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(54) **SYSTEM AND METHOD FOR SIGNALING USING INSTANT MESSAGING IN MULTIMEDIA TELEPHONY-OVER-LAN CONFERENCES**

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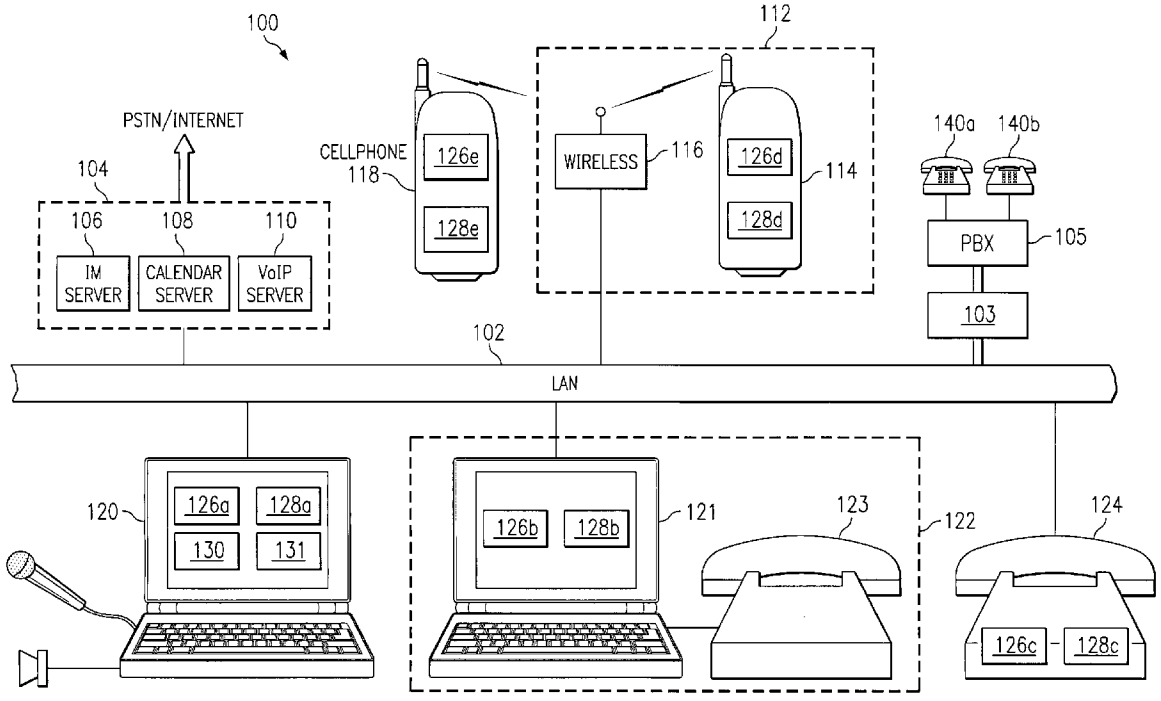
(52) **U.S. Cl.** **709/206**; 709/231

(57) **ABSTRACT**

A telecommunications system according to an embodiment of the present invention includes an instant messaging (IM) server (**106**) and a VoIP server (**110**); and a plurality of system clients having both VoIP and IM sub-clients. The system clients can log on to their respective servers in parallel. The IM server (**106**) and the VoIP server (**110**) can communicate lists of common participants and allow for IM conferences among at least subsets of the system clients while an audio or video teleconference is ongoing.



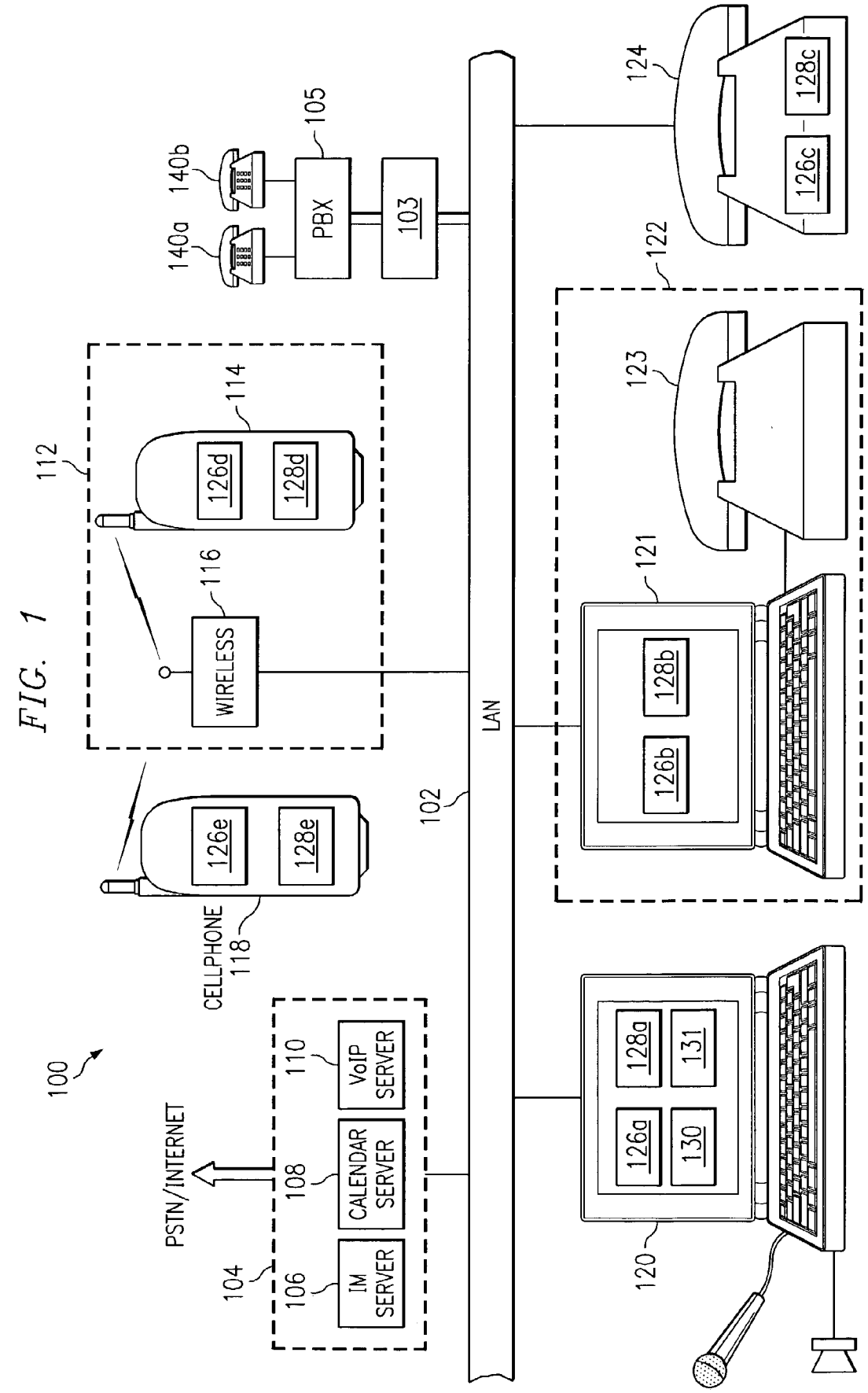

100
PSTN/INTERNET
104
106
IM SERVER
108
CALENDAR SERVER
110
VoIP SERVER
CELLPHONE 118
126e
128e
102
LAN
112
114
126d
128d
116
WIRELESS
140a
140b
105
PBX
103
120
126a
128a
130
131
121
126b
128b
122
123
124
126c
128c

FIG. 1

FIG. 2

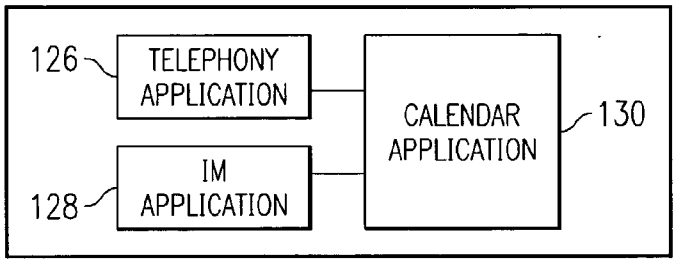
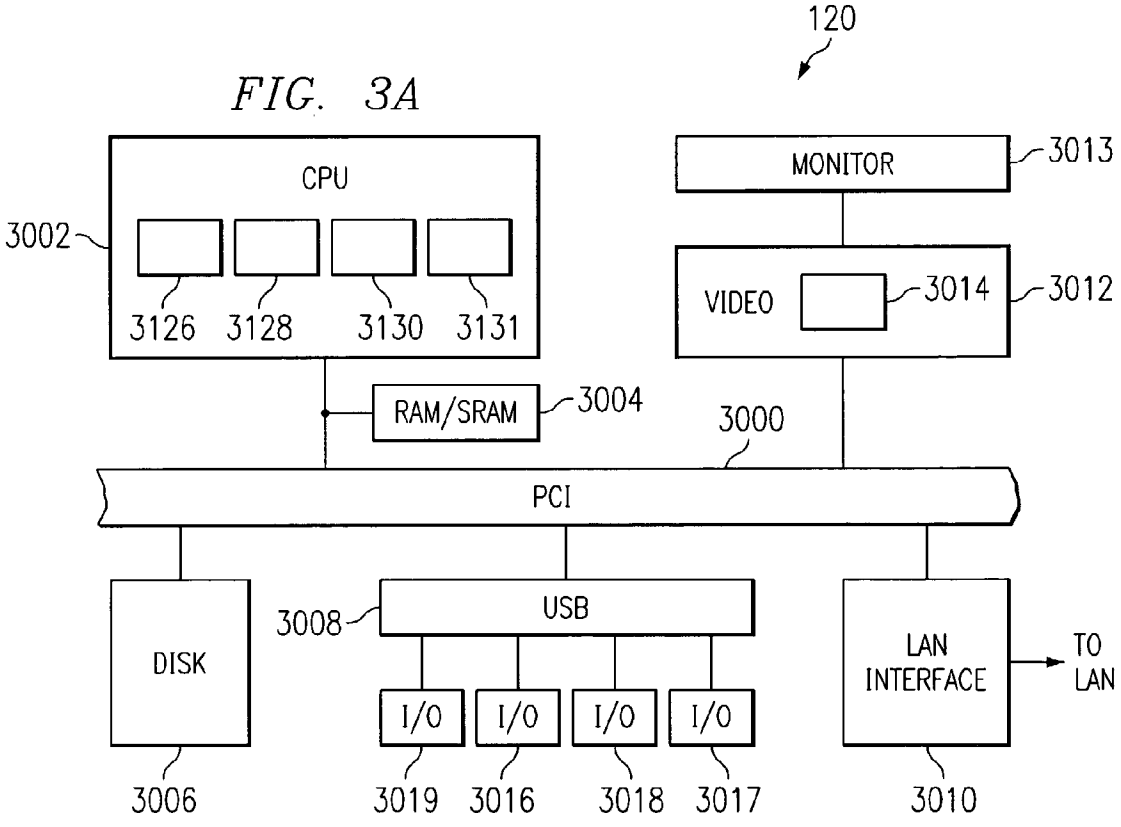

126
TELEPHONY APPLICATION
128
IM APPLICATION
CALENDAR APPLICATION
130

FIG. 3A


120
CPU
3002
3126
3128
3130
3131
MONITOR
3013
VIDEO
3014
3012
RAM/SRAM
3004
3000
PCI
DISK
3006
3008
USB
I/O
I/O
I/O
I/O
3019
3016
3018
3017
LAN INTERFACE
TO LAN
3010

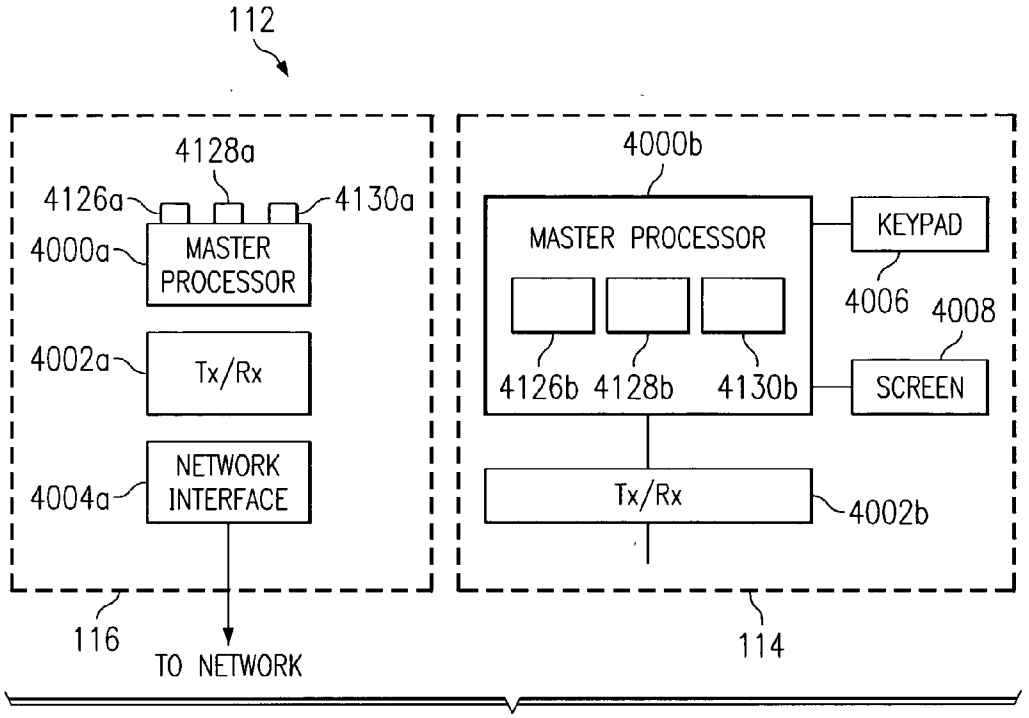

112
4128a
4126a
4130a
4000a
MASTER PROCESSOR
4002a
Tx/Rx
4004a
NETWORK INTERFACE
116
TO NETWORK
4000b
MASTER PROCESSOR
KEYPAD
4006
4008
4126b
4128b
4130b
SCREEN
Tx/Rx
4002b
114

FIG. 3B

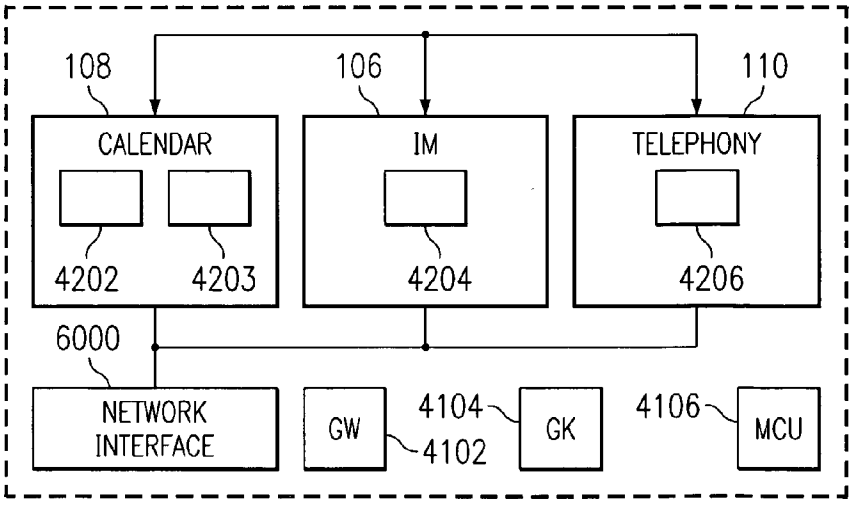

108
106
110
CALENDAR
IM
TELEPHONY
4202
4203
4204
4206
6000
NETWORK INTERFACE
GW
4102
4104
GK
4106
MCU

FIG. 4

FIG. 5

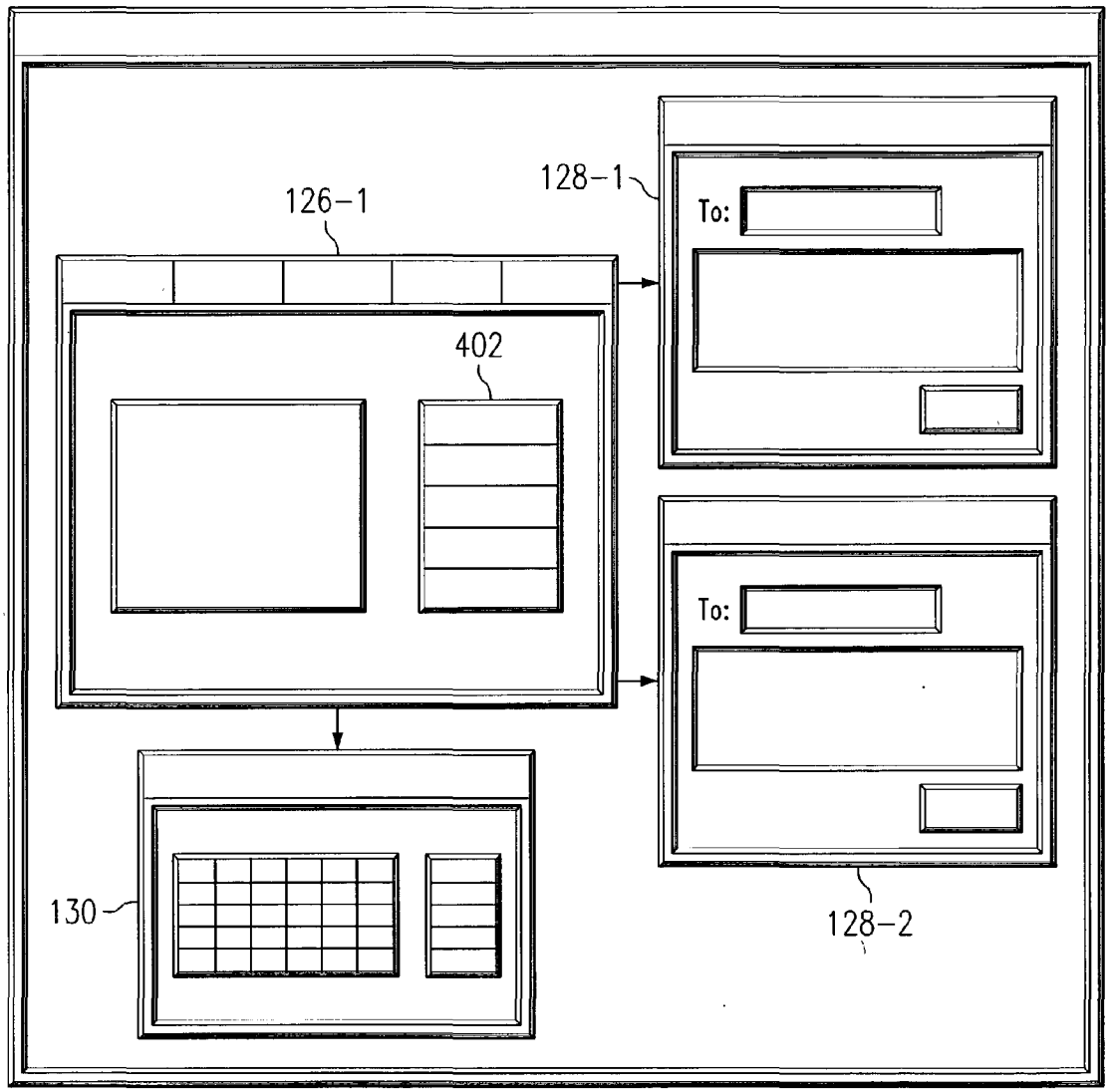


FIG. 6

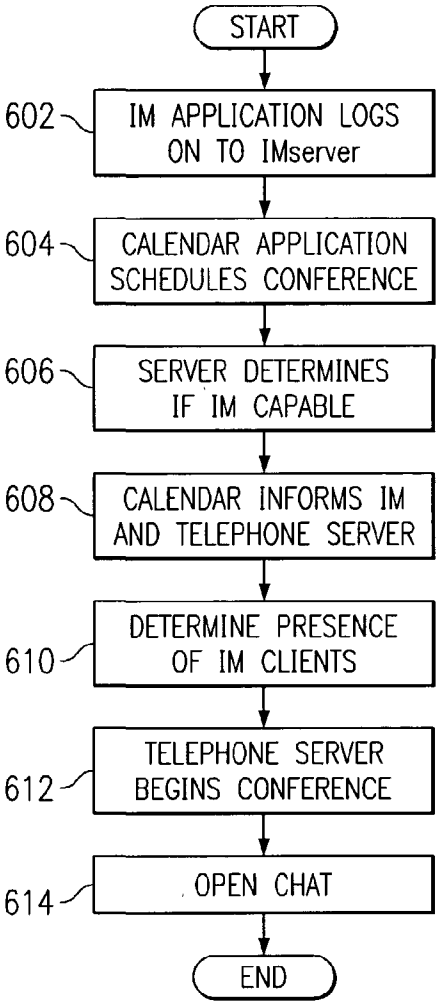
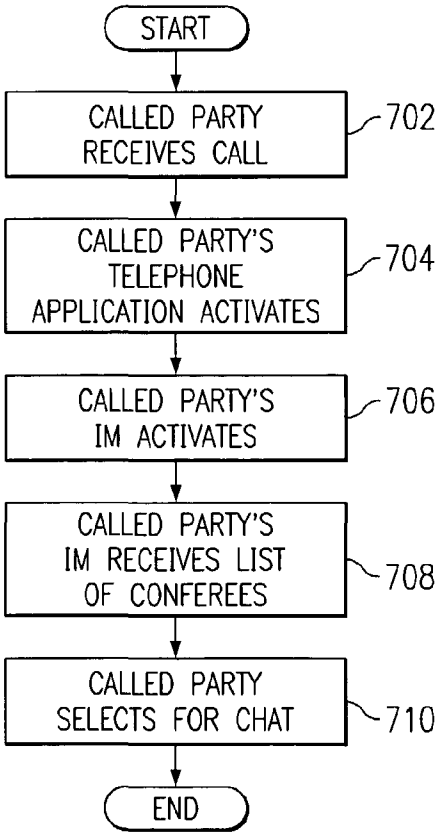

START
602
IM APPLICATION LOGS ON TO IMserver
604
CALENDAR APPLICATION SCHEDULES CONFERENCE
606
SERVER DETERMINES IF IM CAPABLE
608
CALENDAR INFORMS IM AND TELEPHONE SERVER
610
DETERMINE PRESENCE OF IM CLIENTS
612
TELEPHONE SERVER BEGINS CONFERENCE
614
OPEN CHAT
END

FIG. 7


START
CALLED PARTY RECEIVES CALL
702
CALLED PARTY'S TELEPHONE APPLICATION ACTIVATES
704
CALLED PARTY'S IM ACTIVATES
706
CALLED PARTY'S IM RECEIVES LIST OF CONFEREES
708
CALLED PARTY SELECTS FOR CHAT
710
END

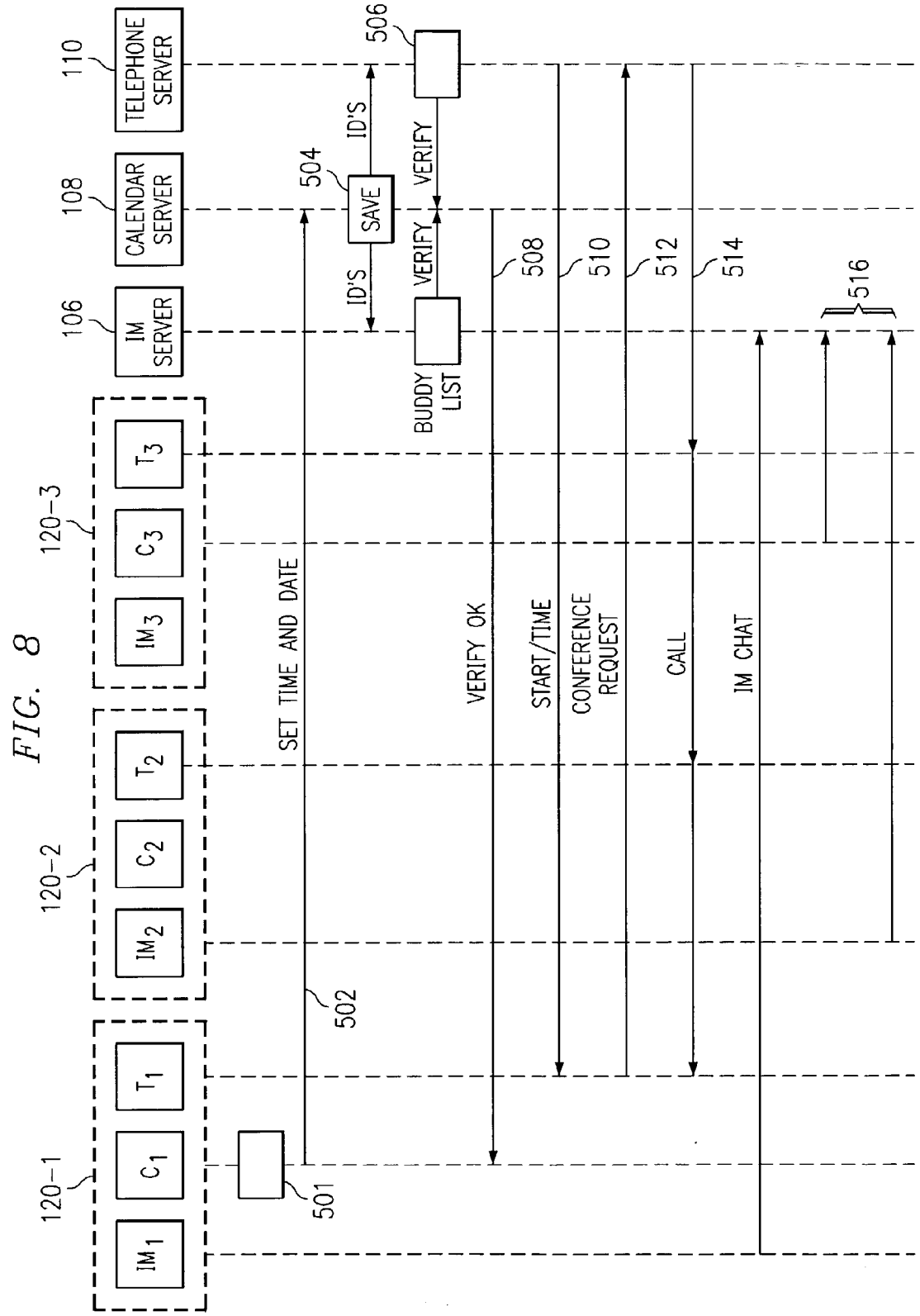

120-1
120-2
120-3
IM1
C1
T1
IM2
C2
T2
IM3
C3
T3
106
IM SERVER
108
CALENDAR SERVER
110
TELEPHONE SERVER
501
502
SET TIME AND DATE
504
SAVE
ID'S
ID'S
506
VERIFY
VERIFY
BUDDY LIST
508
VERIFY OK
510
START/TIME
512
CONFERENCE REQUEST
514
CALL
516
IM CHAT

FIG. 8

FIG. 9

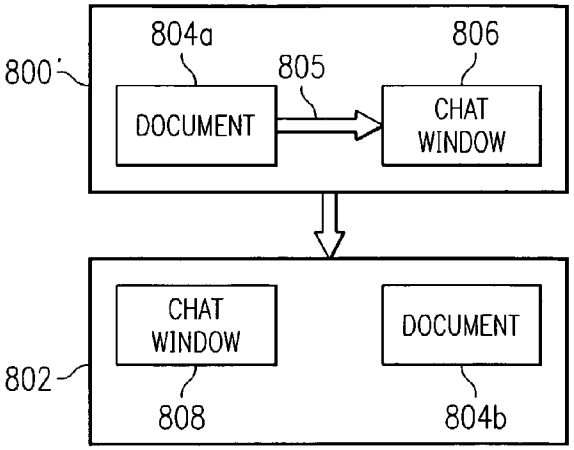


FIG. 10

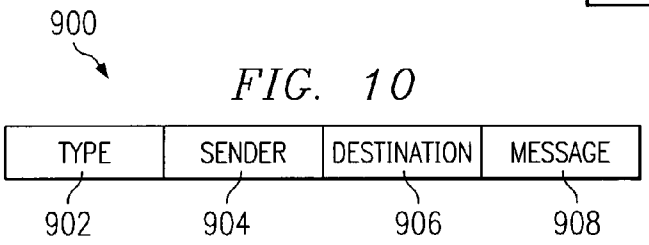


FIG. 11

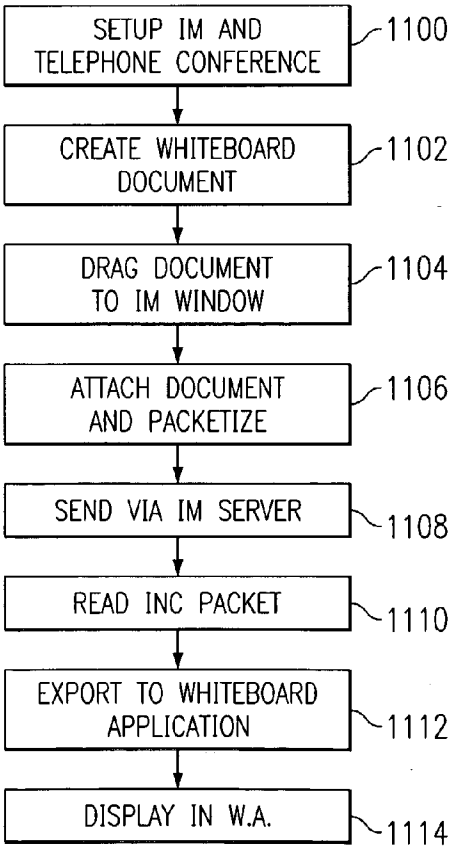


FIG. 12

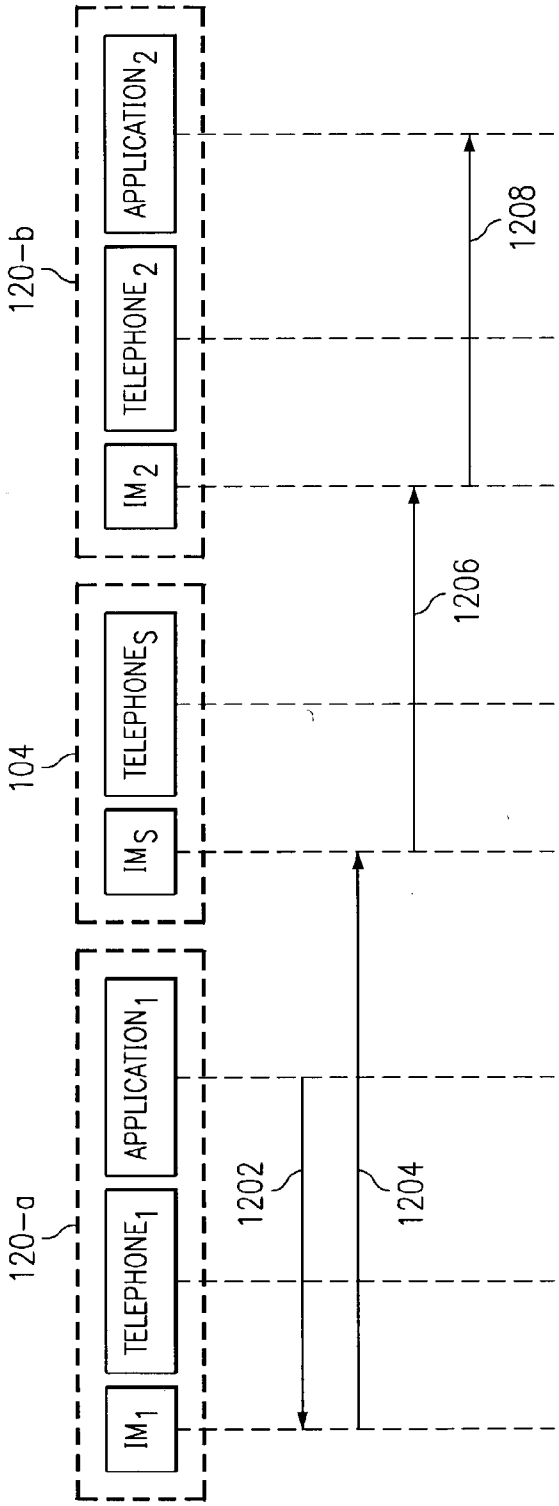

120-a
120-b
104
IM1
TELEPHONE1
APPLICATION1
IMS
TELEPHONES
IM2
TELEPHONE2
APPLICATION2
1202
1204
1206
1208

FIG. 13

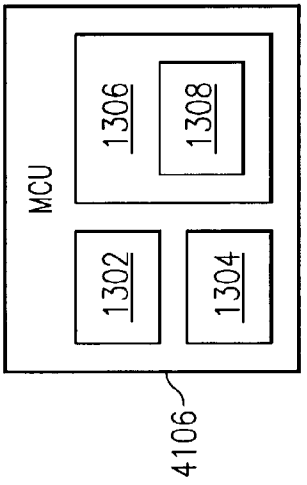

MCU
1302
1304
1306
1308
4106

FIG. 14A

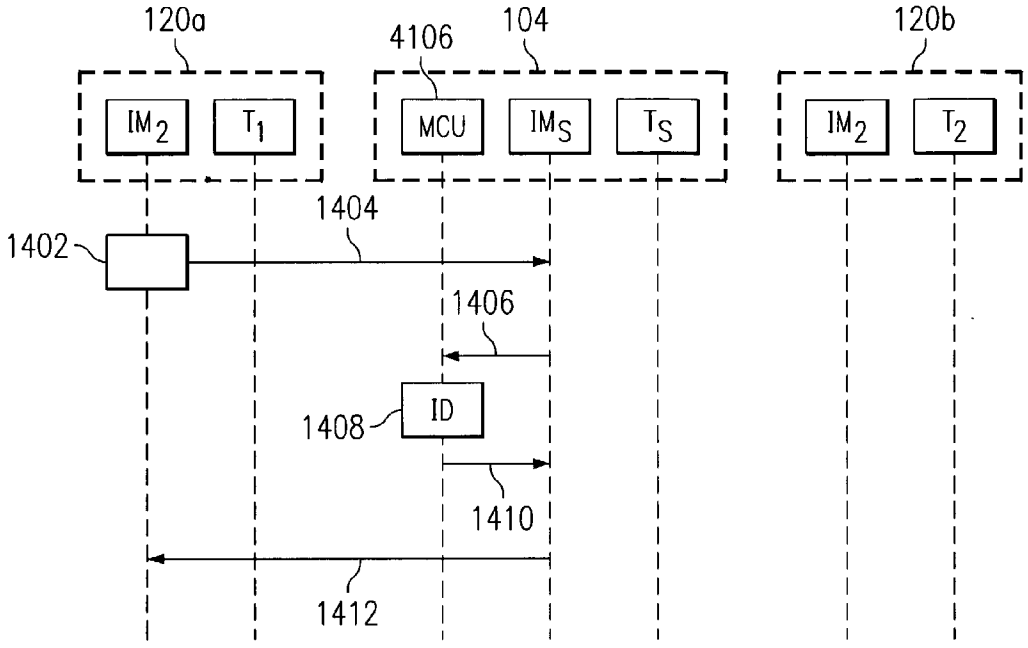


FIG. 14B

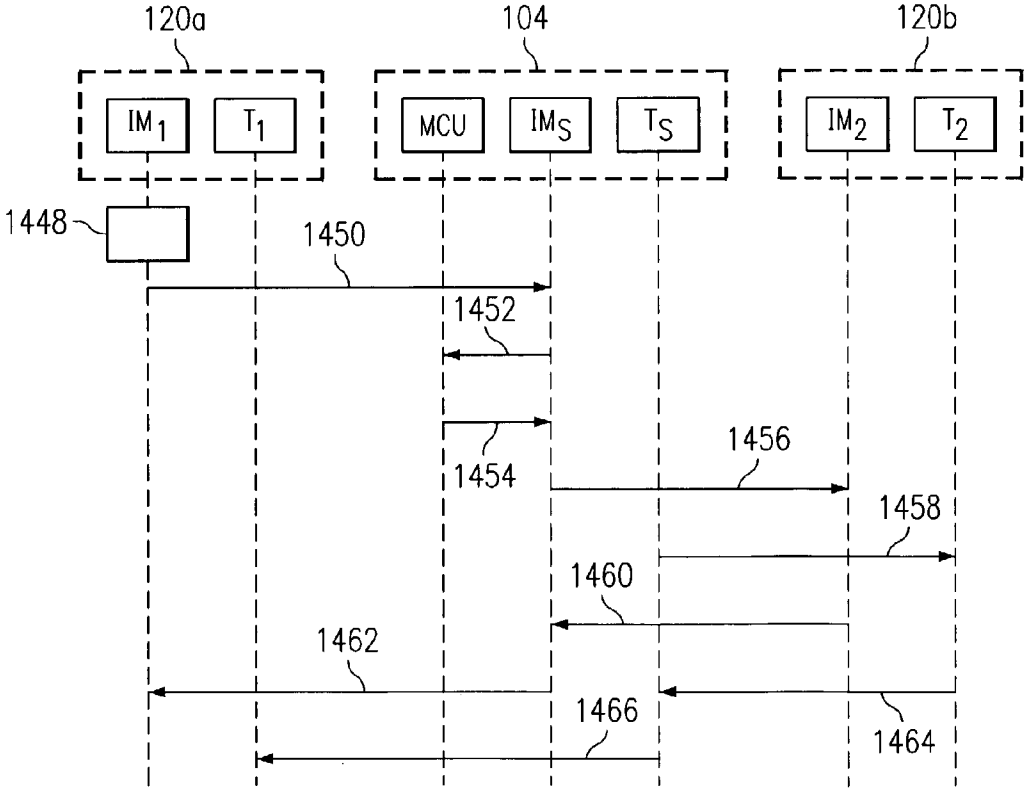
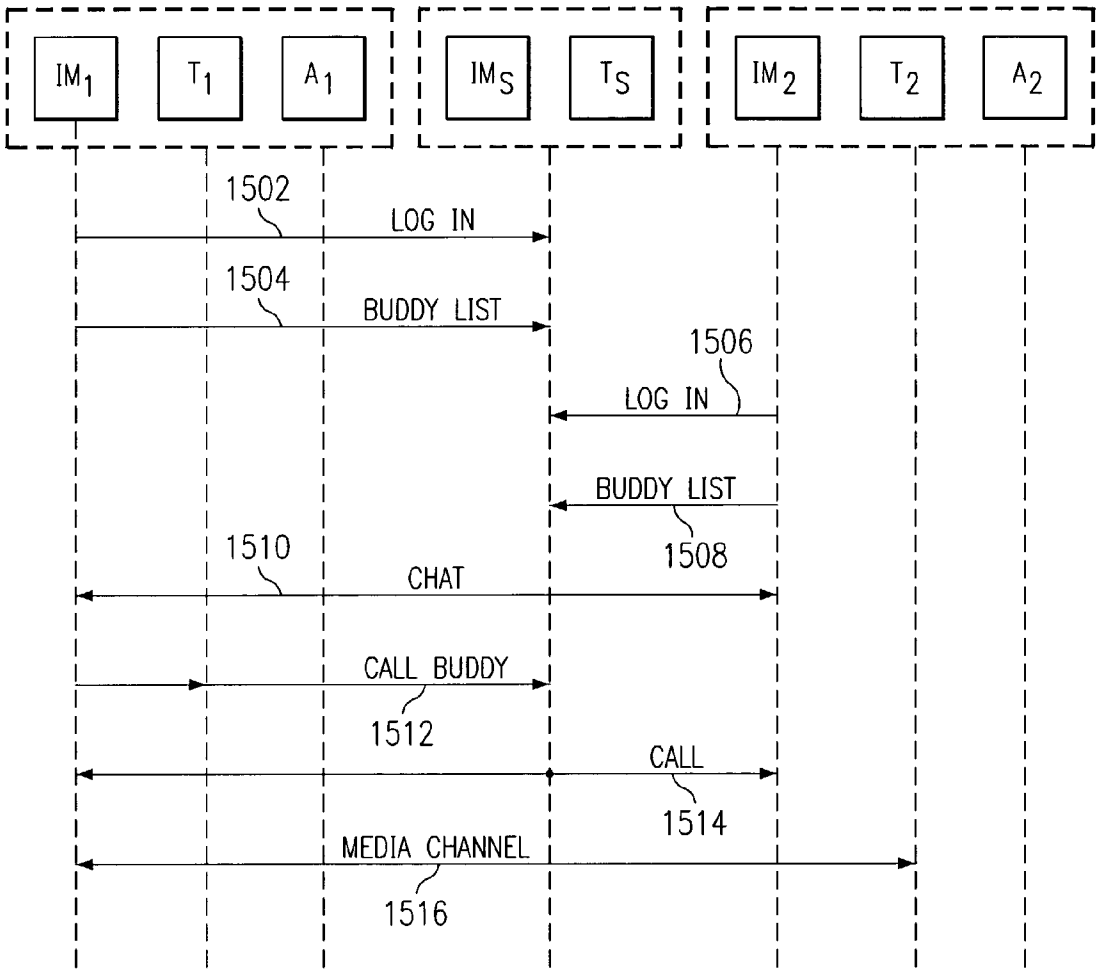


FIG. 15


IM1
T1
A1
IMS
TS
IM2
T2
A2
1502
LOG IN
1504
BUDDY LIST
1506
LOG IN
BUDDY LIST
1508
1510
CHAT
CALL BUDDY
1512
CALL
1514
MEDIA CHANNEL
1516

SYSTEM AND METHOD FOR SIGNALING USING INSTANT MESSAGING IN MULTIMEDIA TELEPHONY-OVER-LAN CONFERENCES

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is related to concurrently-filed and commonly-owned patent application Ser. No._____, (Attorney Docket: 2002P02748US) titled "System and Method for Collaborating Using Instant Messaging in Multimedia Telephony-over-LAN Conferences."

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to telecommunications devices and, in particular, to an improved system and method for multimedia telephony-over-LAN conferences.

[0004] 2. Description of the Related Art

[0005] An effective and user-friendly way to conduct multimedia audio and/or video teleconferences has long been sought. The promulgation of the H.323 Recommendation and the Session Initiation Protocol (SIP), as well as other multimedia packet protocols, have raised hopes that multimedia audio and video conferencing may yet reach their full potentials. Typically, to teleconference using such systems, users must log in to a teleconferencing server, identify themselves as authorized parties, and be scheduled for the conference.

[0006] Instant Messaging (IM) allows users to log in to an Instant Messaging server and conduct a text-based "chat" session with groups associated with a user's "buddy" lists. Typically, a user logs in to the server, identifies themselves as being present, uploads a "buddy" list, and then is invited to chat with those on the buddy list.

[0007] Telephony systems and instant messaging systems both have advantages and circumstances of use in which one or the other might be more desirable. Typically, telephony systems and instant messaging systems are discrete systems requiring users to learn different sets of procedures for effective usage of each. Further, such systems do not typically allow for cross-system interaction. For example, while a user could establish an instant messaging session with a party while in the middle of a teleconference with that party, the instant messaging session would be wholly independent of the teleconference.

[0008] As such, there is a need for a telecommunications system having a greater integration of instant messaging and teleconferencing. There is a still further need for such a system to have a relatively high level of ease of use.

SUMMARY OF THE INVENTION

[0009] These and other problems in the prior art are overcome in large part by a system and method according to the present invention.

[0010] A telecommunications system according to an embodiment of the present invention includes a packet network; a plurality of network clients operably coupled to the packet network, the network clients including a plurality of telephony clients and an associated plurality of Instant Messaging clients. Signaling for the telephony clients is adapted to be provided by the Instant Messaging clients using Instant Messaging channels.

[0011] In certain embodiments, the Instant Messaging channels carry the telephony call set up and signaling. In other embodiments, the telephony call setup and signaling is separate, but applications such as whiteboarding use the Instant Messaging channels.

[0012] A telecommunications method according to an embodiment of the present invention comprises establishing an instant messaging session among a plurality of users; and using an instant messaging channel of the instant messaging session to establish a multimedia over IP session among the users. In certain embodiments, the multimedia over IP session comprises a whiteboarding session during a pre-established multimedia session. Sending the whiteboarding session comprises sending a whiteboarding document in a chat window of the instant messaging session and identifying the whiteboarding document as a whiteboarding document and including size and type information. On receiving, the receiving client reads the size and type information and provides the whiteboarding document to a whiteboarding application before it can be opened in a receive chat window.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] A better understanding of the invention is obtained when the following detailed description is considered in conjunction with the following drawings in which:

[0014] **FIG. 1** is a block diagram of a telecommunications system according to an embodiment of the present invention;

[0015] **FIG. 2** is a block diagram of an exemplary telecommunications client according to an embodiment of the present invention;

[0016] **FIG. 3**A and **FIG. 3B** are more detailed block diagrams of telecommunications clients according to embodiments of the present invention;

[0017] **FIG. 4** is a block diagram of an exemplary telecommunications server according to an embodiment of the present invention;

[0018] **FIG. 5** is a diagram illustrating an exemplary graphical user interface according to an embodiment of the present invention;

[0019] **FIG. 6** is a flow diagram illustrating operation of an embodiment of the present invention;

[0020] **FIG. 7** is a flow diagram illustrating operation of an embodiment of the present invention;

[0021] **FIG. 8** is a diagram illustrating signaling according to an embodiment of the present invention;

[0022] **FIG. 9** is a diagram illustrating an exemplary graphical user interface according to an embodiment of the present invention;

[0023] **FIG. 10** is a diagram illustrating an exemplary data element according to an embodiment of the present invention;

[0024] **FIG. 11** is a flow diagram illustrating operation of an embodiment of the present invention;

[0025] **FIG. 12** is a diagram illustrating signaling according to an embodiment of the present invention

[0026] **FIG. 13** is a block diagram of an MCU according to an embodiment of the present invention;

[0027] **FIG. 14**A and **FIG. 14B** are diagrams illustrating signaling according to embodiments of the present invention; and

[0028] **FIG. 15** is a diagram illustrating signaling according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0029] Turning now to the drawings and, with particular attention to **FIG. 1, a** diagram of a telecommunications system **100** according to an embodiment of the present invention is shown. The telecommunications system **100** includes a packet network such as a LAN **102** to which are coupled a plurality of network devices. In particular, shown are a server **104**, which includes an Instant Messaging server **106**, a calendar server **108**, and a telephony server **110**. In the embodiment illustrated, the server **104** couples to the Public Switched Telephone Network (PSTN) or Internet. The server **104** may also include gateway and gatekeeper, as well as multipoint control unit functionality. It is noted that, while a single server **104** is shown, the server functionality may also be implemented using a plurality of individual servers coupled to the LAN **102**. Thus, the figures are exemplary only.

[0030] The telecommunications system also includes a plurality of network clients, which may be implemented in a variety of configurations. For example, shown are a wireless telephone **112**, including a cordless base station **116** and a handset **114**; a cellular telephone **118**, which couples in through a cellular network (not shown) and the PSTN; a LAN telephone **124**; a computer **120** implementing a telephony application program; and a network client **122** implementing a CTI (computer-telephony integration) type system, including a computer **121** and a coupled telephone **123**.

[0031] The network clients **120**, **122**, **124**, **118**, **112** implement telephony sub-clients **126***a*-**126***e*, respectively, and Instant Messaging sub-clients **128***a*-**128***e*, respectively, as will be explained in greater detail below. More particularly, as shown in **FIG. 2**, each illustrated network client includes a telephony sub-client **126**, an Instant Messaging sub-client **128**, and a calendaring application **130**. A client **120** may also implement a graphical user interface **131**. In operation, the telephony sub-client or application **126** provides telephone functionality according to the appropriate standard for each device, e.g., an IP telephony standard for transmittal on the LAN **102**. For example, in some embodiments, the telephony sub-clients **126** implement the H.323 Recommendation or the Session Initiation Protocol (SIP), although other packet multimedia protocols may be employed. The Instant Messaging sub-clients **128** implement an appropriate Instant Messaging standard. As noted above, suitable Instant Messaging standards include the Netscape AOL Instant Messenger, AT&T Instant Messenger, Yahoo! Pager, or Microsoft Instant Messenger. The calendar application **130** functions with the calendaring server **108**, such as Microsoft Exchange server, to schedule teleconferences and chat sessions, as will be explained in greater detail below. Suitable calendar software includes Microsoft Outlook.

[0032] Also coupled to the LAN **101** may be a telephony feature access server or device **103** which couples the LAN **101** to a PBX **105**, such as a Hicom PBX. A variety of PBX telephony devices **140***a*, **140***b* may also couple to the PBX **105**. Devices on the network **102** may be configured to obtain their telephony services through the PBX **105** via the TFA **103**. An exemplary telephony feature access server is the Hicom Feature Access server, available from Siemens Corp., and employing the Cornet protocol. In certain embodiments, the TFA **103** may be equipped with Instant Messaging, calendaring, and VoIP capabilities in accordance with the present invention, either as a server or a network device. In what follows, for sake of simplicity, the description will focus primarily on the server **104**, it being understood that the teachings of the present invention are equally applicable to the TFA **103**.

[0033] FIGS. **3**A and **FIG. 3B** are block diagrams of exemplary network clients according to embodiments of the present invention. In particular, the client **120** of **FIG. 3A** is exemplary of a personal computer coupled to the network via a network interface card (or wireless network interface card). As shown, the network client **120** includes a bus **3000**, such as a PCI bus. Coupled to the bus **3000** are one or more processors **3002**; memory **3004**, such as RAM or SRAM; a disk drive **3006**; one or more Universal Serial Bus interfaces **3008**; a video interface **3012**; and a LAN interface **3010**.

[0034] The processor **3002** may be implemented as any of a variety of processors or controllers, including one or more x86 or Pentium-type processors and/or one or more digital signal processors. The processor **3002** implements an IM client **3126**, a telephony client **3128**, and a calendar client **3130**, according to the present invention. The software for implementing the clients may be stored on the disk drive **3006** and memory **3004** in a known manner. The video interface **3012** may couple to a monitor **3013** and display a graphical user interface **3014** executable by the processor **3002** for use with the software clients. The USB interface(s) **308** interface to I/O devices, such as microphone **3016**, speaker(s) **3018** and a keyboard **3017** and/or cursor input device **3019**. The processor may also implement a graphical user interface **3131**, as will be described in greater detail below.

[0035] Finally, as noted above, a network interface **3010** interfaces the network client to a network, such as a local area network (LAN). The network interface **3010** may be implemented as a wireless or wired interface. It is noted that the network client **122** (**FIG. 1**) is generally similar, though the telephone functionality is provided by the coupled telephone **123** rather than the software client.

[0036] **FIG. 3B** illustrates another embodiment of the network client and, particularly, a wireless client **112**. The wireless client **112** may be embodied, for example, as any wireless telephone system, including a DECT system or other system functioning, for example, in the 2.4 GHz range. The network client **112** includes a base station **116** and one or more handsets or portable units **114**. For convenience, only one such handset **114** is shown.

[0037] The base station **116** includes a master processor **4000***a*, a transceiver **4002***a*, and a network interface **4004***a*. In certain embodiments, both the base station **114** and the handset **116** may be used to make telephone calls. Thus, the master processor may implement an IM client **4126***a*, a

telephony client **4128***a*, and a calendar client **4130***a* according to embodiments of the present invention. Typically, the clients are implemented as programs stored in memory (not shown). In such an embodiment, the base station **114** will also include a display (not shown), such as an LCD display, and a keypad (not shown). In other embodiments, the base station **114** is not used directly for user interaction and thus does not include a display or full IM client, telephony client and calendar client functionality.

[**0038**] The transceiver **4002***a* functions to implement coding and decoding and generally to communicate with the handsets **114**. The network interface **4004***a* interfaces the network client **112** to the network. Thus, the network interface may be a local area network interface.

[**0039**] The handset **114** includes a master processor **4000***b*, a transceiver **4002***b*, a keypad **4006**, and a display **4008**. It is noted that in certain embodiments, the keypad is implemented as a "virtual" touch screen on the display **4008**. Thus the figure is exemplary only. The display is used to implement a graphical user interface for IM, telephony and calendar functionality, as will be explained in greater detail below.

[**0040**] The master processor **4000***b* includes a IM client **4126***b*, a telephony client **4128***b*, and a calendar client **4130***b*, as will be explained in greater detail below. Typically, the clients are implemented as programs stored in memory (not shown).

[**0041**] As will be explained in greater detail below, in operation, the user can use the keypad and screen **4006**, **4008** to set a date and parties for a conference. The network server **104** then acts to set up and coordinate the conference

[**0042**] It is noted that a cellular telephone or PDA **118** according to embodiments of the present invention is configured generally similarly. Typical cellular telephone standards include GSM and IS-136 TDMA.

[**0043**] **FIG. 4** is a block diagram of an exemplary network server according to an embodiment of the present invention. As shown, the server includes an IM server **106**, a calendar server **108**, and a telephony server **110**. The server further includes on or more network interfaces **6000** for interfacing the servers to the local area network.

[**0044**] The calendar server **108** implements a central calendar application **4202** which is used to schedule teleconferences from network clients. The calendar server **108** thus further includes a memory **4203** for storing configuration information, such as lists of clients, and times of conferences, including the appropriate parties. In operation, the calendar application **4202** receives a request for a conference and stores the date and parties in the memory. The conference is then communicated to the IM server **106** and the telephony server **110**.

[**0045**] The IM server **106** likewise includes a memory **4204** for storing configuration information and for receiving "buddy" lists from IM clients. In operation, the IM client activates chat sessions among at least a subset of the parties to the teleconference, in some embodiments, receiving messages and retransmitting them to other chat parties.

[**0046**] The telephony server **110** also includes a memory **4206** for storing configuration information and calling and called party information. In operation, the telephony server receives the conference appointment time from the calendar server **108** and, at the appointed time, either arranges the system for the conference or transmits a request to the host user to begin the conference.

[**0047**] In addition, the server may include gateway **4102** and gatekeeper functionality **4104** (in an embodiment employing H.323), as well as multipoint control unit (MCU) **4106** functionality. Finally, while illustrated as a single server, each of the IM server, calendar server, and the telephony server, and the various other components, could be implemented as discrete units. Thus, the figure is exemplary only.

[**0048**] Operation of an embodiment of the present invention is explained with reference to **FIG. 5** and **FIG. 6**. In the discussion that follows, network client **120** shall be referred to, it being understood that the teachings of the present invention are equally applicable to the other network clients and their functionality generally similar.

[**0049**] As shown in **FIG. 5**, the telephony client **126**, the instant messaging client **128**, and the calendar application **130** may be implemented including a graphical user interface. In operation, the user may activate one or more instant messaging windows **128-1**, **128-2** and one or more calendar windows **130**. In a typical embodiment, the calendar application **130** and the instant messaging windows **128-1**, **128-2** are opened from within the telephony application **126-1**. Thus, these applications may form an integrated part of the telephony application, or may be implemented using plug-ins. In other embodiments, these applications may be implemented using separate applications that are nonetheless adapted to communicate with one another. In still other embodiments, the calendar application or the instant messaging applications may be opened first, and the other applications from them. In the embodiment illustrated, the application further includes an address book or buddy list **402**.

[**0050**] **FIG. 6** is a flow diagram illustrating operation of an embodiment of the present invention. As shown, in **602**, the IM application **128** is used to log on and provide a buddy list to the IM server **106**. In **604**, the calendar application **130** is used to schedule a teleconference using the calendar server **108**. For example, the user may set a date and identify the parties to the teleconference, and the parties may be informed of the time of the conference. At **606**, the server determines if the parties to the teleconference have IM capability. It is noted that in certain embodiments, the party information may be handed off to the IM server **106** or the telephony server **110** for them to make this determination. In **608**, the calendar server **108** informs the IM server and the telephony server of the conference. This can occur at or before the scheduled time of the conference; and may occur before step **606**. At **610**, the IM server determines a presence of IM clients, at the time of the conference. At **612**, the telephony server **110** begins the conference by calling all parties, i.e., by communicating with the telephone clients. At **614**, the chat channels are opened.

[**0051**] It is noted that, in certain embodiments, at the time of the conference, the party who called the conference may be contacted by the calendar server (e.g., via a pop up message box) and given the option of starting the conference or delaying it (i.e., if not all participants are present.).

[**0052**] **FIG. 7** is a flowchart illustrating handling when a user or network client receives a conference call in embodi-

ments of the present invention. In a step **702**, the called party receives the call, i.e., a call request and call setup signaling. In step **704**, the called party's telephony application activates and proceeds with appropriate handshake signaling to establish the call. In step **706**, the called party's IM application activates. For example, this may occur automatically, or the called party may manually click on an associated IM icon. In **708**, the called party's IM application receives the list of participants to the conference. Finally, in step **708**, the called party can select from the list to establish a chat session with various of the participants.

[**0053**] Turning now to **FIG. 8, a** diagram illustrating operation of an embodiment of the invention in greater detail is shown. Shown are a plurality of network clients **120-1**, **120-2**, **120-3**, an IM server **106**, a calendar server **108**, and a telephony server **110**. The network client **120-1** includes an IM application IM1, calendar application C1, and telephony application T1; the network client **120-2** includes an IM application IM2, calendar application C2, and telephony application T2; and the network client **120-3** includes an IM application IM3, calendar application C3, and telephony application T3.

[**0054**] In the example illustrated, it is assumed that the conference is set up at the behest of the user of network client **120-1**. Initially, at **501**, the user at network client **120-1** activates his calendar application C1 to set a time and date for the teleconference. As noted above, any calendar application may be used. One such application is Microsoft Outlook. At **502**, the time and date are then uploaded to the calendar server **108**. A suitable calendar server is the Microsoft Exchange server.

[**0055**] In certain embodiments, the identity of the other parties to the conference is also uploaded to the server. Thus, in **504**, the calendar server **108** saves the time, date and the party information. At **506**, the IM server **106** and the telephony server **110** may verify the parties identified.

[**0056**] Next, in **508**, the calendar server **108** sends an acknowledgement to the calendar application C1 that set the conference. At **510**, the calendar server **108** sends a message to the network client at the conference time, indicating that the conference is to begin. In response, at **512**, the telephony client T1 sends a conference request message to the telephony server **110**. At **514**, the telephony server responds to set up the call to the originator and the other telephony clients T2, T3. The teleconference would typically be implemented in a multicast mode. The instant messaging client IM1 then logs on to the instant messaging server **106**, at **514**. Then, at **516**, the other instant messaging applications of parties to the conference log in. The users are then able to maintain a chat session with other parties while the teleconference is ongoing.

[**0057**] It is noted that, in certain embodiments, the calendar application C1 informs the other applications IM1 and T1 of the time and scheduling of the conference. The telephony application T1 and the IM client IM1 then begin the conference at the appointed time.

[**0058**] In certain embodiments of the present invention, signaling for a teleconference may be provided over the instant messaging channel. For example, in one embodiment, the instant messaging channel and system may be used to convey "whiteboarding" documents. "Whiteboarding documents" is a generic term for word processing, spreadsheet, presentation, or similar documents that may be used in a conference and "marked up" by various of the parties to the conference. In such an embodiment, the user can "drag" the whiteboard document to the Instant Messaging window, have the document converted into an Instant Messaging transmission format, sent along the Instant Messaging channel, and received and displayed at the other end. Typically, the document will be "intercepted" before the Instant Messaging window tries to open it, such that it can be displayed in the appropriate application's window.

[**0059**] For example, **FIG. 9** illustrates a GUI **800** having a whiteboarding document **804***a* and a chat or instant messaging window **806**. The user drags the document into the chat window, as represented by the arrow **805**. In GUI **802**, representative of a receiving client, the chat window **808** is shown, with the newly received document **804***b* in its own window.

[**0060**] In operation, the whiteboarding document is packaged into an instant messaging format for transmission on the instant messaging channel. A protocol element identifies the packets as belonging to a whiteboarding application. One such protocol element is shown in **FIG. 10**. As shown, the element **900** includes a type field **902**, a sender field **904**, a destination field **906**, and a message or payload field **908**. The type field **902** identifies the package as belonging to a whiteboarding application and allows the receiving Instant Messaging application to port the received document to the appropriate application program.

[**0061**] **FIG. 11** is a flow diagram illustrating operation of an embodiment of the present invention. At **1100**, a teleconference including Instant Messaging is set up, for example, in the manner described above. In step **1102**, a user creates a whiteboarding document, for example, through use of a word processing or spreadsheet application. At step **1104**, the user drags the document to the chat window of the Instant Messaging application. At step **1106**, the Instant Messaging application identifies the type of document and packages it into the Instant Messaging transmission format. At step **1108**, the document is sent to the destination via the Instant Messaging server. At step **1110**, the document is received and the packet type is read by the Instant Messaging application. Because the Instant Messaging application identifies the document as a whiteboarding document, it is exported to the appropriate application at **1112**. Finally, at **1114**, the document is displayed in the appropriate application window.

[**0062**] Turning now to **FIG. 12, a** signaling diagram illustrating operation of an embodiment of the present invention is shown. Shown are a client **120***a*, a client **120***b*, and a server **104**. The client **120***a* includes an Instant Messaging application IM1, a telephony application T1, and a whiteboarding application A1. Similarly, the client **120***b* includes an Instant Messaging application IM2, a telephony application T2, and a whiteboarding application A2. The server **104** includes an Instant Messaging server IMS and a telephony server Ts.

[**0063**] At **1202**, the application document is loaded from the application A1 to the Instant Messaging program IM1. At **1204**, the Instant Messaging program IM1 sends the document to the Instant Messaging server IMs. At **1206**, the Instant Messaging server sends the document to the desti-

nation Instant Messaging application IM2. The Instant Messaging application IM2 then reads the header information and transfer the document to the application A2, at **1208**. The document can then be marked up by the client at **120***b* and sent back.

[**0064**] In certain embodiments of the present invention, the multipoint control unit (MCU) **4106** (**FIG. 4**) may itself be a party to the IM session. As noted above, the MCU **4106** may be implemented as a unit of the server or as a standalone unit. Such an exemplary MCU **4106** is shown in **FIG. 13**. The MCU **4106** includes a multipoint controller **1302**, a multipoint chat engine **1304**, and one or more memories **1306**. The multipoint controller **1302** functions to implement a multicast protocol, such as the IP multicast protocol or other multicast technique. The memory **1306** is used to store configuration information, and the like.

[**0065**] In operation, the MCU **4106** may be added as a party to the IM session automatically upon the start of the conference by the server. The MCU **4106** may then be able to respond to requests from users sent during the chat. For example, the MCU **4106** may automatically respond to requests, such as "Identify parties", to which the MCU **4106** responds by sending an IM message back with the list of parties. Similarly, a party to the conference could send an IM message, "Please call 555-1111," whereupon the MCU **4106** would respond by calling the number.

[**0066**] To do so, the memory **1306** may be used to store one or more configuration tables **1308** of commands and actions to be undertaken in response. When a chat message is received by the MCU **4106**, the contents of the message are perused by the IM engine **1304** to determine if an actionable command is contained therein. To read a command in a chat message, the IM chat engine **1304** can be implemented in a variety of ways. For example, the text message may include a command prefix or may simply include a predetermined text sequence. If a command is identified, then the action is carried out by the MCU controller **1302**.

[**0067**] A signaling diagram illustrating operation of an MCU according to an embodiment of the present invention is shown in **FIG. 14A**. In particular, shown is signaling for execution of the identification command described above. Shown are a client **120***a*, a client **120***b*, and a server **104**. The client **120***a* includes an Instant Messaging application IM1 and a telephony application T1. Similarly, the client **120***b* includes an Instant Messaging application IM2 and a telephony application T2. The server **104** includes an Instant Messaging server IMS and a telephony server Ts, as well as an MCU **4106**. It is noted that the MCU **4106** could form a part of a separate network entity.

[**0068**] At **1402**, the user types in the Identify command into the Instant Messaging window. At **1404**, the Instant Messaging application recognizes the entry as a functional command and transmits it to the Instant Messaging server Ims. At **1406**, the Instant Messaging server Ims likewise receives and decodes the command, sending it to the MCU **106**. At **1408**, the MCU identifies the parties to the conference, and sends the information to the Instant Messaging server at **1410**. Finally, at **1412**, the Instant Messaging server IMS sends the information to the requesting party.

[**0069**] A signaling diagram illustrating operation of an MCU according to an embodiment of the present invention is shown in **FIG. 14B**. In particular, shown is the signaling for using the MCU as party to the chat session to call another party. Shown are a client **120***a*, a client **120***b*, and a server **104**. The client **120***a* includes an Instant Messaging application IM1 and a telephony application T1. Similarly, the client **120***b* includes an Instant Messaging application IM2 and a telephony application T2. The server **104** includes an Instant Messaging server IMS and a telephony server Ts, as well as an MCU **106**.

[**0070**] At **1448**, the user types in the Call command in the instant messaging window. At **1450**, the Instant Messaging application IM1 sends the command to the server Ims. At **1452**, the Instant Messaging server IMS sends the command to the MCU. At **1454**, the MCU reads the command and directs the Instant Messaging server to start a chat with the Instant Messaging application IM21456 and a telephone connection at **1458**. The Instant Messaging destination application IM2 and telephone application T2 are connected to the servers at **1460**, **1464**, respectively. The applications at client **120***a* are connected at **1462**, **1466**.

[**0071**] While an Instant Messaging channel can be used for whitebaording applications, or via the MCU for call signaling purposes, the Instant Messaging channel can also be used for initial teleconference signaling. Shown in **FIG. 15** is signaling for such an embodiment. Shown are a client **120***a*, a client **120***b*, and a server **104**. The client **120***a* includes an Instant Messaging application IM1 and a telephony application T1. Similarly, the client **120***b* includes an Instant Messaging application IM2 and a telephony application T2. The server **104** includes an Instant Messaging server IMS and a telephony server Ts.

[**0072**] At **1502**, the Instant Messaging application IM1 logs in to the Instant Messaging server Ims, and sends its buddy list at **1504**. Similarly, the Instant Messaging application IM2 logs in at **1506** and sends its buddy list at **1508**. The chat is opened between the parties at **1510**.

[**0073**] Next, if it desired to open a telephone call, the user at client **120***a* can type in or otherwise enter a command in the Instant Messenger application to call the party with whom the user is chatting. The command is sent to the Instant Messaging server IMS at **1512**. The Instant Messaging server reads the command and sends it to the telephony server TS, which then calls the parties, at **1514**. Finally, at **1516**, the media channel is opened.

[**0074**] The invention described in the above detailed description is not intended to be limited to the specific form set forth herein, but is intended to cover such alternatives, modifications and equivalents as can reasonably be included within the spirit and scope of the appended claims.

What is claimed is:

1. A telecommunications method, comprising:

establishing an instant messaging session among a plurality of users;

using an instant messaging channel of said instant messaging session to establish a multimedia over IP session among said users.

2. A telecommunications method in accordance with claim 1, wherein said multimedia over IP session comprises establishing an initial multimedia conference.

3. A telecommunications method in accordance with claim 1, wherein said multimedia over IP session comprises a whiteboarding session during a pre-established multimedia session.

4. A telecommunications method in accordance with claim 3, wherein said whiteboarding session comprises sending a whiteboarding document in a chat window of said instant messaging session.

5. A telecommunications method in accordance with claim 4, wherein sending said whiteboarding document comprises identifying said whiteboarding document as a whiteboarding document and including size and type information.

6. A telecommunications method in accordance with claim 5, wherein receiving said whiteboarding document comprises reading said size and type information and providing said whiteboarding document to a whiteboarding application before opening said whiteboarding document in a receive chat window.

7. A telecommunications device, comprising:

a multimedia packet network client;

an Instant Messaging client, said Instant Messaging client adapted to provide signaling control for said multimedia packet client.

8. A telecommunications device in accordance with claim 7, wherein said signaling control comprises providing set up signaling control for a multimedia session.

9. A telecommunications device in accordance with claim 7, wherein said signaling control comprises providing signaling control for a whiteboarding document to be sent during a pre-established multimedia conference .

10. A telecommunications device in accordance with claim 9, wherein sending a whiteboarding document comprises sending said whiteboarding document in a chat window of said instant messaging session.

11. A telecommunications device in accordance with claim 10, wherein sending said whiteboarding document comprises identifying said whiteboarding document as a whiteboarding document and including size and type information.

12. A telecommunications device in accordance with claim 11, wherein receiving said whiteboarding document comprises reading said size and type information and providing said whiteboarding document to a whiteboarding application before opening said whiteboarding document in a receive chat window

13. A telecommunications system, comprising:

a packet network;

a plurality of network clients operably coupled to said network, said network clients including a plurality of telephony clients and an associated plurality of Instant Messaging clients;

a teleconferencing server operably coupled to said packet network; and

an Instant Messaging server operably coupled to said packet network;

wherein signaling for said telephony clients is adapted to be provided by said Instant Messaging clients.

14. A telecommunications system in accordance with claim 13, wherein said signaling comprises set up signaling control for a multimedia session.

15. A telecommunications system in accordance with claim 13, wherein said signaling comprises signaling for a whiteboarding document to be sent during a pre-established multimedia conference.

16. A telecommunications system in accordance with claim 15, wherein sending a whiteboarding document comprises sending said whiteboarding document in a chat window of said instant messaging client.

17. A telecommunications system in accordance with claim 16, wherein sending said whiteboarding document comprises identifying said whiteboarding document as a whiteboarding document and including size and type information.

18. A telecommunications system in accordance with claim 16, wherein receiving said whiteboarding document comprises reading said size and type information and providing said whiteboarding document to a whiteboarding application before opening said whiteboarding document in a receive chat window.

19. A telecommunications system in accordance with claim 13, wherein said signaling is provided via a multipoint conferencing unit.

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