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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

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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.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/740,030	ROJAS, MICHAEL J.
	Examiner	Art Unit	
	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 <u>3</u> 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    4a) Of the above claim(s) *,6, 21, 36, 46, 58, 70* is/are withdrawn from consideration.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: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20080303

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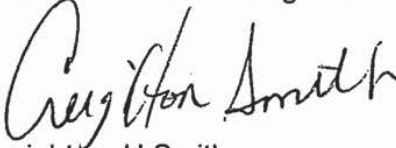
Claims 38, 60, 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over McZeal in view of Barry and Monroe as applied to claim 30 above, and further in view of Goodman et al.

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

182

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

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.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)   **Notice of References Cited**   Part of Paper No. 20080303

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
10/740,030	ROJAS, MICHAEL J.
Examiner	Art Unit
Creighton H. Smith	2614

√	Rejected	−	(Through numeral) Cancelled
=	Allowed	÷	Restricted

N	Non-Elected	A	Appeal
I	Interference	O	Objected

Final	Original	Date		Final	Original	Date		Final	Original	Date
	1	√			51	√			101	
	2				52				102	
	3				53				103	
	4				54				104	
	5	√			55				105	
	-6-				56				106	
	7				57	√			107	
	8				-58-				108	
	9				59	√			109	
	10				60				110	
	11				61				111	
	12				62				112	
	13				63				113	
	14				64				114	
	15				65				115	
	16				66				116	
	17				67				117	
	18				68				118	
	19				69				119	
	20	√			-70-				120	
	-21-				71	√			121	
	22	√			72				122	
	23				73				123	
	24				74				124	
	25				75				125	
	26				76	√			126	
	27				77				127	
	28				78				128	
	29				79				129	
	30				80				130	
	31				81				131	
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	34				84				134	
	35	√			85				135	
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	37	√			87				137	
	38				88				138	
	39				89				139	
	40				90				140	
	41				91				141	
	42				92				142	
	43				93				143	
	44				94				144	
	45	√			95				145	
	-46-				96				146	
	47	√			97				147	
	48				98				148	
	49				99				149	
	50	√			100				150	

Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination
	10/740,030	ROJAS, MICHAEL J.
	Examiner	Art Unit
	Creighton H. Smith	2614

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
EAST search -see printout	3/3/2008	CHS

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

U.S. Patent and Trademark Office

Part of Paper No. 20080303

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

186

UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Michael J. Rojas	Examiner:	Creighton Smith
Serial No:	10/740,030	Art Unit:	2614
Filed:	December 18, 2003	Docket:	17188
For:	SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING	Dated: February 19, 2008	

Confirmation No. 1731

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450
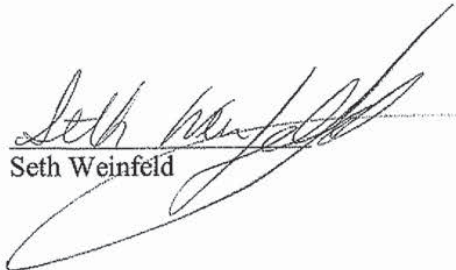
AMENDMENT AND RESPONSE UNDER 37 C.F.R. § 1.111

Sir:

Applicant submits this Amendment and Response in reply to the Official

Action dated September 18, 2007. Applicant respectfully requests reconsideration of the

application in view of the following amendments and remarks.

CERTIFICATE OF ELECTRONIC FILING

I hereby certify that this correspondence is being deposited with the
United States Patent & Trademark Office via Electronic Filing through the United States
Patent and Trademark Office e-business website, on February 19, 2008.

Dated: February 19, 2008

Seth Weinfeld

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

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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

H:\work\1732\17188\Amend\17188.am1.doc

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;

4   H:\work\1732\17188\Amend\17188.am1.doc

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.

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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.

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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;

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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

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196

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.

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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.

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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:

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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

H:\work\1732\17188\Amend\17188.am1.doc

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

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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.

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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;

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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

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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

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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.

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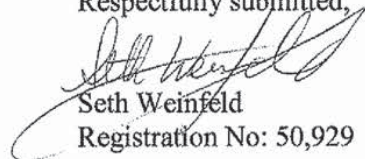
Applicant submits that the rejections set forth in the outstanding Official Action and listed above are rendered moot by the aforementioned amendments.

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.
400 Garden City Plaza, Suite 300
Garden City, New York 11530
516-742-4343

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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.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/740,030	December 18, 2003	Creighton Smith	23389	2614	1731

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
			TOTAL FEE FOR AMENDMENT AND EXTENSION OF TIME		**$230.00**

P28SMALL/REV06

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.

Dated: **February 19, 2008**

Seth Weinfeld
Signature

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

CC:

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

P28SMALL/REV06

Electronic Patent Application Fee Transmittal

Application Number:	10740030
Filing Date:	18-Dec-2003
Title of Invention:	System and method for instant VoIP messaging
First Named Inventor/Applicant Name:	Michael J. Rojas
Filer:	Paul J. Esatto/Roseann Gallo
Attorney Docket Number:	17188

Filed as Small Entity

Utility   Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with $0 paid	2252	1	230	230

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	230

Electronic Acknowledgement Receipt

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

221

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1		AMEND1EOT.pdf	1389410 23f5737b15542285efd889fd6d95dcda5 78688a6	yes	32

Multipart Description/PDF files in .zip description		
Document Description	Start	End
Amendment - After Non-Final Rejection	1	1
Claims	2	27
Applicant Arguments/Remarks Made in an Amendment	28	30
Extension of Time	31	32

Warnings:

Information:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
2	Fee Worksheet (PTO-06)	fee-info.pdf	8139 395425fd3fcf9a5b8804651233797ab1b f789be7	no	2

Warnings:

Information:

Total Files Size (in bytes):	1397549

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.

New Applications Under 35 U.S.C. 111
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.

National Stage of an International Application under 35 U.S.C. 371
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.

New International Application Filed with the USPTO as a Receiving Office
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.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/740,030	Filing Date 12/18/2003	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒	OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =		X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	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).					
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))						
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL		TOTAL	

APPLICATION AS AMENDED – PART II

		(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 ($)	ADDITIONAL FEE ($)	RATE ($)	ADDITIONAL FEE ($)	
	Total (37 CFR 1.16(i))	* 70	Minus	** 76	= 0	X $25 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 14	Minus	*** 14	= 0	X $105 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))							OR		
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

		(Column 1)		(Column 2)	(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	RATE ($)	ADDITIONAL FEE ($)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))							OR		
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L 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.

Legal Instrument Examiner:
/TRINA L. RIDDICK/

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.

<table>
<tr><td rowspan="3">Office Action Summary</td><td>Application No.</td><td>Applicant(s)</td></tr>
<tr><td>10/740,030</td><td>ROJAS, MICHAEL J.</td></tr>
<tr><td>Examiner</td><td>Art Unit</td></tr>
<tr><td></td><td>Creighton H. Smith</td><td>2614</td><td></td></tr>
</table>

-- 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 <u>3</u> 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)☒ 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 <u>23.08.04</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ 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 negatived 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 sill 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 claim30 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 claim30 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 claim30 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	Atty. Docket No. (Optional)	Application Number
INFORMATION DISCLOSURE CITATION *(Use several sheets if necessary)*	17188	10/740,030

Applicant(s) Michael Rojas	

Filing Date December 18, 2003	**Group Art Unit** 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		http://www.cisco.com/warp/public/cc/pd/nemnsw/callmn/prodlit/cm33_ds.htm; "Data Sheet Cisco CallManager Version 3.3"
CHS		http://www.cisco.com/en/US/products/hw/switches/ps1925/products_data_sheet_09186 a00800a3c3d.html; "Data Sheet Cisco MGX 8000 Series"
CHS		http://www.hsteliann.com/english/?zone=3100-V21P; "Teliphone 3100-V21P"
CHS		http://www.linuxdevices.com/articles/AT5199947519.html; "Device Profile: snom 100 VoIP phone"
CHS		http://www.pingtel.com/pr xpressa.jsp; "No limits with the advanced industry standard SIP phone
CHS		AudioCoded Enabling Technology Products, TPM-1100 VoP Media Gateway Modules

EXAMINER		DATE CONSIDERED	9/07

* 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.

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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	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.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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CONFIRMATION NO. 1731

Bib Data Sheet

SERIAL NUMBER 10/740,030	FILING OR 371(c) DATE 12/18/2003 RULE	CLASS 370	GROUP ART UNIT 2614	ATTORNEY DOCKET NO. 17188

APPLICANTS

Michael J. Rojas, North Canton, OH;

NO CHS

** CONTINUING DATA ***********************

No CHS

** FOREIGN APPLICATIONS ***********************

IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** SMALL ENTITY **
** 03/30/2004

Foreign Priority claimed ☐ yes ☒ no				
35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance	STATE OR COUNTRY OH	SHEETS DRAWING 9	TOTAL CLAIMS 76	INDEPENDENT CLAIMS 14
Verified and Acknowledged Examiner's Signature Initials				

ADDRESS

23389

TITLE

System and method for instant VoIP messaging

FILING FEE RECEIVED 1362	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees
		☐ 1.16 Fees (Filing)
		☐ 1.17 Fees (Processing Ext. of time)
		☐ 1.18 Fees (Issue)
		☐ Other _____
		☐ Credit

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
10/740,030	ROJAS, MICHAEL J.
Examiner	Art Unit
Creighton H. Smith	2614

√	Rejected	–	(Through numeral) Cancelled
=	Allowed	÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Final	Original	Date
	1	√
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Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination
	10/740,030	ROJAS, MICHAEL J.
	Examiner	Art Unit
	Creighton H. Smith	2614

SEARCHED			
Class	Subclass	Date	Examiner
370	354	9/11/2007	CHS

SEARCH NOTES (INCLUDING SEARCH STRATEGY)	DATE	EXMR
EAST Search - see printout	9/11/2007	CHS

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

U.S. Patent and Trademark Office

Part of Paper No. 20070911

235

	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

9/11/2007, EAST Version: 2.1.0.14

	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

Applicant(s):	Michael J. Rojas	Examiner:	Unassigned
Serial No:	10/740,030	Art Unit:	2661
Filed:	December 18, 2003	Docket:	17188
For:	SYSTEM AND METHOD FOR INSTANT VoIP MESSAGING	Dated:	August 19, 2004

Confirmation No. 1731

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, it is requested that the following references, which are also listed on the attached Form PTO-1449, be made of record in the above-identified case.

1. http://www.cisco.com/warp/public/cc/pd/nemnsw/callmn/prodlit/cm33_ds.htm; "Data Sheet Cisco CallManager Version 3.3".

2. http://www.cisco.com/en/US/products/hw/switches/ps1925/products_data_sheet_09186_a00800a3c3d.html; "Data Sheet Cisco MGX 8000 Series".

3. http://www.hsteliann.com/english/?zone=3100-V21P; "Telephone 3100-V21P".

---

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

5. 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.
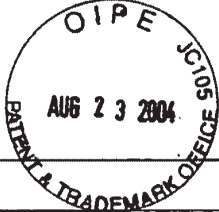
Respectfully submitted,

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 U.S. DEPARTMENT OF COMMERCE (REV. 7-80) PATENT AND TRADEMARK OFFICE	Atty. Docket No. (Optional)	Application Number
INFORMATION DISCLOSURE CITATION *(Use several sheets if necessary)*	17188	10/740,030

Applicant(s) Michael Rojas	
Filing Date December 18, 2003	**Group Art Unit** 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.)*

		http://www.cisco.com/warp/public/cc/pd/nemnsw/callmn/prodlit/cm33_ds.htm; "Data Sheet Cisco CallManager Version 3.3"
		http://www.cisco.com/en/US/products/hw/switches/ps1925/products_data_sheet_09186 a00800a3c3d.html; "Data Sheet Cisco MGX 8000 Series"
		http://www.hsteliann.com/english/?zone=3100-V21P; "Teliphone 3100-V21P"
		http://www.linuxdevices.com/articles/AT5199947519.html; "Device Profile: snom 100 VoIP phone"
		http://www.pingtel.com/pr xpressa.jsp; "No limits with the advanced industry standard SIP phone
		AudioCoded Enabling Technology Products, TPM-1100 VoP Media Gateway Modules

EXAMINER	DATE CONSIDERED

* 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.

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

[Stamp: OIPE AUG 2 3 2004 PATENT & TRADEMARK OFFICE]

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);

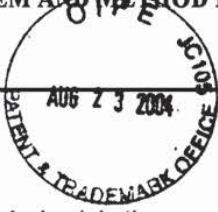**OR**

    ☐ the fee set forth in 37 CFR 1.17(p).

P10A/REV03

241

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*

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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

Paul J. Esatto, Jr.

Registration No. 30,749

Scully, Scott, Murphy & Presser

400 Garden City Plaza

Garden City, New York 11530

516-742-4343

Dated: **August 19, 2004**

CC:

| 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

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:

☐ **C ntinuation**　☐ **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

<table>
<tr><td colspan="2" align="center">UTILITY PATENT APPLICATION TRANSMITTAL
(Small Entity)
<i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i></td><td align="center">Docket No.
17188</td></tr>
<tr><td></td><td></td><td align="center">Total Pages in this Submission
4</td></tr>
</table>

Application Elements (Continued)

3. ☒ Drawing(s) *(when necessary as prescribed by 35 USC 113)*

    a. ☒   Formal   Number of Sheets   **9**

    b. ☐   Informal   Number of Sheets

4. ☒ Oath or Declaration

    a. ☒   Newly executed *(original or copy)*   ☐   Unexecuted

    b. ☐   Copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional application only)*

    c. ☒   With Power of Attorney   ☐   Without Power of Attorney

    d. ☐   *DELETION OF INVENTOR(S)*
             Signed statement attached deleting inventor(s) named in the prior application,
             see 37 C.F.R. 1.63(d)(2) and 1.33(b).

5. ☐ Incorporation By Reference *(usable if Box 4b is checked)*
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. ☐ CD ROM or CD-R in duplicate, large table or Computer Program (Appendix)

7. ☐ Application Data Sheet (See 37 CFR 1.76)

8. ☐ Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all must be included)*

    a. ☐   Computer Readable Form (CFR)

    b. ☐   Specification Sequence Listing on:

             i. ☐   CD-ROM or CD-R (2 copies); or

             ii. ☐   Paper

    c. ☐   Statement(s) Verifying Identical Paper and Computer Readable Copy

Accompanying Application Parts

9. ☒ Assignment Papers (cover sheet & document(s))

10. ☐ 37 CFR 3.73(B) Statement (when there is an assignee)

11. ☐ English Translation Document (if applicable)

12. ☐ Information Disclosure Statement/PTO-1449   ☐   Copies of IDS Citations

13. ☐ Preliminary Amendment

14. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)

15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)

16. ☒ Certificate of Mailing

    ☐   First Class   ☒   Express Mail *(Specify Label No.):*   **EV-244-125-044-US**

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 (Continu d)

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.

P01USML/REV06

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) ☐					$0.00
				BASIC FEE	$385.00
OTHER FEE *(specify purpose)*					$0.00
				TOTAL FILING FEE	$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

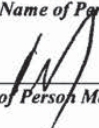**Paul J. Esatto, Jr.**
Registration No. 30,749

CC:

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

Serial No.	Filing Date	Examiner	Group Art Unit
unassigned	herewith	unassigned	unassigned

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.

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

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:

☐ **C ntinuation**   ☐ **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)*

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Application Elements (Continued)

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17188 |
| | Total Pages in this Submission
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Accompanying Application Parts (Continu d)

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**

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Warning

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P01USML/REV06

250

<table>
<tr><td colspan="2">
<p>UTILITY PATENT APPLICATION TRANSMITTAL</p>
<p>(Small Entity)</p>
<p>(Only for new nonprovisional applications under 37 CFR 1.53(b))</p>
</td><td>
Docket No.
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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) ☐						$0.00
					BASIC FEE	$385.00
OTHER FEE *(specify purpose)*						$0.00
					TOTAL FILING FEE	$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.
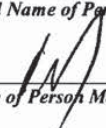**Registration No. 30,749**

CC:

252

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

10 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

20 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.

An alternative to the PSTN is Voice over Internet Protocol (i.e., "VoIP"),

25 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

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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

5   personal computer (PC) enabled for IP telephony. More specifically, the PC is 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

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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.

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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

5   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

10   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,

15   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

20   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.

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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.

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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

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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

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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

10 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

15 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

20 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

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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;

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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-

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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

5   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

10   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

15   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;

20   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;

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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

Fig. 9 illustrates an exemplary global IVM system comprising a plurality

10 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

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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

Fig. 9 illustrates an exemplary global IVM system comprising a plurality

10 of local IVM systems and global IVM clients, according to the present invention.

DETAILED DESCRIPTION OF THE
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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

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265

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

5   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

10   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,

15   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

20   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

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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

5   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

10   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

15   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.

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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.

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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

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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

5   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

10   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

15   the keypad or returns the handset of the VoIP telephone 206 to it 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

20   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

271

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 202 for delivery to the selected one or more IVM recipients. Alternatively, the user may

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

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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

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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

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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 mode" of voice messaging. The "intercom mode" represents real-time instant voice

15 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

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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

5   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

10   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

15   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

20   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

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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.

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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 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 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 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 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

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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 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, 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 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 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.

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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

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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, 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, 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 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 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

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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

5 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

10 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

15 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

20 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

-30-

282

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 TPNCP, 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.

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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

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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.

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

H:\work\1732\17188\Spec\17188new1.spc.doc

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

5   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 it 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

-35-

287

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

5   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

-36-

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

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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

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

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

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

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

-38-   H:\work\1732\17188\Spec\17188new1.spc.doc

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.

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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

5   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

10   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

15   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

20   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

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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

5   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

10   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.

15   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

20   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

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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

5   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

10   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

15   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

20   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

H:\work\1732\17188\Spec\17188new1.spc.doc

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

5　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

10　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

15　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

20　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

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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,

5   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

10   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

15   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

20   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

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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

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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

5   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

10   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

15   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)

20   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

H:\work\1732\17188\Spec\17188new1.spc.doc

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-

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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

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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

5   messages according to the present invention to local IVM clients 1B 208 and 1C 206,

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

15   foregoing and other changes in form and details may be made therein without departing

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.

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

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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

H:\work\1732\17188\Spec\17188new1.spc.doc

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

H:\work\1732\17188\Spec\17188new1.spc.doc

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

H:\work\1732\17188\Spec\17188new1.spc.doc

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

H:\work\1732\17188\Spec\17188new1.spc.doc

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,

H:\work\1732\17188\Spec\17188new1.spc.doc

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:

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

311

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.

H:\work\1732\17188\Spec\17188new1.spc.doc

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:

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

H:\work\1732\17188\Spec\17188new1.spc.doc

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

provding 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

H:\work\1732\17188\Spec\17188new1.spc.doc

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;

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

H:\work\1732\17188\Spec\17188new1.spc.doc

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:

H:\work\1732\17188\Spec\17188new1.spc.doc

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;

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

H:\work\1732\17188\Spec\17188new1.spc.doc

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.

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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:

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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.

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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
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.

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100

118 Gateway

120 VoIP Switch

106

108 VoIP Phone

116 PSTN

114 Gateway

112 Legacy Switch

110 Legacy Phone

102 IP NETWORK (Internet)

104

VoIP Softphone

Fig. 1
(Prior art)

328
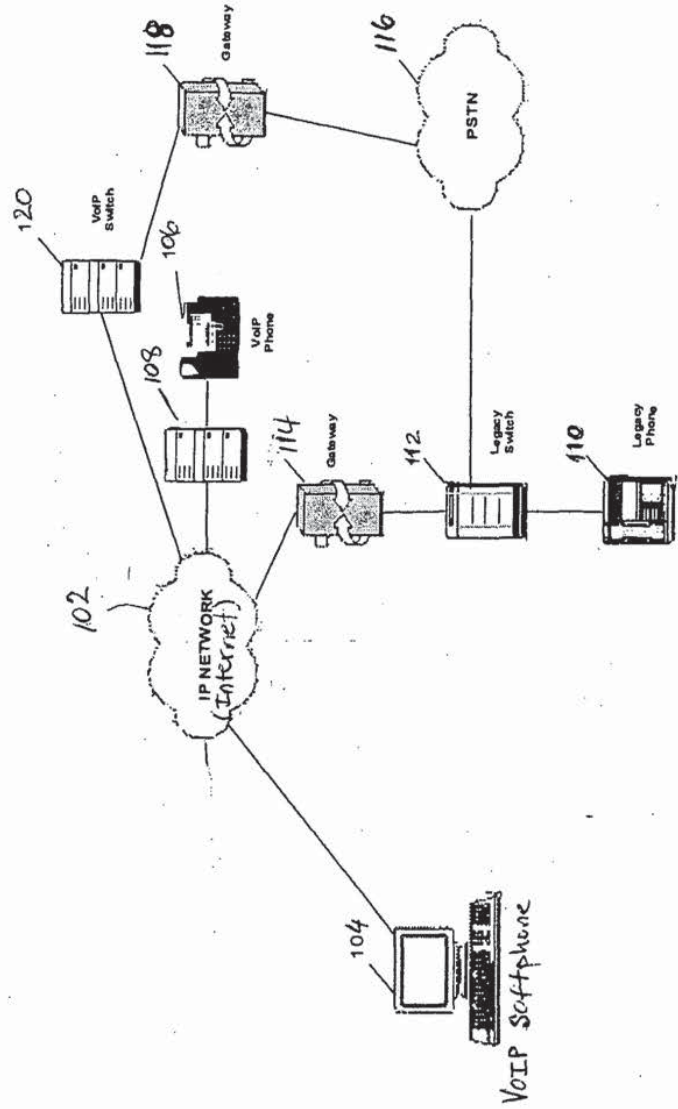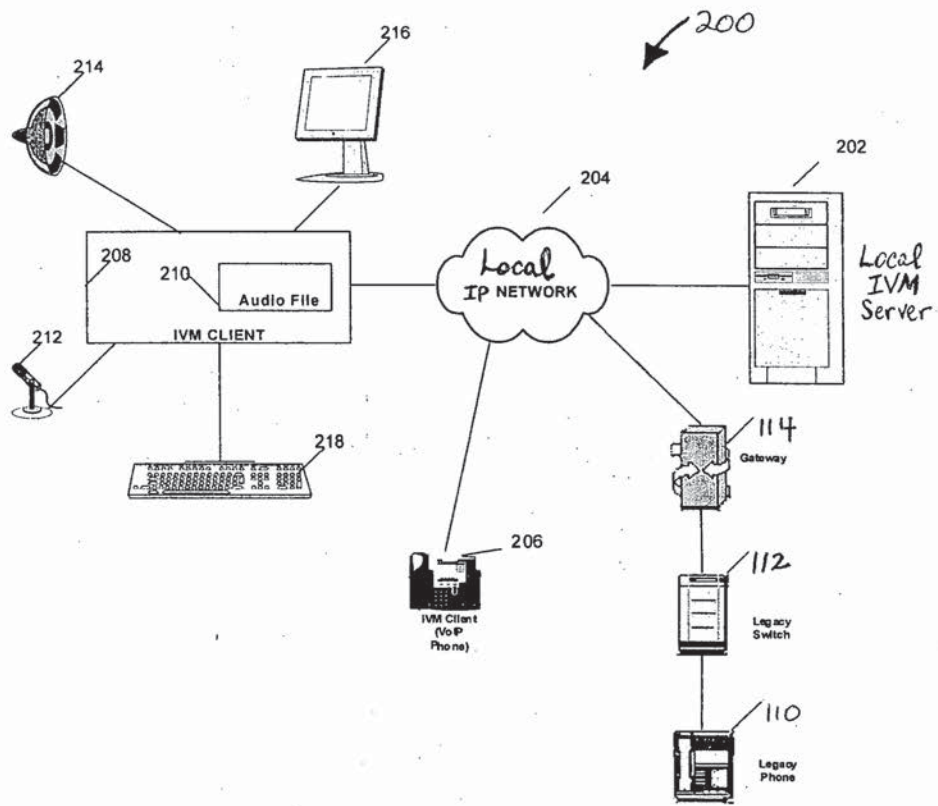
Fig. 2.
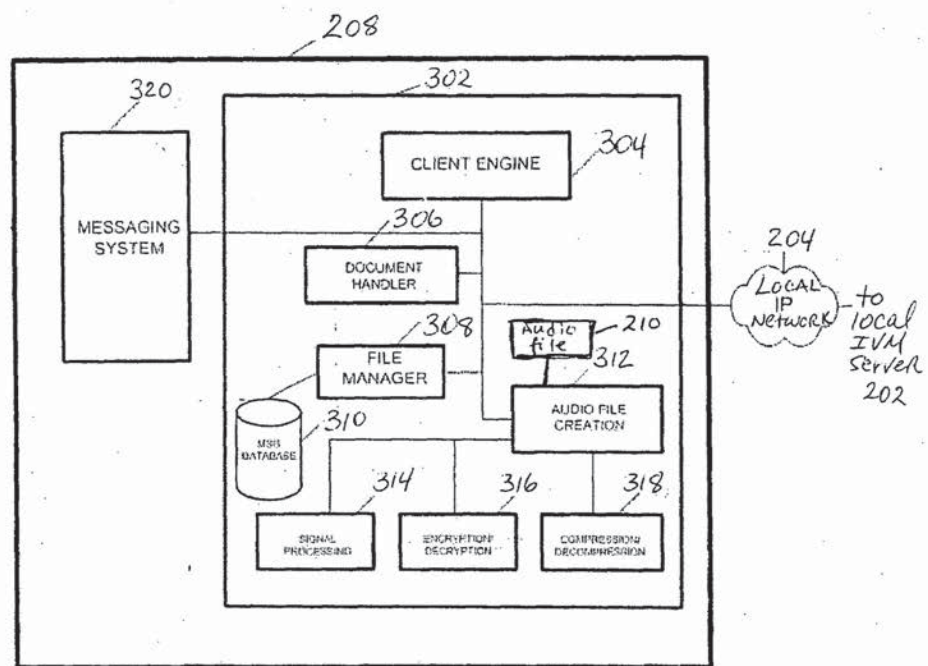
FIG. 3 Client Software Architecture
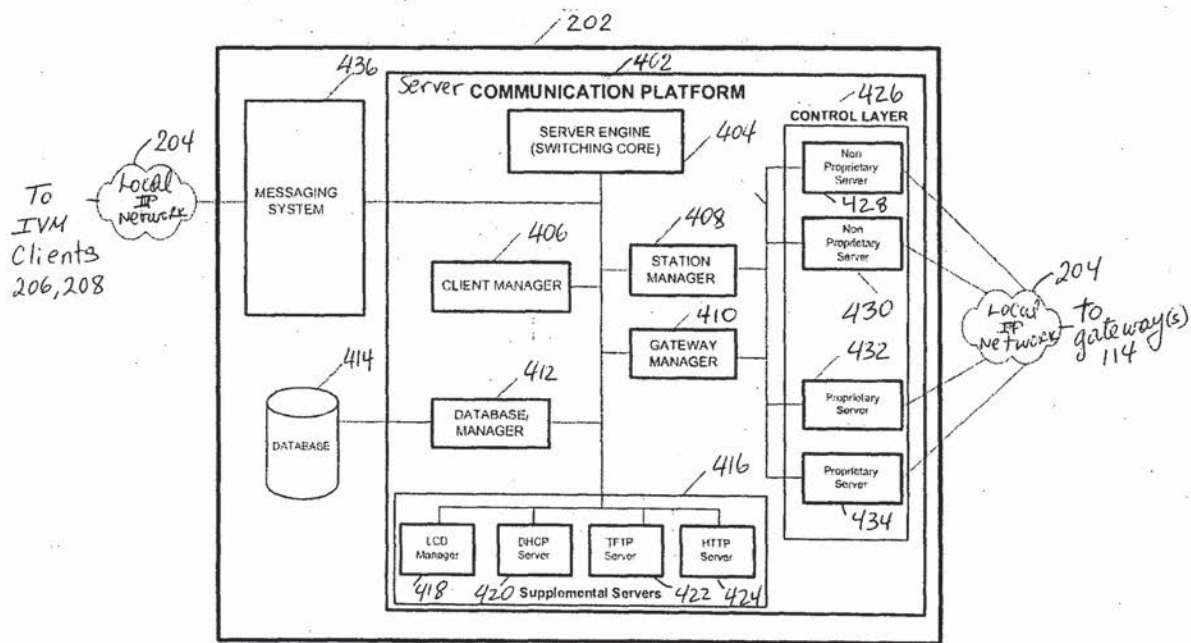
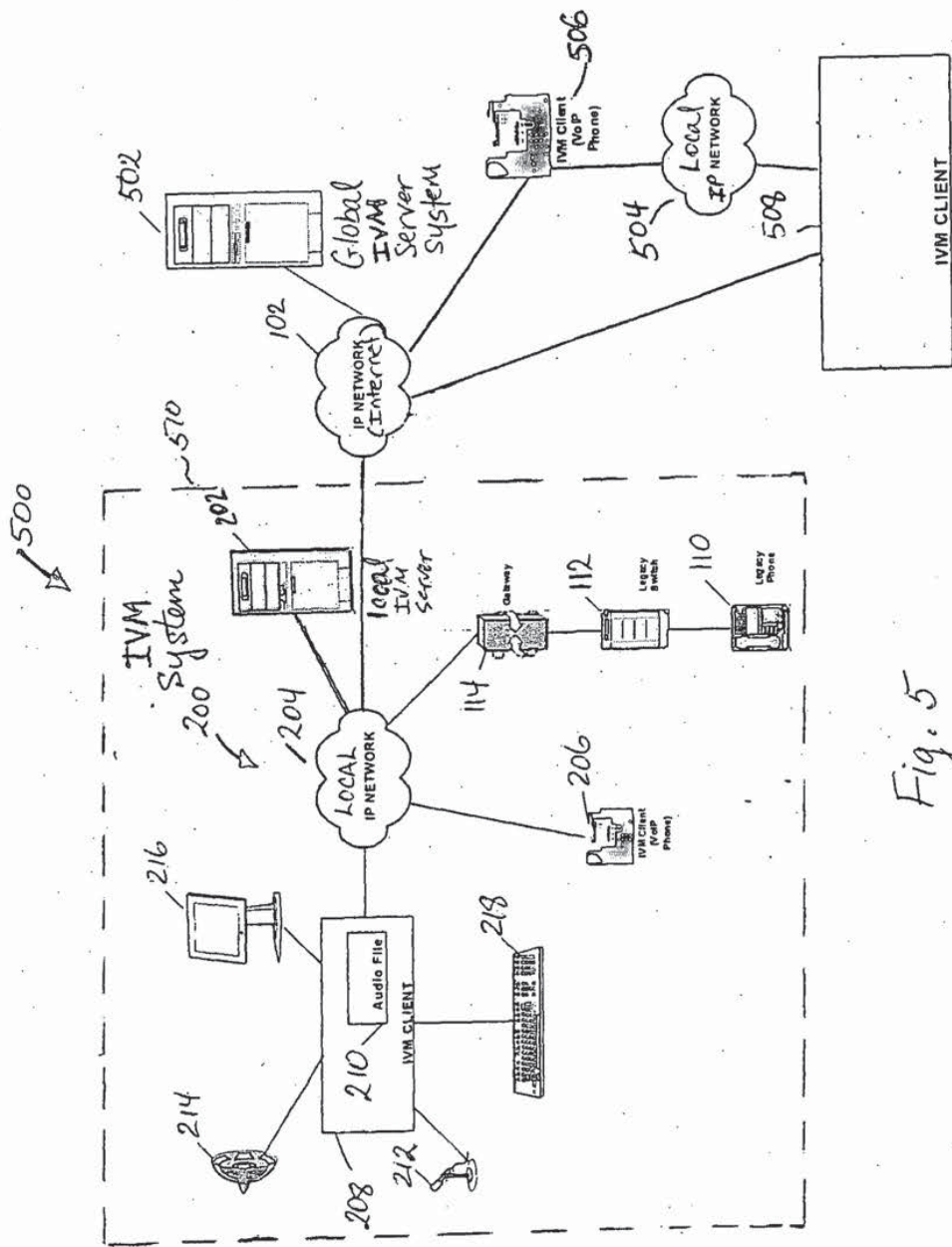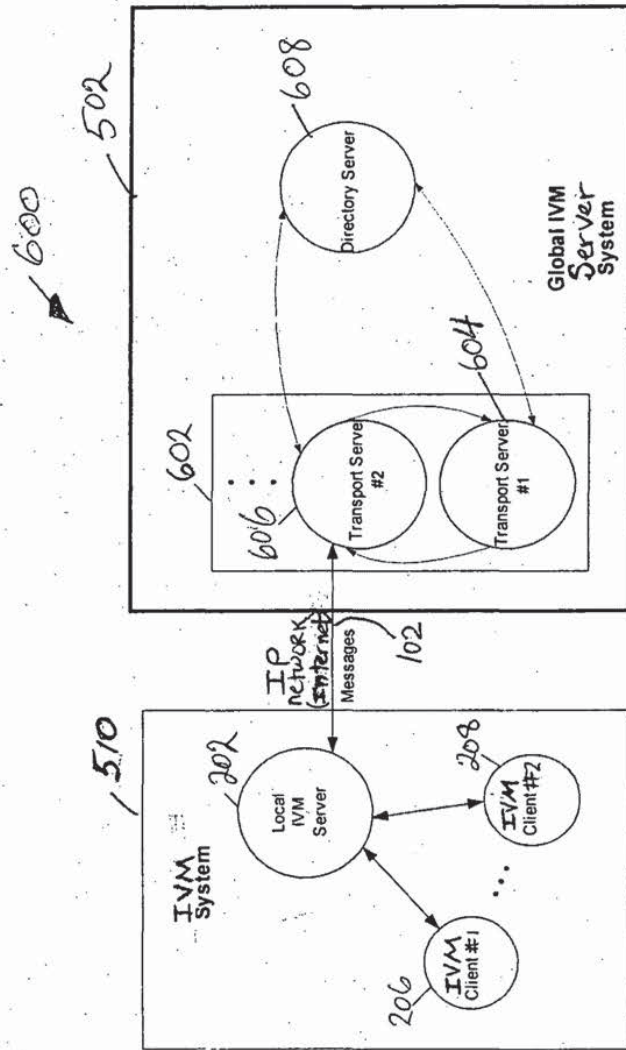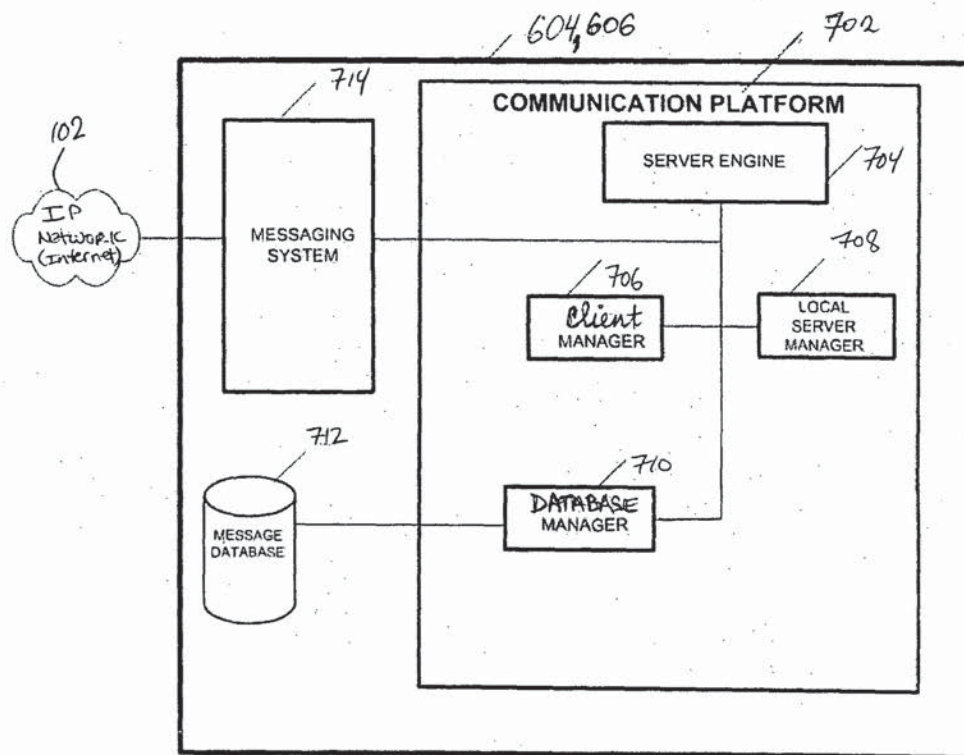FIG. 4 Local Server (IVM) Architecture
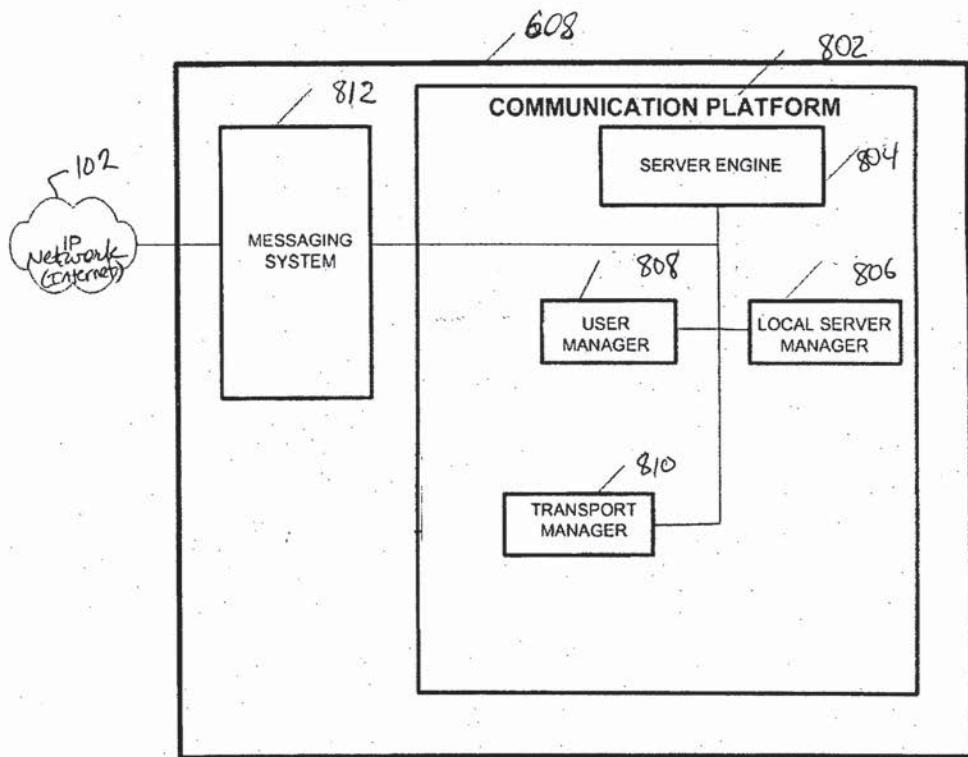
331

Fig. 5

332

Fig. 6

333

FIG. 7 TRANSPORT SERVER ARCHITECTURE

334

FIG. 8 Directory Server Architecture
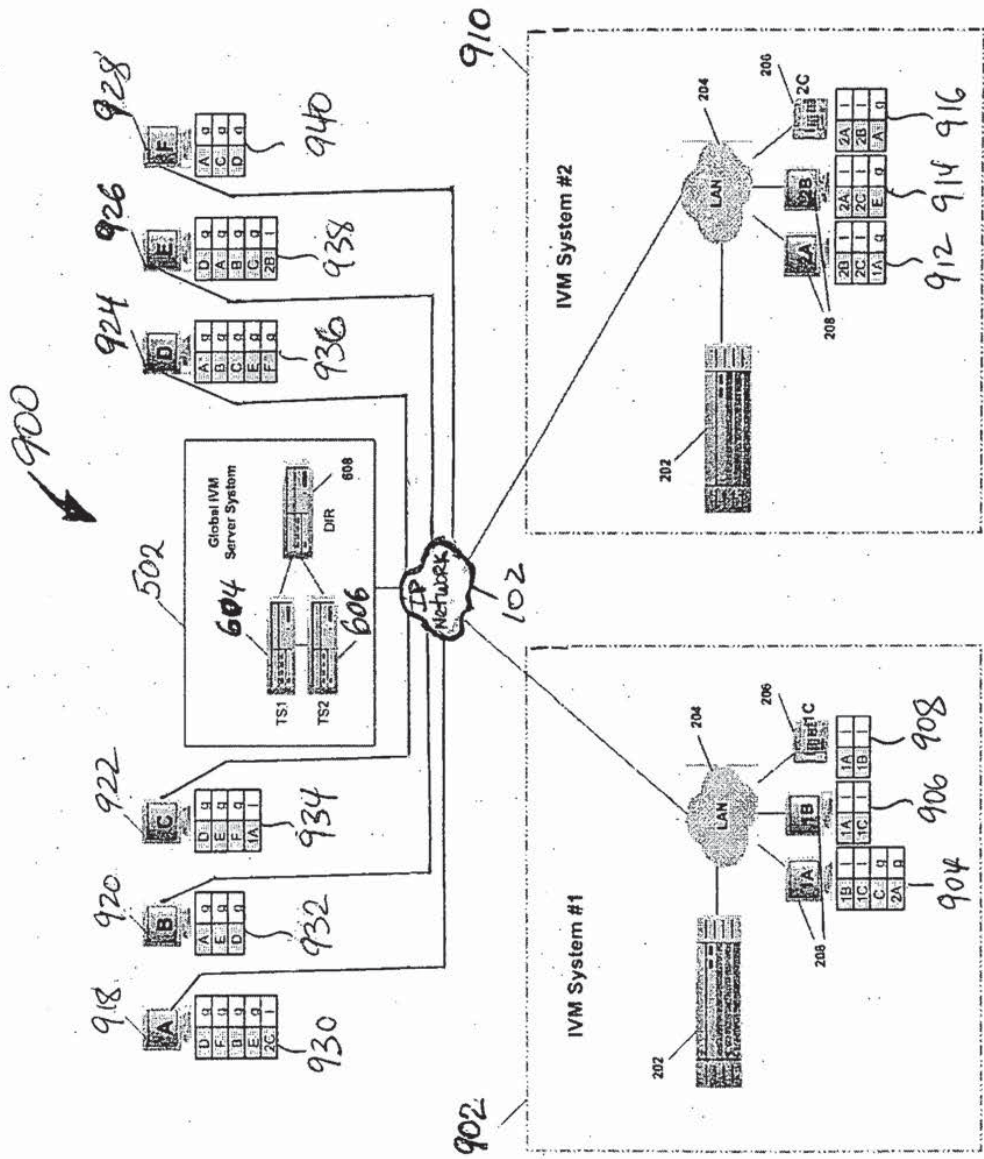
Fig. 9

Docket No.
17188

D clarati n and Power of Attorn y 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

			☐
(Number)	(Country)	(Day/Month/Year Filed)	
			☐
(Number)	(Country)	(Day/Month/Year Filed)	
			☐
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit und r 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 hreby 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 Pressser; 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. Sensny; Reg. No. 28,757
Mark J. Cohen; Reg. No. 32,211
Steven Fischman; Reg. No. 34,594
Peter I. Bernstein; Reg. No. 43,497
Thomas Spinelli, Reg. No. 39,533

Send Correspondence to: Paul J. Esatto, Jr.
SCULLY, SCOTT, MURPHY & PRESSER
400 Garden City Plaza
Garden City, New York 11530

Direct Telephone Calls to: *(name and telephone number)*
Paul J. Esatto, Jr. (516) 742-4343

Full name of sole or first Inventor		
Michael J. Rojas		
Sole or first inventor's signature		Date
		12-18-2003
Residence		
2828 Barclay Circle, North Canton, Stark County, Ohio 44720		
Citizenship		
U.S.A.		
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)

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		☐

* 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	X$18=	50¢
X43=		OR	X86=	473
+145=		OR	+290=	
TOTAL		OR	TOTAL	1362

CLAIMS AS AMENDED - PART II

OTHER THAN SMALL ENTITY OR SMALL ENTITY

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
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.

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