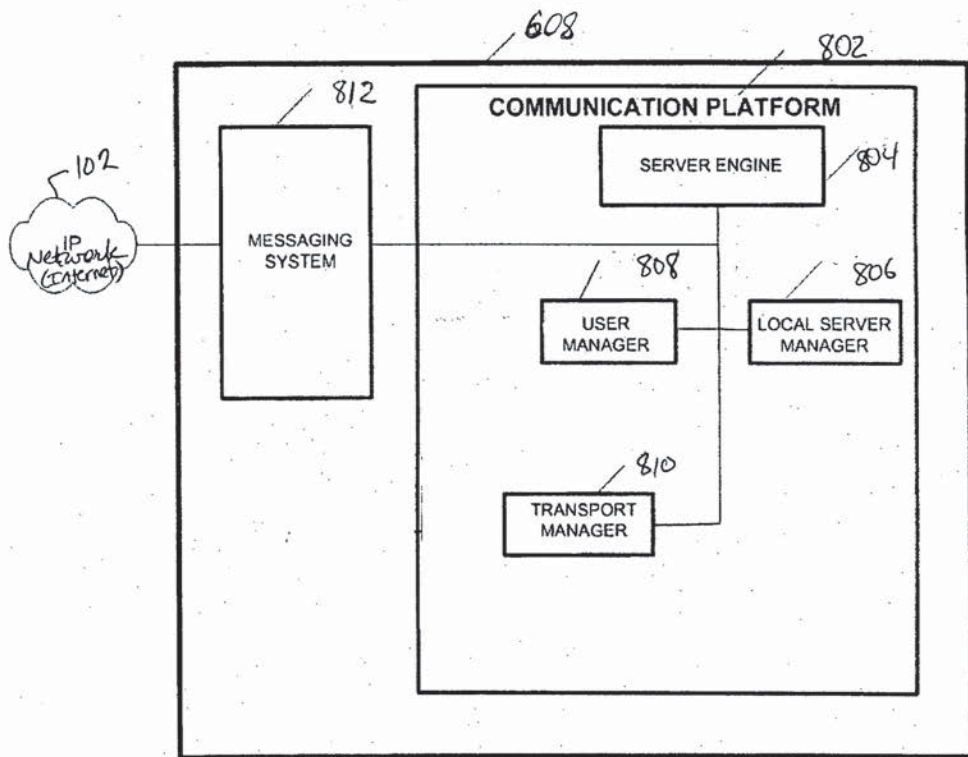


FIG. 8 Directory Server Architecture



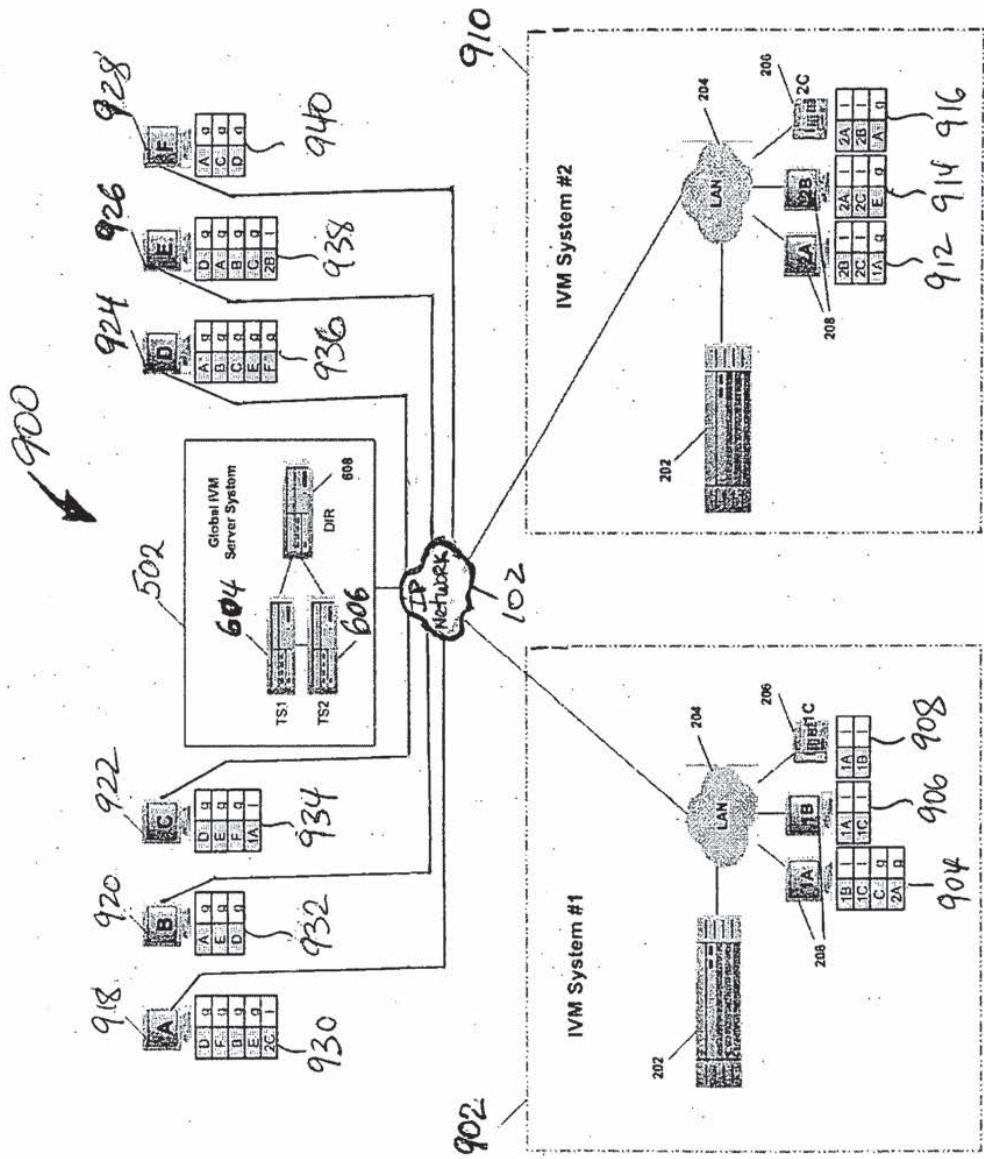


Fig. 9

Express Mail Label No.

Page 1 of 3

Docket No.  
17188

# Declaration and Power of Attorney For Patent Application

## English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**SYSTEM AND METHOD FOR INSTANT VOIP MESSAGING**

the specification of which

(check one)

is attached hereto.

was filed on \_\_\_\_\_ as United States Application No. or PCT International Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, or plant breeder's rights certificate(s), or 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)


I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further 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 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

- Frank S. DiGiglio; Reg. No. 31,346
- Leopold Presser; Reg. No. 19,827
- William C. Roch; Reg. No. 24,972
- Edward W. Grolz; Reg. No. 33,705
- Paul J. Esatto, Jr.; Reg. No. 30,749
- John S. Sensmy; Reg. No. 28,757
- Mark J. Cohen; Reg. No. 32,211
- Steven Fischman; Reg. No. 34,594
- Peter I. Bernstein; Reg. No. 43,497
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Full name of sole or first inventor	Michael J. Rojas	
Sole or first inventor's signature		Date 12-18-2003
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Post Office Address	Same as above	

Full name of second inventor, if any		
Second inventor's signature		Date
Residence		
Citizenship		
Post Office Address		

PATENT APPLICATION SERIAL NO. \_\_\_\_\_

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE  
FEE RECORD SHEET

12/24/2003 MMEKONEN 00000010 191013 10740030

01 FC:2001	385.00	DA
02 FC:2201	473.00	DA
03 FC:2202	504.00	DA

PTO-1556  
(5/87)

\*U.S. Government Printing Office: 2002 -- 489-267/69033

**PATENT APPLICATION FEE DETERMINATION RECORD**

Effective October 1, 2003

Application or Docket Number

17188

**CLAIMS AS FILED - PART I**

(Column 1) (Column 2)

TOTAL CLAIMS	76	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	76 minus 20 =	* 56
INDEPENDENT CLAIMS	14 minus 3 =	* 11
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

\* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE  OR

OTHER THAN SMALL ENTITY

RATE	FEE		RATE	FEE
BASIC FEE	385.00	OR	BASIC FEE	770.00
XS 9=		OR	XS18=	504
X43=		OR	X86=	473
+145=		OR	+290=	
TOTAL		OR	TOTAL	1362

**CLAIMS AS AMENDED - PART II**

(Column 1) (Column 2) (Column 3)

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**	=
Independent	*	Minus	***	=	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>					

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**	=
Independent	*	Minus	***	=	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>					

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT C		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**	=
Independent	*	Minus	***	=	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>					

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

\* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

\*\*\*If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.