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(54) **Title:** SYSTEM AND METHOD FOR INITIATING A CONFERENCE CALL

(57) **Abstract:** The present invention is a system and method for initiating conference calls via an instant messaging system to reduce the effort required to initiate and manage the call. The system uses an IM connection between a requesting party and a conference call server to inform the conference call server of the desire to initiate the conference call. The conference call server may initiate the conference call by having involved parties called by a conference bridge, thus reducing the effort required by the parties to join the call.

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SYSTEM AND METHOD FOR INITIATING A CONFERENCE CALL

Related Applications

The present application is a continuation-in-part of United States Provisional Patent Application Ser. No. 60/531,722 filed on December 22, 2003, the entire contents of which are incorporated herein by reference thereto.

Field of the Invention

The present invention relates generally to a method for initiating a conference call between two or more users, and more particularly to initiating a voice conference call between two or more users using a central server to communicate parameters for the call and for initiating the call itself.

Background

Business meetings where the differing perspectives of the participants provide the value of the meeting have been conducted for a long time. As the costs associated with travel have increased, companies have turned from face to face meetings to meetings allowing participants to be separately located, including telephone conferences, video conferences, and more recently through on-line meetings.

As traffic congestion grows in every part of the country, and software tools improve, companies worldwide are recognizing that it is possible to have effective meetings on-line. There are various forms of real-time, or on-line, collaboration. The simplest form is instant messaging. The ability of messaging software to tell another user who is available at a given moment is called "presence". Presence awareness has been proven to eliminate up to 35% of voicemail, and as much as 30% of email, particularly long threaded discussions. Because of this, instant messaging has become the fastest growing form of communication in history. Gartner predicts over 200 million business users will be using some form of enterprise instant messaging by the end of 2005, an increase of over 100 million users from 2003.

Instant messaging has its roots in the consumer industry, but is virally working its way into corporations. Consumer messaging systems typically offer no security, no IT control over usage, and no reporting capabilities. Nor do consumer systems offer tracking history of conversations, a requirement of a number of federal statutes, from the SEC to Sarbanes-Oxley to the new medical HIPPA requirements. There are no clear leaders in the corporate instant messaging market, although the opportunity has been recently showcased by the entrance of Microsoft and IBM.

Oftentimes, messaging leads to the requirement for one or more meetings with the participants. Historically this required travel, which lengthened the business

processes and significantly increased costs. With the advent of various forms of desktop application sharing, it is now possible for multiple users to "see" the same desktop at the same time. This "real-time" collaboration market is just emerging, and is estimated by Collaborative Strategies to be about a $6 billion market, with an average annual growth rate of 64% through 2005, and is expected to add 20 million users to its ranks in the next several years.

In a recent Deloitte Consulting survey of 300 of the Fortune 1000, collaboration was top priority with 75% of respondents. While less than 30% were using some form of collaborative tools today, 80% of respondents said they would implement some collaboration capability by 2005. According to a recent Yankee Group survey, companies will save $223B over next 5 years by collaborating over the Internet.

Because of the size of this emerging opportunity, Microsoft recently acquired a company called Placeware, for $180 million, to provide software for on-line meetings. Placeware has been renamed and is now being offered by Microsoft, coupled with Windows 2003 server, as Microsoft Live Meeting. Microsoft internally calculates that they will save over $43 million this year alone in time and travel costs if just 1 in 5 meetings are conducted on-line. Microsoft will spend over $300 million this year promoting Live Meeting, and joins IBM with its Lotus Sametime product, WebEx, and another 3 dozen smaller competitors.

The commonality of all of the collaboration products is that once the users begin their on-line meeting, they use a number of tools. Many of them require some form of application sharing, and all of them require some form of accompanying communication, from instant messaging to conference calls. Although instant messaging is sometimes used for extended conversations, most of the time the

discussions are brief. 'Conversations' between a number of participants that become more involved are dependent upon the typing skills of each participant, which leads to the need for everyone to join in a conference call.

Similarly, real-time collaboration products imply the need for a conference call. MS Live Meeting, IBM Lotus Sametime, WebEx, and a host of other software products all make an assumption that once you are sharing a document or spreadsheet, the users are on a conference call so they can discuss it. This brings real value to the meeting, yet the integration of the call into the collaboration process has not yet been addressed.

In the past, the problem with integrating telephony products into software has centered on integration with the PBX. In large part this is because the call initiator's computer needed to pass the various telephony commands to the PBX, and no two PBX's are alike. This requires system integrators, and up until now has reduced the scalability of the opportunity.

Furthermore, most PBX systems can only join a few users in a conference call. They cannot join many parties, leaving the originators the option of creating either a "meet me' or an operator assisted conference call. Because the users must typically dial a central number, such as a toll free number, and enter a passcode, it is difficult to make the calls spontaneous. Yet, the needs of both instant messaging and on-line meetings demand it.

A further concern arises regarding the security of a conference call using the call in model. Any caller knowing the call in number and passcode may enter into the conference call, without the knowledge of the other members of the call. Although it is possible for the call service to monitor the number of connections, the call service may be unable to ascertain the identity of callers, such as where the calling number is

blocked. Furthermore, even if the identity of participants were disclosed to a call originator during a conference call, such information could be a distraction during the conference call.

Conference calls today fall into 2 categories:

1. "Meet Me" calls – These conference calls involve all users of the call dialing, via a publicly switched telephone network (hereafter "PSTN"), cellular telephone, or via a voice over internet protocol network, a central phone number or ANI to a conference bridge and entering a personal identification number (hereafter "PIN") or pass code to join the call. These calls may be may be set up by an originating user by going to a web site to set up the call, through calling an operator and setting the call up, or setting up a static DNIS to which all users may dial on occasion.

2. Host-initiated Calls – These calls involve the host originating calls to all of the participants. In order to accomplish this, the host must initiate the call one of two ways:

a) either the host enters an ANI on his telephone and through pressing a combination of buttons has that party joined to the call, and repeats this process for each conference call participant, or;

b) the host types in the phone numbers of all the expected participants, either to a web site after which the web site will initiate a conference bridge and dial all the participants, or manually provides them to an operator who initiates the calls to the participants.

These methods are inefficient, in that they require a conference call requester or party to the conference call to manually inform either the parties to the conference

call, or the conference bridge itself, of parameters, passwords, and phone numbers for the call.

Instant messaging (hereafter "IM") systems employ a client-server model on Internet protocol (hereafter "IP") networks to deliver text chat and other information to distributed users in real-time. Instant Messaging client software may be loaded onto a user's workstation or may be used in a web browser, and may allow a user to log into a remote Instant Messaging server. Once a user has logged in, business rules may be used to determine which other users are available to communicate with the first user in the instant messaging system. Many IM systems allow users to create lists of other users that they commonly communicate with. When a user in such a list logs into the IM system, the server informs the list owner that a user in their list has logged on and is available to chat. In addition, Instant Messaging systems provide directory services that permit the users to search for another user. Once a user has the address of a second user, the first user can request a collaborative chat session with the second user. The second user can choose to either accept or reject the chat session. After the session has been accepted, the users may be able to communicate in a private or public chat session by typing text messages to one another. The message can be either transmitted through a central server, or directly between users (peer to peer) once the first user has determined the availability of the second user from the IM system. These chat sessions may take place over an unsecured IP network. Further extensions of IM allow multiple participants to be involved in a chat session.

Summary of the Invention

The present invention may use a communications channel established through an instant messaging service to transmit a request to initiate a conference call from a

network access device associated with a conference call requester to a conference call server. The conference call server, upon receiving the request, may initiate the formation of a conference bridge a conference call between the conference call requester and one or more call participants.

In a first embodiment, the present invention may be embodied in a method for initiating a conference call, including the steps of providing a conference call server; providing a conference call requester with a network accessible device communicable with an instant messaging service; generating a conference call request by the conference call requester; transmitting the call request from the call requester to the conference call server; receiving the call request at the conference call server; parsing the conference call request to determine parameters associated with a requested conference call; and initiating a conference call in accordance with parameters associated with the requested conference call. The instant messaging service may be adapted to communicate conference call request information with the conference call server.

The present invention may further use the presence component of an instant messaging system to determine whether prospective attendees are available for a conference call through this presence with the instant messaging service, then using stored information that includes an address for a party, either through an IM channel or at a specific phone number or VOIP address, create the ability for instant messaging users to immediately create any combination of PSTN, Cellular, and VOIP conference calls between users some of whom may be in instant messaging sessions, and without the necessity of each user to dial a telephone number or having the host look up the phone number of each participant in order to place an outbound telephone call. The invention may collect, through a variety of means, the information needed

to join those users into a telephone conference call, pass the dialing information and other parameters to a central server, and send an invitation to each participant in advance of placing the call. The central server may directly or indirectly establish a conference bridge, initiate a series of outbound calls to each of the selected users from the instant messaging session, and seamlessly join those users in a conference call using a conference bridge. Via the instant messaging service, the conference call initiator may be able to see, via presence awareness, whether one of more additional users with whom he wishes to conference are available, and may invite these users to the call either through similar means, or by passing information to those users about how to connect to a call. Optionally, and at the users discretion, the central server can also add a "silent" user which is a recording device, to the conference bridge, record the call, and at the conclusion of the call pass the recorded voice transcript back to the Instant Messaging Server for archiving purposes. Additionally, using the instant messaging interface and based upon the conference server capabilities, the call initiator may apply certain business rules to various participants in the call, such as muting or dropping that participant from the call, archiving the participants telephone numbers, call duration, and call set-up parameters.

Figures

Figure 1 shows a flowchart of the initiation of a conference call according to the present invention.

Figure 2 shows a more comprehensive illustrative flowchart of the initiation of a conference call according to the present invention.

Figure 3 shows a notional flowchart of the initiation of a conference call according to the present invention, in an environment in which each prospective caller has access to a network access device.

Figure 4 illustrates a block diagram of a system for accomplishing the initiation of conference calls according to the present invention.

Figure 5 illustrates a notional network access device display through which a conference call may be initiated.

Figure 6 shows a notional network access device display through which conference call targets may be selected.

Figure 7 shows a notional network access device display identifying parameters associated with a potential target for a conference call initiated according to the present invention.

Figure 8 shows a notional network access device display identifying targets previously involved in conference calls who are potentially available for a conference call, including identification of an availability status for each target where such potential target has an ongoing presence with the instant messaging service.

Figure 9 shows a notional network access device display identifying targets previously involved in conference calls who are potentially available for a conference call, filtered to display potential targets having access to application sharing capabilities.

Figure 10 shows a notional network access device display identifying targets previously involved in conference calls who are potentially available for a conference

call, filtered to display only potential targets for which an e-mail client contact information is available.

Figure 11 shows a notional network access device display allowing retrieval of parameters associated with a previous conference call.

Figure 12 shows an alternate system and process process for initiating conference calls according to the present invention.

Figure 13 shows a notional network access device display for displaying conference call management parameters to a conference call requester.

Figure 14 shows a notional network access device display for displaying conference call management parameters associated with a particular conference call.

Figure 15 shows an alternate process for initiating conference calls according to the present invention.

Detailed Description

The following definitions are provided to more readily describe the present invention, and are not intended to limit the scope of the claims:

Access Authorization is the means by which a connection and/or request for service is authenticated to permit a party to access a service. There are many ways to authenticate a user, including, but not limited to, sign on ID's and passwords, digital signatures, electronic keycards, and biometric devices.

A Network Access Device (hereafter "NAD") is any device capable of communicating over a network to one or more other Network Access Devices using a common protocol. Such NADs can include but are not limited to computers, servers, workstations, Internet appliances, terminals, hosts, personal digital assistants (hereafter "PDAs"), and digital cellular telephones.

Encryption is the transformation of data into a form that cannot be read or understood without the use of a decryption algorithm. The purpose of encryption is to minimize the ability of third parties (who are not desired to participate in a conference call) to understand the contents of a message.

Decryption is the reverse of encryption; it is the transformation of encrypted data back into a readable form.

Address – This is the identifier for where a participant to a conference call may be contacted, and may be, but is not limited to, a PSTN or cellular phone number, such as an ANI, or a unique identifier associated with a voice over Internet protocol communications path.

ANI – Automatic Number Identifier – This is the direct phone number of a call participant, and is typically the number at which a person may be directly dialed.

Conference Bridge- Switching circuitry used to interconnect two or more communications paths connected to participants to allow simultaneous conversations between the participants.

Conference Call – A communication between two or more parties who are disparately located, using a connection allowing the transmission of audible, verbal, or visual data, or a combination thereof, including videoconferencing in which participants are visible to other participants as well as able to verbally communicate with each other.

PSTN – The voice networks are referred to as a publicly switched telephone network (PSTN) and its related services.

VOIP – Voice over Internet Protocol

As shown in Figure 1, the core of the present invention is the use of instant messaging to trigger initiation of a host initiated conference call. The first step is providing 102 a conference call server. The conference call server may be connected to a network, such as an Internet protocol based network. The conference call server may have the ability to receive instant messenger messages requesting initiation of a conference call. The conference call server may have one or more ports for connecting participants, such as by a VOIP path, or through a telephonic network. Connection of two or more paths allows the formation of a conference bridge. Alternately, the conference server may have stored information identifying one or more conference bridges discrete from the conference server, such as conference bridge capabilities provided by one or more third party vendors.

Next, a first party, hereafter referred to as the conference call requester, may be provided 104 with a network access device (hereafter "NAD"). The NAD may be connected to a network to which a conference call server is connected, as well as to an

instant messaging service adapted to communicate a conference call request to the conference call server. In particular, the instant messaging service may be adapted to communicate a request that a conference call be initiated, potentially including parameters associated with the desired call. The instant messaging service may be adapted to receive information in a tagged field format, such as HTML or XML, such that information contained in the message may be correctly parsed to allow the conference call server to properly initiate, or request initiation of, a conference call bridge.

When a conference call requester desires to initiate a conference call, the conference call requester may generate 106 a message (hereafter referred to as the "conference request message") to the conference server identifying parties who are potential participants ("potential targets") to a conference call. The potential call targets may be identified by an alias, such as a user name associated with the conference call targets in the conference call requester's NAD. Alternately, the information may be an alias identifying information associated with the potential targets stored in the conference server. Alternately, the potential targets may be identified by phone numbers or other addresses for the potential targets. Once the conference request message has been generated, the conference request message may be transmitted 108 from the NAD to the conference call server.

The conference request message may then be received 110 by the conference server. The conference server may parse 112 the received message to determine the address of the selected conference call targets. Parsing may involve stripping explicitly provided target phone numbers or VOIP addresses from the message, or converting aliases identified in a message. The conference call server may then

initiate 114 or request initiation of a conference bridge between the conference call requester and the conference call targets.

As may be noted in Figure 1, the availability of conference call targets is not pre-determined in the simple process shown. As shown in Figure 2, the instant messaging environment may be used to reduce the number of communications paths opened to unavailable or unwilling parties. In the process shown in Figure 2, each of the conference call targets have an NAD in communication with an instant messaging service. Such a situation could arise where each of the targets are involved in a shared application session, with IM being used to provide a channel for communications outside the shared application session. In such a situation, the conference call server, which could be common with the shared application session server, could have a communications path 202 established with each of the NAD's associated with the conference call targets. When a conference call request is received by the conference server, the conference server may use the target identification portion of the message to determine the appropriate channel to the IM capability of the conference call target's IM software on their NAD, and generate 204 a conference request message to the conference call target or targets. The conference call targets could, upon receipt of the conference request message, decide 206 whether or not they desired to join the proposed conference call, and respond accordingly via their instant messaging software. The conference call server could then generate 208 a list of targets for the conference call, and then initiate 210 the conference call. As noted above, the initiation of the conference call may be accomplished by the forwarding of the list of attendees to conference call creator software, which could then initiate the conference call as discussed further below. Furthermore, conference bridges could be established for potential participants who are not connected through

an instant messenger, although the potential then exists for the non-IM invitees to not be available to join a conference call.

As shown in Figure 3, a more robust embodiment of the present invention may be implemented to allow further functionality. For the purposes of illustration, the Figure shows three parties, User A 302, User B 304, and User C 306, involved 308 in an IM session, such as a chat session which could occur during a shared application session. User A 302, the conference call requester, could request a conference call through the NAD in use by User A. The IM service in communication with User A's NAD could be implemented to be aware of the on-going IM session, such that the software would determine the list of conference call targets from the list of parties presently in the IM session. Thus, User A could request a conference call with one step, such as through actuation of a "call now" button or icon associated with User A's IM service. Alternately, User A could be provided with a list of participants of the on-going IM session, and be provided 312 with the opportunity to add or remove potential participants from a planned conference call.

The conference call server in communication with User A's NAD may be provided with functionality for assessing charges associated with the conference call. A first step may be to determine 314 whether User A is a subscriber to a service providing the conference call server. If User A is not a subscriber to the service, User A may be informed 316 that he is not allowed to use the service. Although not shown, User A may be provided with the opportunity to subscribe to the service at this point. If User A is determined to be a subscriber, User A may be queried to provide information identifying a method for paying for the proposed conference call, such as through use of a credit card. Alternately, a charge account may be associated with a subscriber, such that once it is determined that User A is a subscriber, User A

may be prompted to verify that the call should be charged to the associated account. Once User A has provided 318 charge information, the charge information may be verified 320. If it is determined that the charge information is invalid, User A may be so informed 322.

If it is determined that the charge information is valid, the conference call server may send 324 a conference call invitation to Users B and C. If Users B and C accept 326 the conference call invitation, the conference call server may prompt 328 Users B and C, via the IM functionality on their respective NADs, to verify their phone numbers for the conference call, or to provide information regarding calling them if no address information is available. The verification process may incorporate the use of information pre-stored in the conference call server for Users B and C, such that Users B and C may be prompted 330 with the pre-stored information to determine if it is correct, thus reducing the effort required for Users B and C to provide the necessary information to the conference call server.

The conference call server may then initiate a conference call bridge between the conference requester and the targets. If it is determined that, for each target, that direct dial calls are enabled, the conference bridge provider can dial 334 the direct dial number for the targets, connect to VOIP paths if VOIP connections are to be used, or may implement a combination of direct dialed and VOIP connections. If it determined that a target is not able to be direct dialed, the conference call server may send 336 an IM message to the non-direct dial target, providing a call-in number and passcode for the proposed conference call. Additionally, the conference call server may instruct 338 the NADs of the targets to disable any conference call request functionality while the present conference call is underway.

The conference call server may further utilize third party conference call providers for the actual initiation of a conference call based on parameters generated by the conference call server or the conference call requester. Various conference call providers may provide different functionality and/or rate structures. Functionality may include the ability to record a conference call, the ability to have listeners to the conference call (as opposed to parties with the ability to both listen and speak), the ability or inability to add or drop participants during a conference call, the ability to interactively mute a participant during a conference call, or the ability to provide video conferencing. Parameters associated with such choices may be provided for individual targets through target identity information provided to the conference call server, such as through the interface screen shown in Figure 7, discussed further below.

Selection of conference call providers may also be determined based on rates associated with long distance charges which would be incurred as a result of the conference call, or based upon a preferred routing where VOIP paths are used. Different users may be in different regions geographically, such that different phone service providers would charge different amounts for the long distance aspect of the conference call. Thus, use of rate information in association with geographic information associated with conference call targets would allow minimization of long distance fees based on the geographic aspect of the conference call targets.

Where the conference call server initiates the conference call itself, the conference call server may use such geographic information to select specific long distance or data carriers for different conference call targets, again allowing minimization of the long distance, cost, or delay aspects. Such selections could include the selection of call repeaters at distant locations, to allow one

communications service to forward the call into a geographic region, with a second service provider connecting to the conference call target. Such forwarding may be important where cellular or satellite paths are involved.

Conference call recording may also be implemented within the process, such that the requesting party can indicate 340 a desire to have a conference call recorded. If such a desire is received, the request that the call is to be recorded can be transmitted to Users B and C, such as via the IM channel, and User B and C acceptance of the recording be determined and recorded. Having the acceptance recorded may provide benefits at a later date, should the recording be challenged by a User claiming not to have known the call was being recorded.

Once the conference call is completed, the conference call server can record 342 the duration of the call, and assess appropriate charges to the designated account. If a conference call functionability was disabled during initiation of the conference call, the functionability that was previously disabled may be re-enabled 344. Furthermore, if the call was recorded, a transcript of the call may be generated 346 and forwarded to a relevant party.

As shown in Figure 4, a system for accomplishing the present invention may be implemented in a conference call server 402 connected to a network 404. The conference call server 402 may have a database 406 associated with the server 402 for storing account information, user information, and call management information, etc. Where one or more third party conference bridge providers may be used, information regarding the rate structures of the third party providers may be stored, to allow optimization of conference bridge provider selection. The conference call server may additionally be connected directly to a telephone network 408 or VOIP connection, or indirectly through a third party conference bridge 410a, 410b,....

A shared application server may also be connected to allow information generated during a shared application session to be accessed by the conference call server as required, such as to determine a list of parties involved in a shared application session. Shared application sessions comprise the ability of multiple viewers to view the interface with a particular software application operating on a particular set of data, and may include the ability of each viewer to simultaneously operate the shared application. Such shared applications are discussed further in applicant's United States Patent Publication No. 20030018725, a.k.a. United States Patent Application Ser. No. 10/015077, filed October 26, 2001, the contents of which are herein incorporated in their entirety by reference thereto.

The users may be connected to the system via a network access device 414, which may be any network communicable device having the appropriate IM software service access. Although shown as a separate element, each user may also have telephonic capabilities 416 associated with the user. As discussed above, the telephonic capability may be implemented into the NAD, such as through a digital cell phone, or VOIP connection through a desktop or laptop computer connected to the network.

As shown in Figure 5, a display 502 may be generated on the NAD of a conference call requester to allow the conference call requester to invite potential participants to a proposed conference call, where IM is implemented on the potential participants NAD, or may allow a conference call requester to select targets to be called directly to be included in a proposed conference call where the conference call target is not provided with an IM capable NAD. An IM presence of some or all of the prospective target may be monitored by the IM server, such that the presence of prospective targets may be displayed for the conference call requester, such as by

showing prospective targets who are not presently connected via IM to the conference server in a grayed display 504 with prospective target list, or by the display of present or not present flags on the display. Providing such information to the conference call requester may have the additional advantage of providing the conference call requester with information on which to base a decision of whether or not to request a conference call at a given time, based on prospective target availability.

Figure 6 illustrates a notational information screen 602 for selecting prospective targets. The information screen 602 may include check boxes 604 to allow a conference call requester to designate potential targets that the conference call requester would like joined in a conference call, as well as a feature 606 allow the conference call requester to transmit information to the conference call server such that a conference call may be initiated. The information screen may also be provided with a feature 608 such that the conference call requester may be able to signal to the conference call server that an on-going conference call should be terminated.

Figure 7 illustrates a notional information screen 702 for querying and receiving parameters associated with a party. Figure 8 shows a notional conference history display 802 for managing conference calls. Conference history information may be stored on the conference call server, such that the information may be accessible via an NAD.

Figure 8 illustrates a notional information screen 802 for allowing a conference call requester to select targets for a conference call from a list that has been filtered to only identify potential targets that have participated in previous conference calls. Figure 9 illustrates a notional information screen 902 for allowing a conference call requester to select targets for a conference call from a list that has

been filtered to only identify potential targets that have an application sharing capability through their network access devices.

Figure 10 illustrates a notional information screen 1002 for allowing a conference call requester to select targets for a conference call from a list that has been filtered to only identify potential targets for which contacts are available in the conference call requester's e-mail application. Alternately, such contacts could be obtained from any application maintaining a contact list.

Figure 11 illustrates a notional information screen 1102 to allow a conference call requester to retrieve parameters from a previous conference call. As a feature of the system, the conference call server may store identifying information regarding a previous conference call, including but not limited to, the addresses of participants, project identifying information 1104, and subject information 1106 for the prior conference call. This information may be displayed for the conference call requester to enable the conference call requester to recall and reuse parameters from the prior conference call.

Figure 12 illustrates an alternate system embodying the present invention. A text messaging server 1202 may be provided for coordinating IM text messaging between a conference call requester and one or more targets, shown as text messaging clients 1204a, 1204b, 1204c, and 1204d. The text messaging server may function concurrently as the conference call server, operating conference setup software 1206. The text messaging server 1202 may be connected through the conference setup software to a conference bridge 1208, either operated in conjunction with the text messaging server 1202, or maintained by a third party conference call service provider. The text messaging server 1202 may additionally be provided with access to a database 1208, either organically or remotely, to allow storage and retrieval

associated with the instant messaging service, as well as the conference call service. The conference bridge may have several communications paths 1210a, 1210b, and 1210c, which allow the conference bridge to interconnect telephone lines to accomplish a conference call. Additionally, the conference bridge may be provided with network paths 1212a, 1212b, and 1212c, communicably connected to electronic devices such as personal computers 1214, to allow VOIP communications paths to be established to targets. The network paths are not restricted to VOIP protocols, but may alternately be used to provide videoconferencing capabilities, or the display of common visual displays for the participants to a conference call.

Figure 13 illustrates a notional information screen 1302 displaying management parameters associated with a completed conference call, such as date information 1304, a project identifier 1306, a subject identifier 1308, durational information 1310, attendance information 1312, and costing information 1314. This information may be collected by the conference call server or third party conference call service provider, and stored by the conference call server to enable management of conference calls. Such information may also be retained to function as a record of prior conference call participant information. As noted above, an indicator 1316 may also be provided indicating whether a conference call was recorded for later playback or transcription.

Figure 14 shows a notional information screen 1402 showing management details associated with a prior conference call, such as could be drilled down from the display of Figure 13. Individual participants 1404 of a prior conference call could be listed on such a display.

Figure 15 illustrates an alternate process embodying the present invention, in which a conference call requester ("CCR") accesses 1502 a network access device

("NAD"), such as to be involved in a shared application session, or simply for the purpose of initiating a conference call. The CCR may then cause the NAD to be connected to a conference call server ("CCS") such as by entering an address into a web browser, or even by first creating a dial up connection to the Internet or CCS directly. Connection of the NAD to the CCS may cause the presentation of information regarding potential conference call targets on the NAD, such as through the displays discussed above. The CCR may select potential targets from the display, or manually add potential targets to a potential target list, to be included in a conference call request to be generated 1510 on and transmitted 1512 by the NAD to the conference call server, which may then initiate the conference call either directly or through a third party conference call service provider. Preferably, the conference call server or third party conference call service provider will identify optimized communications paths for the targets, and make connections from the conference call server or third party conference call service provider to the targets, interconnecting the related communications paths to form the conference call.

Other variations and modifications of the present invention will be apparent to those of skill in the art, and it is the intent of the appended claims that such variations and modifications be covered. The particular values and configurations discussed above can be varied and are cited merely to illustrate a particular embodiment of the present invention and are not intended to limit the scope of the invention. It is contemplated that the use of the present invention can involve components having different characteristics as long as the principles of the invention are followed.

Claims

What is claimed is:

1. A method for initiating a conference call, comprising the steps of:

providing a conference call requester with a network access device, said network access device capable of communicating via an instant messaging service, said instant messaging service being adapted to communicate conference call request information with said conference call server;

establishing a communications connection from said network access device to a conference call server;

presenting said conference call requester with a display showing at least one potential target with whom a conference call may be initiated, said display further indicating whether said potential target is communicably connected to said instant messaging service;

generating a conference call request by said conference call requester, said conference call request identifying at least one potential target for said conference call request;

transmitting said conference call request from said network access device to said conference call server;

establishing a conference call connection to said conference call requester, said conference call connection initiated by said conference call server, said conference call connection further being connected to at least a one other target.

2. A method for initiating a conference call according to claim 1, wherein said instant messaging service comprises a software client active on said network access device.

3. A method for initiating a conference call according to claim 1, wherein said instant messaging service comprises an internet accessible application, said internet accessible application being communicably connected to said network access device via the Internet.

4. A method for initiating a conference call according to claim 3, wherein said internet accessible application comprises a browser viewable web page.

5. A method for initiating a conference call according to claim 1, wherein said conference call connection utilizes a publicly switched telephone network.

6. A method for initiating a conference call according to claim 1, wherein said conference call connection utilizes a voice over internet-protocol communications path.

7. A method for initiating a conference call according to claim 1, wherein said conference call connection provides for video data transmission.

8. A method for initiating a conference call according to claim 1, wherein said conference call connection utilizes a cellular communications path.

9. A method for initiating a conference call according to claim 1, wherein said network access device further comprises an application sharing capability.

10. A method for initiating a conference call according to claim 8, wherein said application sharing capability comprises an application sharing client installed on said network access device.

11. A method for initiating a conference call according to claim 8, wherein said application sharing capability is integrated with said instant messaging service, said integration comprising functionality to allow a user to generate a conference call request via said instant messaging service from within said application sharing capability.

12. A method for initiating a conference call according to claim 1, further comprising the step of determining whether at least one potential target to a conference call is available for said conference call dependant upon the presence of an IM presence for said at least one potential target.

13. A method for initiating a conference call according to claim 12, wherein the step of initiating a conference call comprises communicating information from said conference call server to a third party conference call service, said third party conference call service establishing a conference bridge between said call requester and at least one target.

14. A method for initiating a conference call according to claim 13, wherein said conference bridge selects between alternate communications paths dependant upon cost criteria.

15. A method for initiating a conference call according to claim 14, wherein said alternate communications paths comprise a VOIP path.

16. A method for initiating a conference call according to claim 13, wherein said conference bridge selects between alternate communications paths dependant upon performance criteria.

17. A method for initiating a conference call according to claim 16, wherein said alternate communications paths comprise a VOIP path.

18. A method for initiating a conference call according to claim 1, wherein said conference call request comprises addresses for a plurality of potential targets.

19. A method for initiating a conference call according to claim 18, wherein at least one address comprises an automatic number identifier.

20. A method for initiating a conference call according to claim 19, wherein at least one address comprises a VOIP address.

21. A method for initiating a conference call according to claim 1, wherein said network access device comprises a capability for communicating audio information via an Internet protocol connection.

22. A method for initiating a conference call according to claim 1, wherein said network access device comprises a capability for communicating audio and visual information via an Internet protocol connection.

23. A method for initiating a conference call, comprising the steps of:

providing a conference call server;

providing a call requester with a network accessible device, the network accessible device being communicably connected to an instant messaging service, said instant messaging service being adapted to communicate conference call request information with said conference call server;

presenting said conference call requester with a display showing at least one potential target with whom a conference call may be initiated, said display further indicating whether said potential target is communicably connected to said instant messaging service;

generating a conference call request by said conference call requester, said conference call request identifying at least one potential target for joining in a conference call;

transmitting said generated call request from said conference call requester to said conference call server;

receiving said generated call request at said conference call server;

parsing said conference call request to determine parameters associated with a requested conference call; and

initiating a conference call in accordance with parameters associated with the requested conference call.

24. A method for initiating a conference call according to claim 23, wherein said initiated conference call connects at least one target via a voice over Internet protocol path.

25. A method for initiating a conference call according to claim 23, wherein said initiated conference call connects at least one potential call recipient via a publicly switched telephone network.

26. A method for initiating a conference call according to claim 23, wherein said initiated conference call comprises at least one path providing for transmission of visual data.

27. A method for initiating a conference call according to claim 26, wherein said visual data comprises video-conferencing images.

28. A method for initiating a conference call according to claim 26, wherein said visual data comprises image files in a digital format.

29. A method for initiating a conference call according to claim 23, wherein said conference call connection utilizes a cellular communications path.

30. A method for initiating a conference call according to claim 23, wherein said instant messaging service comprises a software client active on said network access device.

31. A method for initiating a conference call according to claim 30, further comprising the step of displaying for a call requester a conference call status display, said conference call status display listing targets involved in a conference call server initiated conference call.

32. A method for initiating a conference call according to claim 23, wherein said display showing at least one potential target with whom a conference call may be initiated comprises at least one potential target previously involved in a conference call server initiated conference call.

33. A method for initiating a conference call according to claim 23, wherein said display showing at least one potential target with whom a conference call may be initiated comprises at least one potential target identified from an e-mail application associated with said conference call requester's network access device.

34. A method for initiating a conference call according to claim 23, wherein said instant messaging service comprises an internet accessible application, said internet accessible application being communicably connected to said network access device via the Internet.

35. A method for initiating a conference call according to claim 34, wherein said internet accessible application comprises a browser-viewable web page.

36. A method for initiating a conference call according to claim 23, wherein said network access device further comprises an application sharing capability.

37. A method for initiating a conference call according to claim 36, wherein said application sharing capability comprises an application sharing client installed on said network access device.

38. A method for initiating a conference call according to claim 37, wherein said application sharing capability is integrated with said instant messaging service, said integration comprising functionality to allow a user to generate a conference call request via said instant messaging service from within said application sharing capability.

38. A method for initiating a conference call according to claim 23, wherein said network access device comprises a personal computer.

39. A method for initiating a conference call according to claim 23, wherein said network access device comprises a personal digital assistant, said personal digital assistant comprising an Internet connection.

40. A method for initiating a conference call according to claim 23, wherein said network access device comprises a cellular telephone, said cellular telephone comprising an Internet connection.

41. A method for initiating a conference call according to claim 23, wherein the step of initiating a conference call comprises communicating information from said conference call server to a third party conference call service, said third party conference call service establishing a conference bridge between said call requester and at least one target.

42. A method for initiating a conference call according to claim 41, wherein said conference call server further selects said third party conference call service from a plurality of available third party call services dependant upon cost criteria.

43. A method for initiating a conference call according to claim 23, wherein the step of initiating a conference call comprises communicating information from said conference call server establishes a conference bridge between said call requester and at least one target.

44. A method for initiating a conference call according to claim 43, wherein said conference call server further selects at least one connection path for said conference bridge from a plurality of connection paths dependant upon cost criteria.

45. A method for initiating a conference call according to claim 44, wherein said alternate communications paths comprise a VOIP path.

46. A method for initiating a conference call according to claim 43, wherein said conference call server further selects at least one connection path for said conference bridge from a plurality of connection paths dependant upon performance criteria.

47. A method for initiating a conference call according to claim 23, wherein said conference call request comprises addresses for a plurality of potential conference call recipients.

48. A method for initiating a conference call according to claim 47, wherein at least one address comprises a VOIP address.

49. A method for initiating a conference call according to claim 23, wherein said network access device comprises a capability for communicating audio information via an Internet protocol connection.

50. A method for initiating a conference call according to claim 23, wherein said network access device comprises a capability for communicating audio and visual information via an Internet protocol connection.

51. A method for initiating a conference call, comprising the steps of:

providing a conference call server;

providing a call requester with a network accessible device, the network accessible device having instant messaging software thereon, said instant messaging software being adapted to communicate conference call request information with said conference call server;

presenting to said conference call requester a display showing at least one potential target with whom a conference call may be initiated, said display further indicating whether said potential target is communicably connected to said instant messaging service;

generating a conference call request by the call requester;

transmitting said generated call request from said call requester to said conference call server;

receiving said generated call request at said conference call server;

parsing said conference call request to determine parameters associated with a requested conference call; and

initiating a conference call across a conference call connection in accordance with parameters associated with the requested conference call.

52. A method for initiating a conference call according to claim 51, wherein said network access device further comprises an application sharing capability.

53. A method for initiating a conference call according to claim 52, wherein said application sharing capability comprises an application sharing client installed on said network access device.

54. A method for initiating a conference call according to claim 53, wherein said application sharing capability is integrated with said instant messaging service, said integration comprising functionality to allow a conference call to generate a conference call request via said instant messaging service from within said application sharing capability.

55. A method for initiating a conference call according to claim 51, further comprising the step of displaying for a conference call requester a conference call status display, said conference call status display listing targets involved in a conference call initiated by said conference call server.

56. A method for initiating a conference call according to claim 51, wherein said display showing at least one potential target with whom a conference

call may be initiated comprises identification of at least one potential target previously involved in a conference call server initiated conference call.

57. A method for initiating a conference call according to claim 51, wherein said display showing at least one potential target with whom a conference call may be initiated comprises identification of at least one potential target identified from an e-mail application associated with said conference call requester's network access device.

58. A method for initiating a conference call according to claim 51, wherein the step of initiating a conference call comprises communicating information from said conference call server to a third party conference call service, said third party conference call service establishing a conference bridge between said call requester and at least one call recipient.

59. A method for initiating a conference call according to claim 58, wherein said third party conference call service selects between alternate communications paths for the conference bridge dependant upon cost criteria.

60. A method for initiating a conference call according to claim 59, wherein at least one alternate communications path is a VOIP path.

61. A method for initiating a conference call according to claim 58, wherein said third party conference call service selects between alternate communications paths for the conference bridge dependant upon performance criteria.

62. A method for initiating a conference call according to claim 61, wherein at least one alternate communications path is a VOIP path.

63. A method for initiating a conference call according to claim 51, wherein said conference call request comprises addresses for a plurality of potential conference call targets.

64. A method for initiating a conference call according to claim 63, wherein at least one address comprises a VOIP address.

65. A method for initiating a conference call according to claim 51, wherein said network access device further comprises a capability for communicating audio information via an Internet protocol connection.

66. A method for initiating a conference call according to claim 51, wherein said network access device further comprises a capability for communicating audio and visual information via an Internet protocol connection.

67. A system for initiating conference calls, comprising:

a conference call server, said conference call server having a network connection communicable with network access devices, said conference call server further comprising a database for storing prospective target information;

at least one network access device, said at least one network access device being communicably connected to an instant messaging service, said instant messaging client being adapted to communicate a conference call request to said conference call server;

a conference call bridge, said conference call bridge having a plurality of communications paths and hardware or software for bridging at least two of said paths for enabling a conference call.

68. A system for initiating conference calls according to claim 67, wherein said network access device further comprises application sharing capabilities.

69. A system for initiating conference calls according to claim 68, wherein said application sharing capabilities comprising an application sharing client installed on said network access device.

70. A system for initiating conference calls according to claim 69, wherein said application sharing capability is integrated with said instant messaging service, said integration comprising functionality to allow a user to generate a conference call request via said instant messaging service from within said application sharing capability.

71. A system for initiating conference calls according to claim 67, wherein said instant messaging service comprises a software client active on said network access device.

72. A system for initiating conference calls according to claim 67, wherein said instant messaging service comprises an internet accessible application, said internet accessible application being communicably connected to said network access device via the Internet.

73. A system for initiating conference calls according to claim 72, wherein said internet accessible application comprises a browser viewable web page.

74. A system for initiating conference calls according to claim 67, wherein at least one of said plurality of communications channels comprises a VOIP channel.

75. A system for initiating conference calls according to claim 67, wherein at least one of said plurality of communications channels comprises a publicly switched telephone network channel.

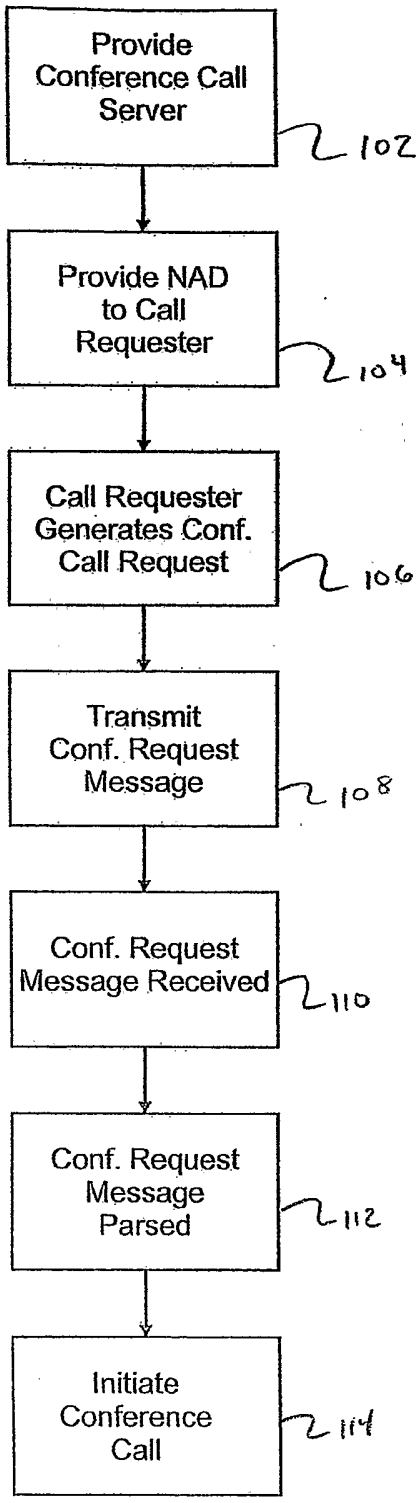
76. A system for initiating conference calls according to claim 67, wherein at least one of said plurality of communications channels comprises a channel capable of transmitting visual images.

77. A system for initiating conference calls according to claim 67, wherein said conference call server further comprises a database containing information derived from previous conference calls initiated by the conference call server.

78. A system for initiating conference calls according to claim 77, wherein said conference call server database information comprises addresses derived from previous conference calls initiated by the conference call server.

79. A system for initiating conference calls according to claim 67, further comprising an interface to an e-mail application resident on said conference call requester's network access device, said interface capable of querying said e-mail application to identify contact information for potential conference call targets.

Figure 1


Provide Conference Call Server
102
Provide NAD to Call Requester
104
Call Requester Generates Conf. Call Request
106
Transmit Conf. Request Message
108
Conf. Request Message Received
110
Conf. Request Message Parsed
112
Initiate Conference Call
114

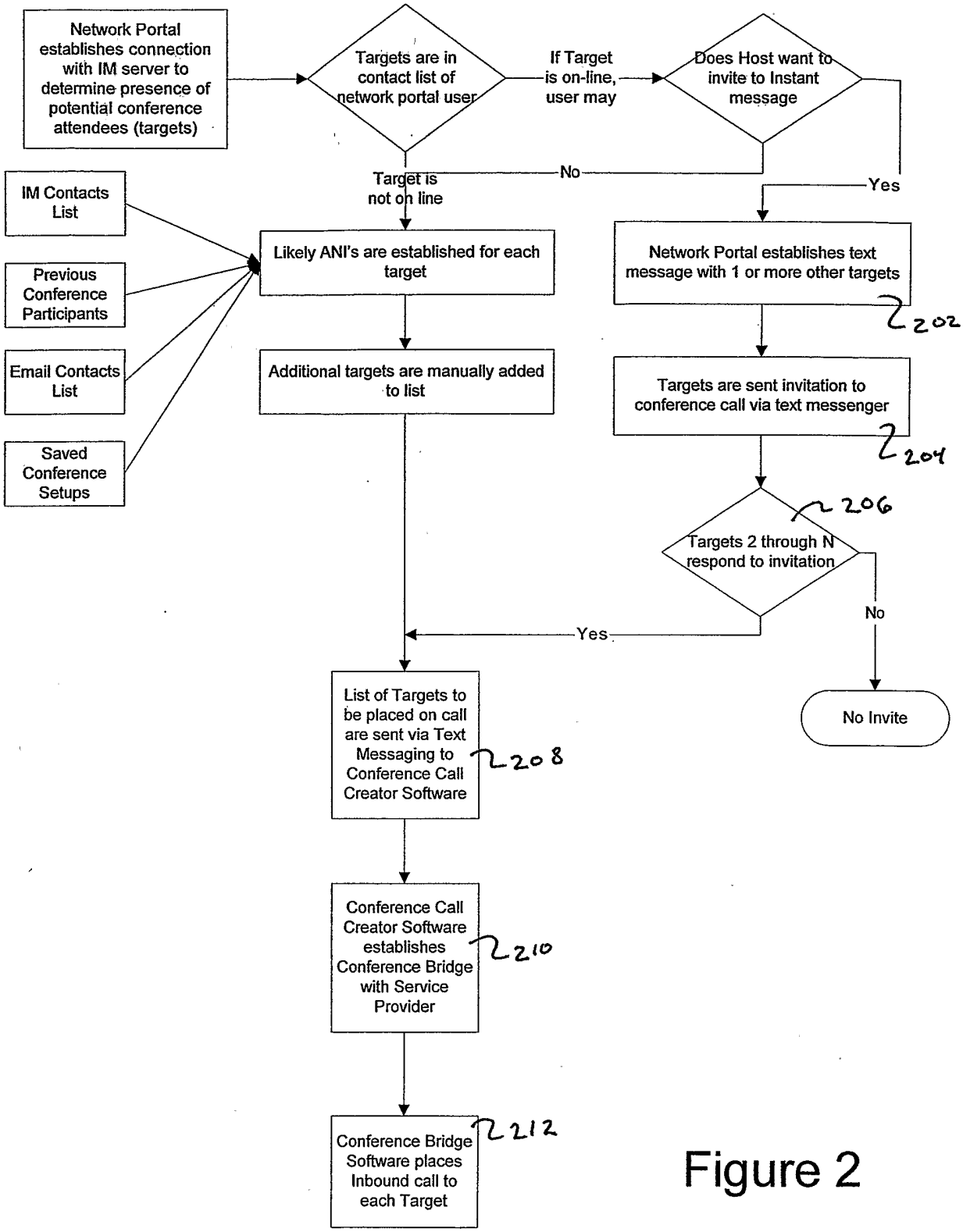

Network Portal establishes connection with IM server to determine presence of potential conference attendees (targets)
Targets are in contact list of network portal user
If Target is on-line, user may
Does Host want to invite to Instant message
No
Yes
Target is not on line
IM Contacts List
Previous Conference Participants
Email Contacts List
Saved Conference Setups
Likely ANI's are established for each target
Additional targets are manually added to list
Network Portal establishes text message with 1 or more other targets
202
Targets are sent invitation to conference call via text messenger
204
206
Targets 2 through N respond to invitation
No
Yes
No Invite
List of Targets to be placed on call are sent via Text Messaging to Conference Call Creator Software
208
Conference Call Creator Software establishes Conference Bridge with Service Provider
210
Conference Bridge Software places Inbound call to each Target
212

Figure 2

Figure 3

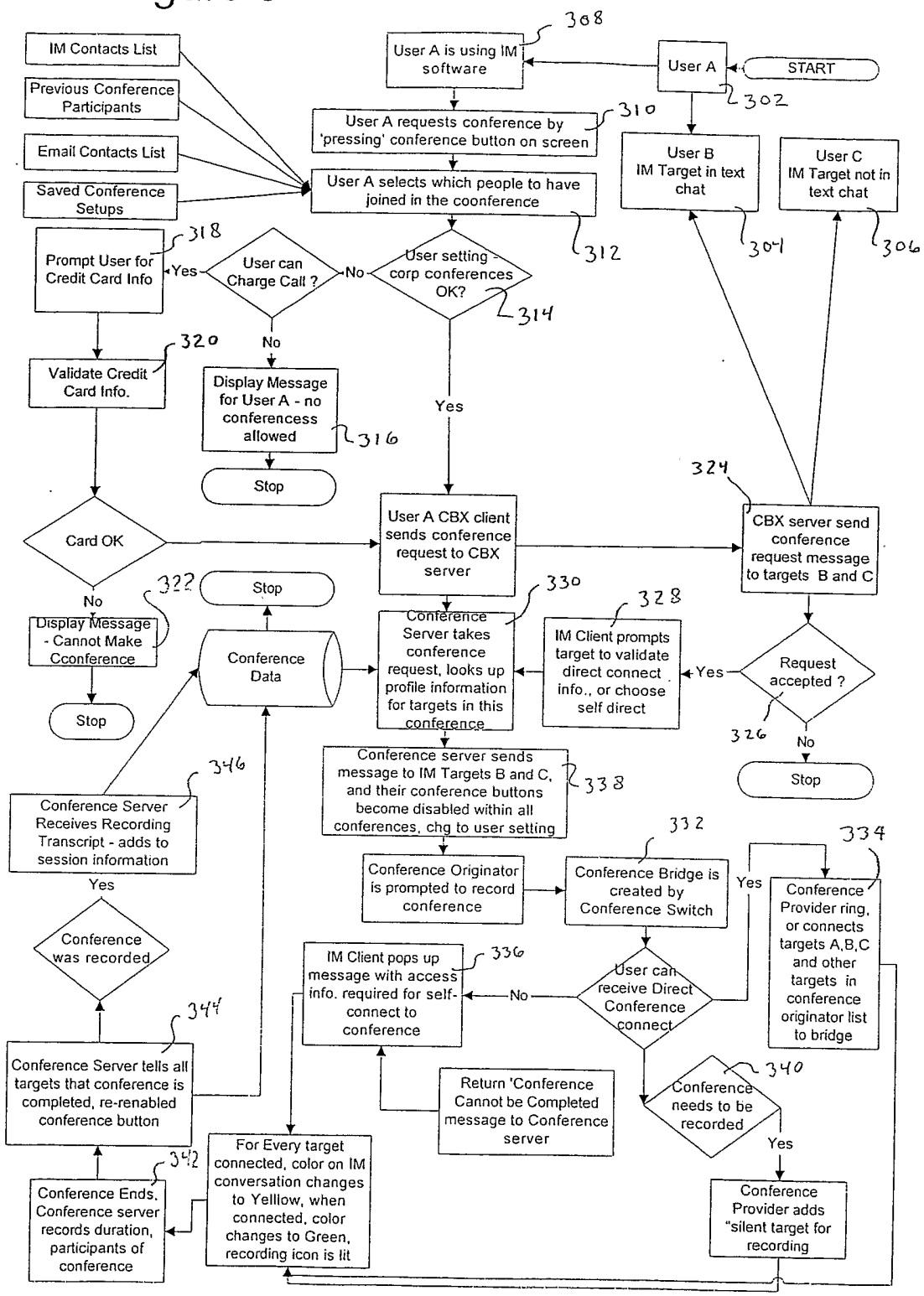

IM Contacts List
Previous Conference Participants
Email Contacts List
Saved Conference Setups
User A is using IM software
308
User A
START
302
User A requests conference by 'pressing' conference button on screen
310
User A selects which people to have joined in the coonference
312
User B IM Target in text chat
304
User C IM Target not in text chat
306
Prompt User for Credit Card Info
318
Yes
User can Charge Call ?
No
User setting - corp conferences OK?
314
No
Yes
Validate Credit Card Info.
320
Display Message for User A - no conferencess allowed
316
Stop
Card OK
No
Display Message - Cannot Make Cconference
322
Stop
User A CBX client sends conference request to CBX server
CBX server send conference request message to targets B and C
324
Conference Data
Conference Server takes conference request, looks up profile information for targets in this conference
330
IM Client prompts target to validate direct connect info., or choose self direct
328
Yes
Request accepted ?
326
No
Stop
Conference server sends message to IM Targets B and C, and their conference buttons become disabled within all conferences, chg to user setting
338
Conference Server Receives Recording Transcript - adds to session information
346
Yes
Conference was recorded
Conference Originator is prompted to record conference
332
Conference Bridge is created by Conference Switch
Yes
334
Conference Provider ring, or connects targets A,B,C and other targets in conference originator list to bridge
IM Client pops up message with access info. required for self-connect to conference
336
No
User can receive Direct Conference connect
Conference Server tells all targets that conference is completed, re-renabled conference button
344
Return 'Conference Cannot be Completed message to Conference server
Conference needs to be recorded
340
Yes
For Every target connected, color on IM conversation changes to Yelllow, when connected, color changes to Green, recording icon is lit
Conference Ends, Conference server records duration, participants of conference
342
Conference Provider adds "silent target for recording

Figure 4

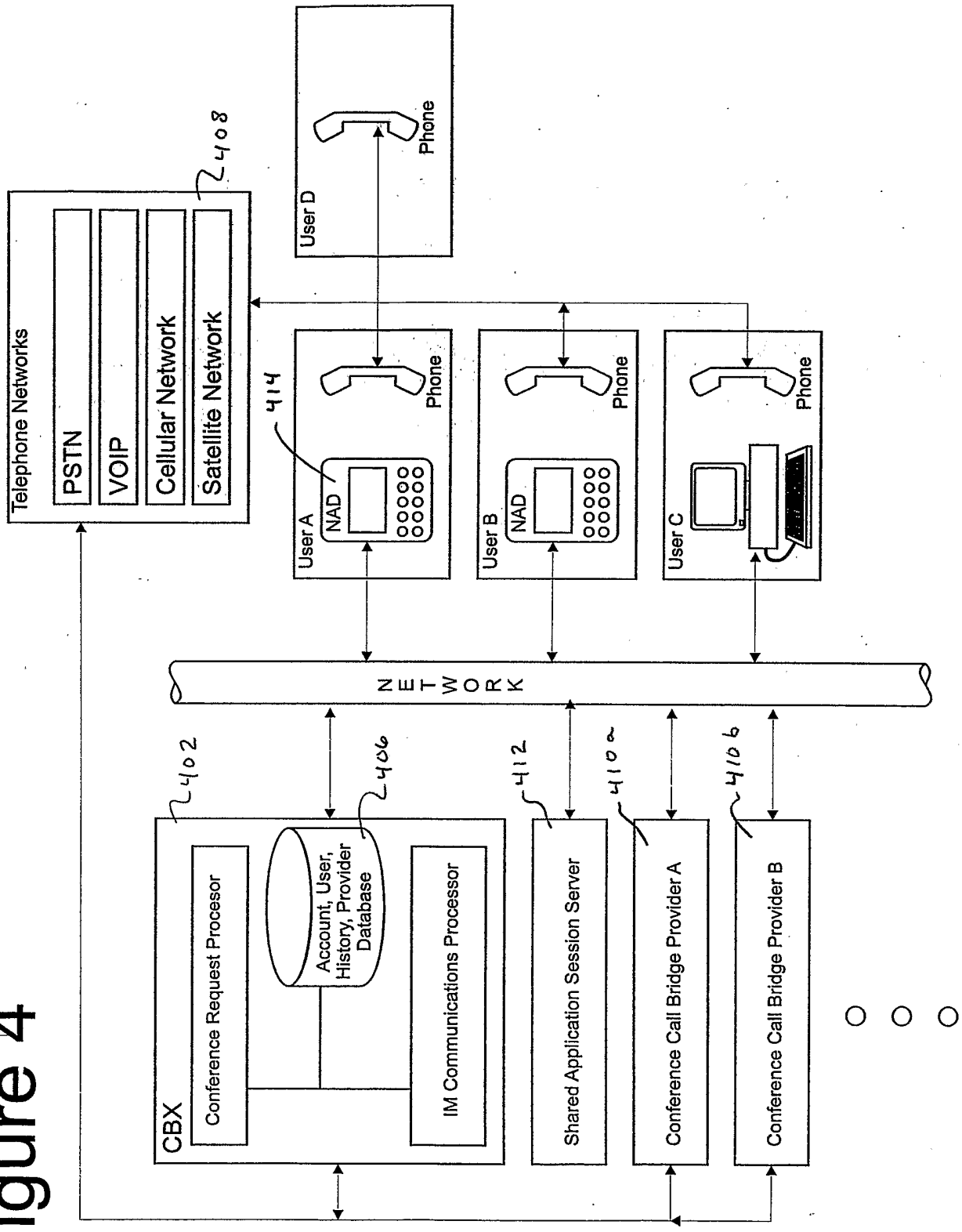

Telephone Networks
PSTN
VOIP
Cellular Network
Satellite Network
408
User D
Phone
User A
NAD
Phone
414
User B
NAD
Phone
User C
Phone
NETWORK
CBX
402
Conference Request Procesor
Account, User, History, Provider Database
406
IM Communications Processor
412
Shared Application Session Server
410a
Conference Call Bridge Provider A
410b
Conference Call Bridge Provider B

Figure 5

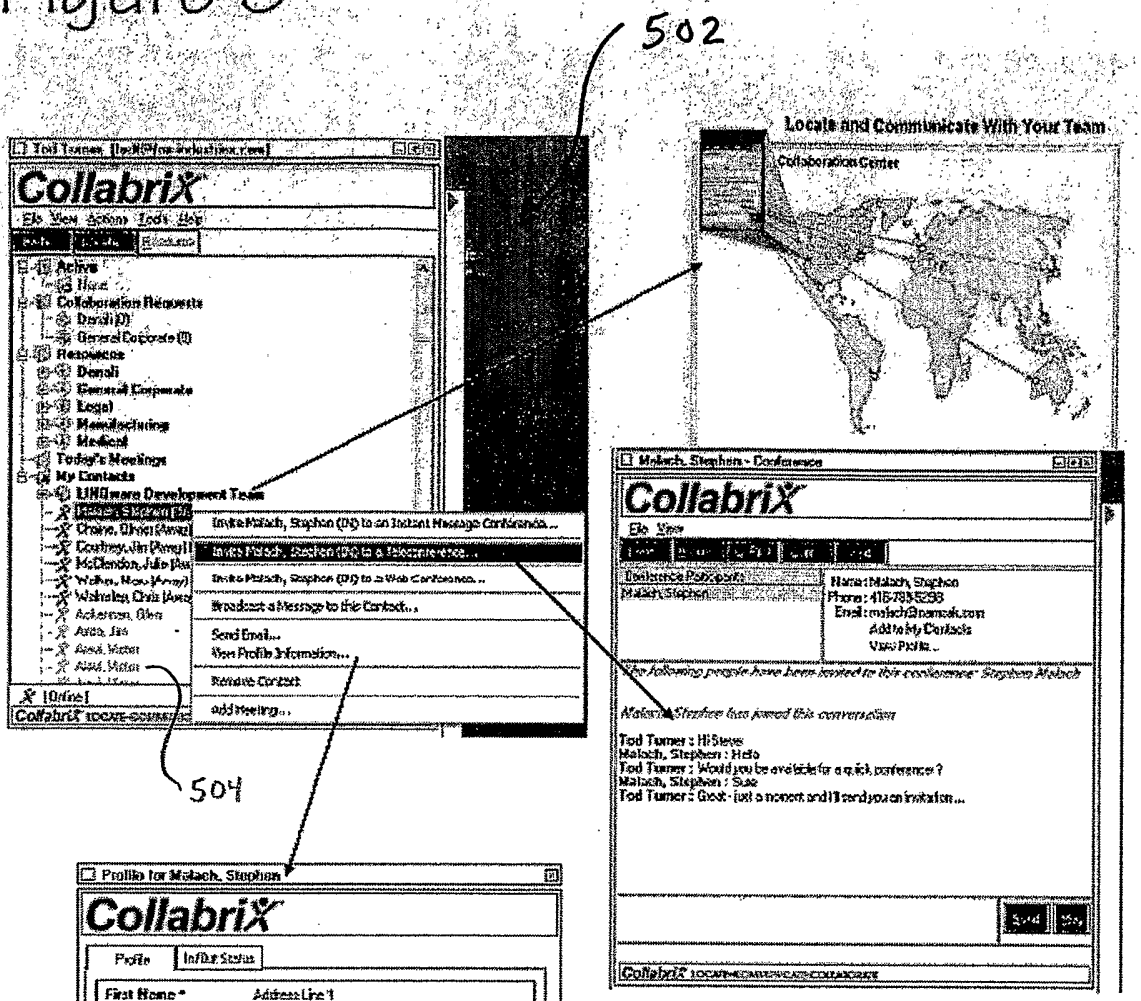


Figure 7

Figure 6

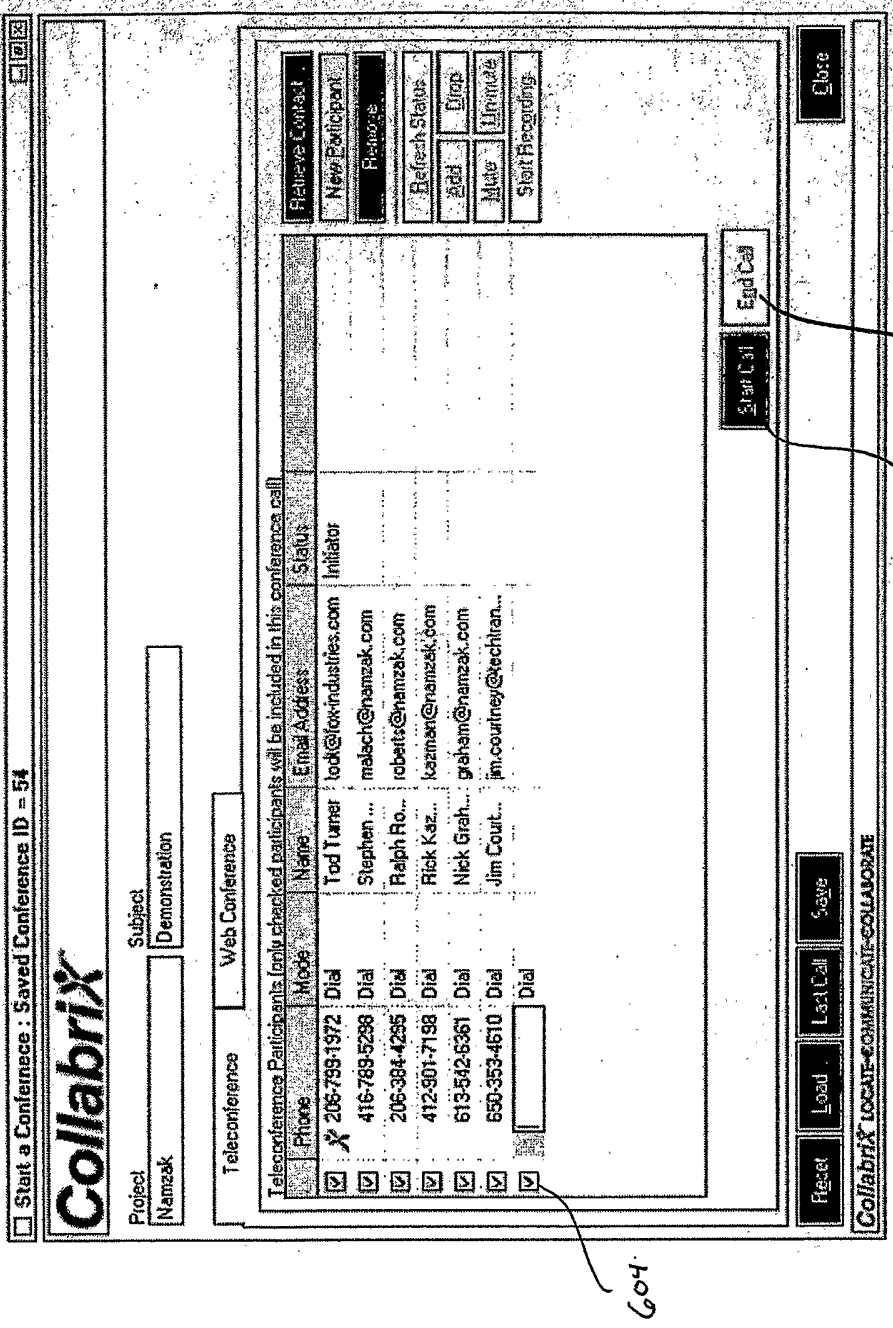

602
Start a Conference : Saved Conference ID = 54
Collabrix
Project
Namzak
Subject
Demonstration
Teleconference
Web Conference
Teleconference Participants (only checked participants will be included in this conference call)
Phone
Mode
Name
Email Address
Status
206-789-1972 Dial Tod Turner tod@fox-industries.com Initiator
416-789-5288 Dial Stephen ... malach@namzak.com
206-384-4295 Dial Ralph Ro... roberts@namzak.com
412-901-7158 Dial Rick Kaz... kazman@namzak.com
613-542-6361 Dial Nick Grah... graham@namzak.com
650-353-4610 Dial Jim Court... jim.courtney@techtran...
Dial
Retrieve Contact
New Participant
Remove
Refresh Status
Add
Drop
Mute
Unmute
Start Recording
Start Call
End Call
Reset
Load
Last Call
Save
Close
Collabrix LOCATE-COMMUNICATE-COLLABORATE
604
606
608

Figure 8

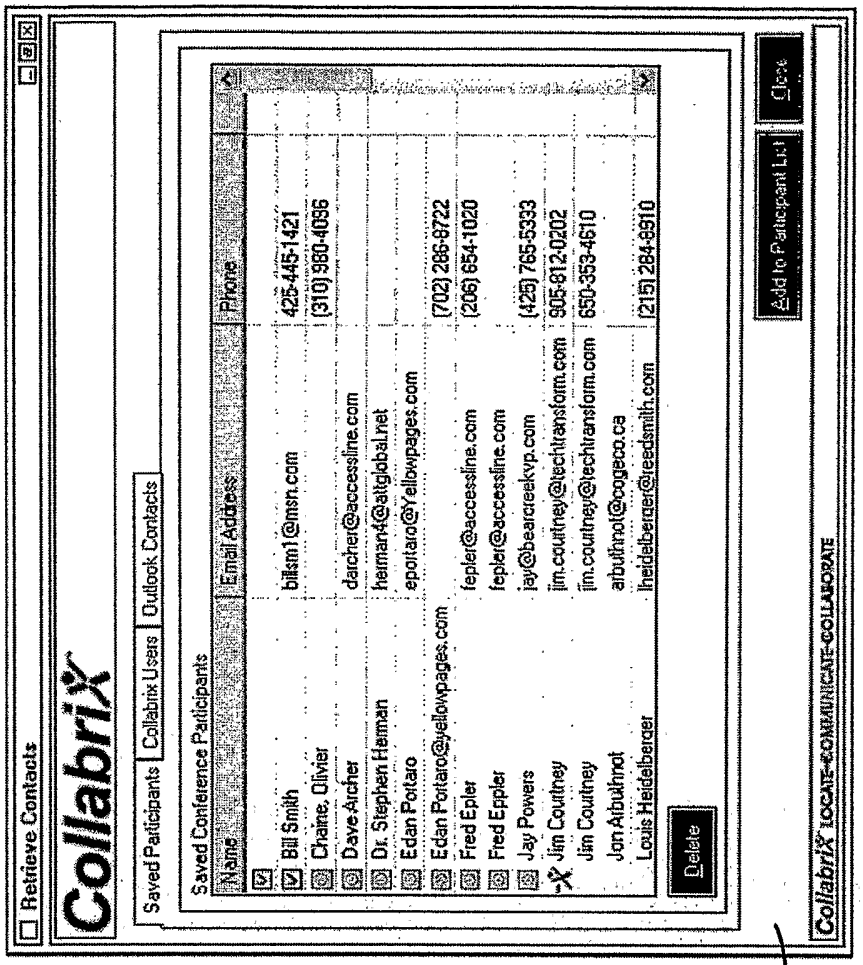

Retrieve Contacts
Collabrix
Saved Participants
Collabrix Users
Outlook Contacts
Saved Conference Participants
Name
Email Address
Phone
Bill Smith
bilsm1@msn.com
425-445-1421
Chaime, Olivier
(310) 980-4086
Dave Archer
darcher@accessline.com
Dr. Stephen Herman
herman4@attglobal.net
Edan Portaro
epottaro@Yellowpages.com
Edan Portaro@yellowpages.com
(702) 266-8722
Fred Epler
fepler@accessline.com
(206) 654-1020
Fred Eppler
fepler@accessline.com
Jay Powers
jay@bearcreekvp.com
(425) 765-5333
Jim Coultney
jim.coultney@techtransform.com
905-812-0202
Jim Coultney
jim.coultney@techtransform.com
650-353-4610
Jon Aibukhnot
aibukhnot@cogeco.ca
Louis Heidelberger
lheidelberger@reedsmith.com
(215) 284-8910
Delete
Add to Participant List
Close
CollabriX LOCATE-COMMUNICATE-COLLABORATE
802
208

Figure 9

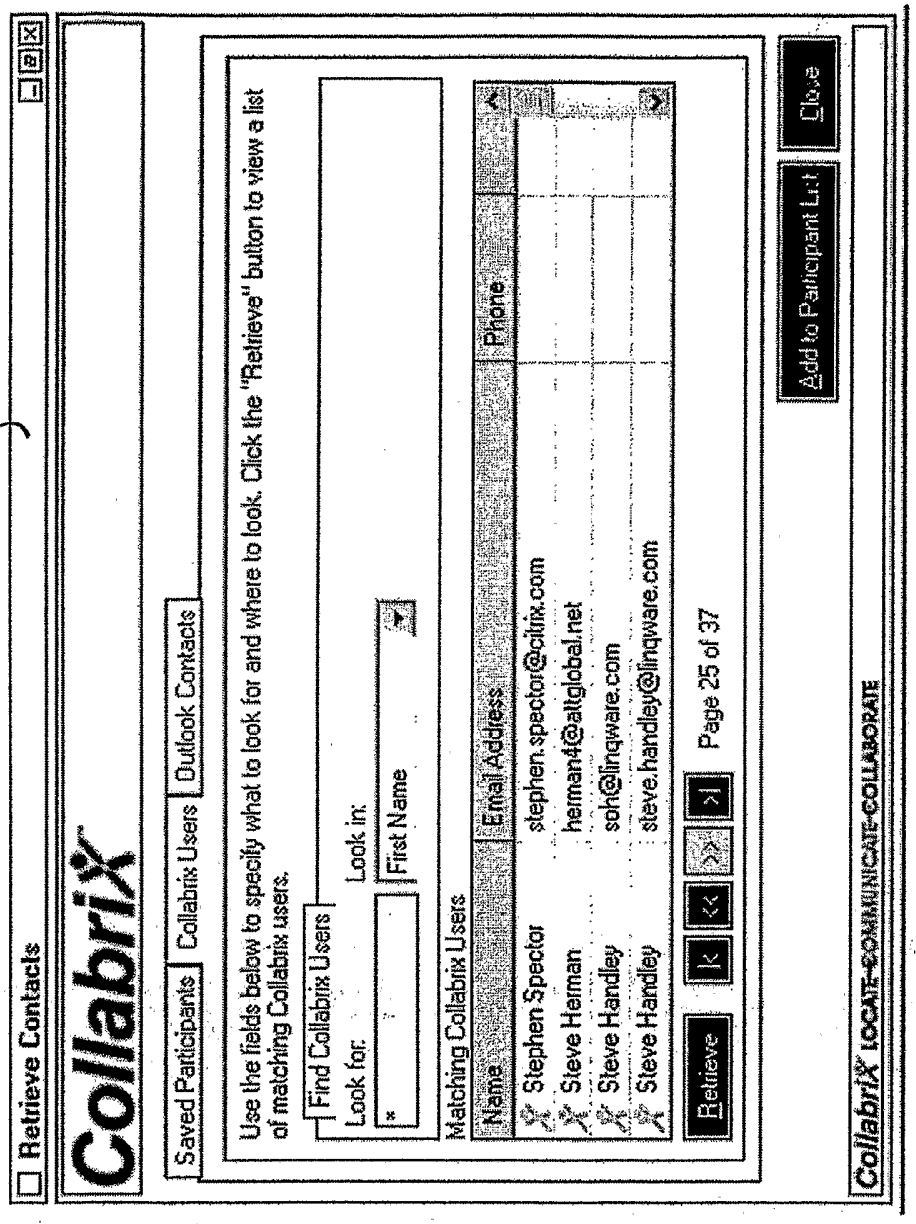
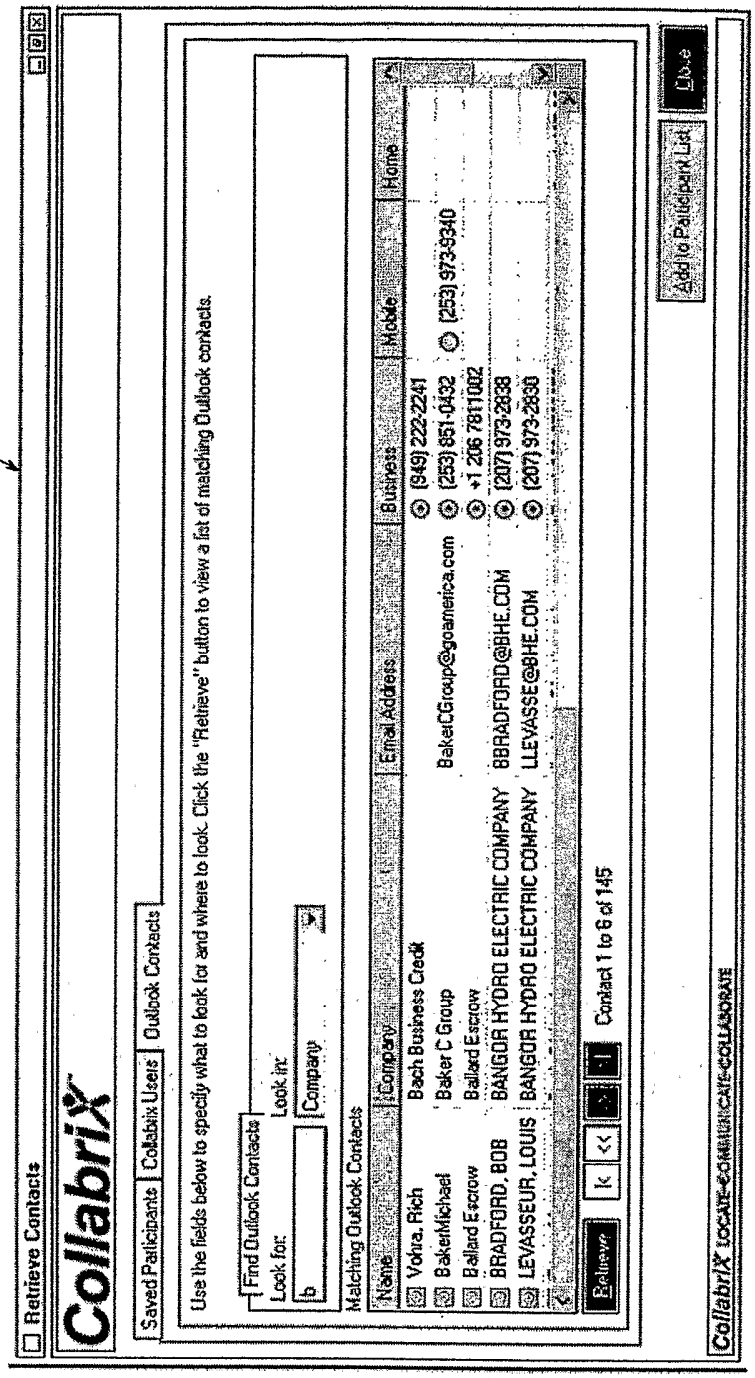

902
Retrieve Contacts
Collabrix
Saved Participants
Collabrix Users
Outlook Contacts
Use the fields below to specify what to look for and where to look. Click the "Retrieve" button to view a list of matching Collabrix users.
Find Collabrix Users
Look for:
Look in:
First Name
Matching Collabrix Users
Name
Email Address
Phone
Stephen Spector
stephen.spector@citrix.com
Steve Herman
herman4@attglobal.net
Steve Handley
sdh@linqware.com
Steve Handley
steve.handley@linqware.com
Retrieve
Page 25 of 37
Add to Participant List
Close
Collabrix LOCATE-COMMUNICATE-COLLABORATE

Figure 10


1002
Retrieve Contacts
Collabrix
Saved Participants
Collabrix Users
Outlook Contacts
Use the fields below to specify what to look for and where to look. Click the "Retrieve" button to view a list of matching Outlook contacts.
Find Outlook Contacts
Look for:
b
Look in:
Company
Matching Outlook Contacts
Name
Company
Email Address
Business
Mobile
Home
Vohra, Rich
Bach Business Credit
(949) 222-2241
BakerMichael
Baker C Group
BakerCGroup@goamerica.com
(253) 851-0432
(253) 973-9340
Ballard Escrow
Ballard Escrow
+1 206 7811002
BRADFORD, BOB
BANGOR HYDRO ELECTRIC COMPANY
BBRADFORD@BHE.COM
(207) 973-2838
LEVASSEUR, LOUIS
BANGOR HYDRO ELECTRIC COMPANY
LLEVASSE@BHE.COM
(207) 973-2830
Retrieve
Contact 1 to 6 of 145
Add to Participant List
Close
CollabriX TOGETHER COMMUNICATE COLLABORATE

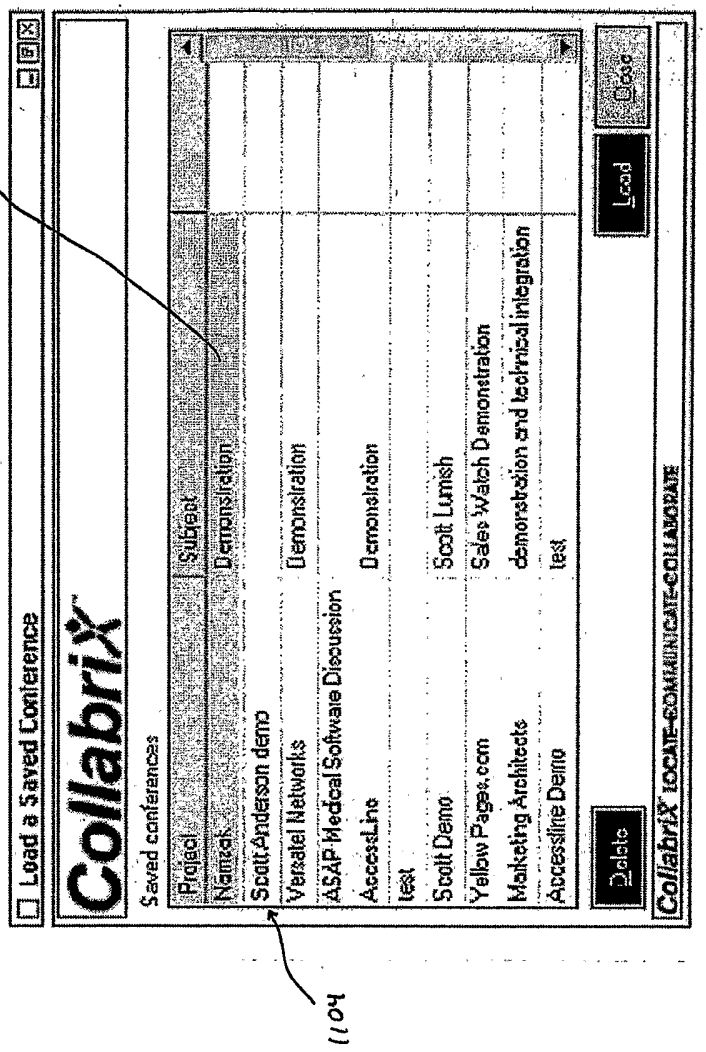

Load a Saved Conference
Collabrix
Saved conferences
Project
Subject
Name
Demonstration
Scott Anderson demo
Versatel Networks
Demonstration
ASAP Medical Software Discussion
AccessLine
Demonstration
test
Scott Demo
Scott Lumish
Yellow Pages.com
Sales Watch Demonstration
Marketing Architects
demonstration and technical integration
Accessline Demo
test
Delete
Load
Close
Collabrix LOCATE-COMMUNICATE-COLLABORATE
1102
1106
1104

Figure 11

Figure 12

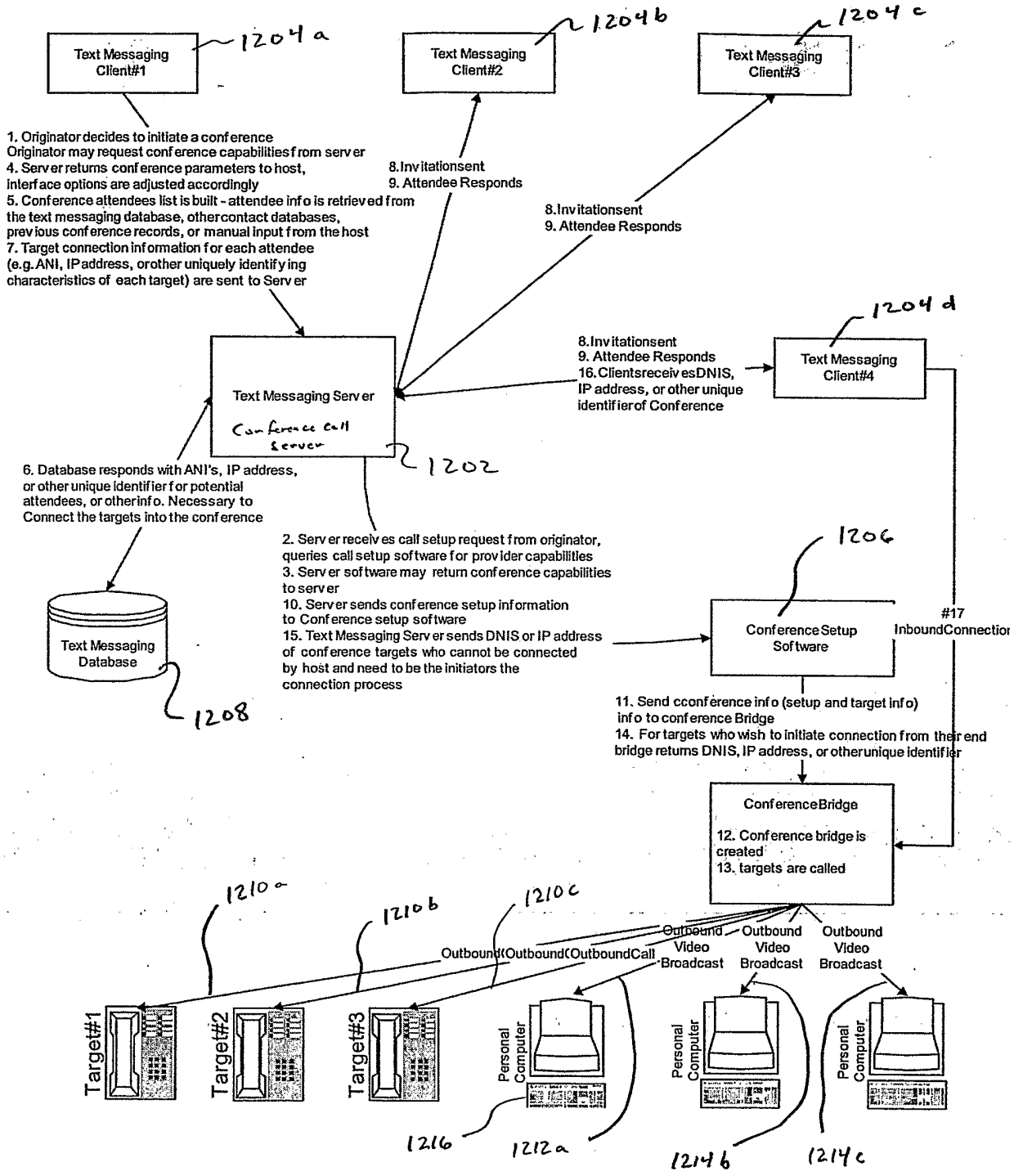

Text Messaging Client#1
1204a
Text Messaging Client#2
1204b
Text Messaging Client#3
1204c
1. Originator decides to initiate a conference
Originator may request conference capabilities from server
4. Server returns conference parameters to host, interface options are adjusted accordingly
5. Conference attendees list is built - attendee info is retrieved from the text messaging database, other contact databases, previous conference records, or manual input from the host
7. Target connection information for each attendee (e.g. ANI, IP address, or other uniquely identifying characteristics of each target) are sent to Server
8. Invitations sent
9. Attendee Responds
8. Invitations sent
9. Attendee Responds
Text Messaging Server
Conference call Server
1202
8. Invitations sent
9. Attendee Responds
16. Clients receives DNIS, IP address, or other unique identifier of Conference
Text Messaging Client#4
1204d
6. Database responds with ANI's, IP address, or other unique identifier for potential attendees, or other info. Necessary to Connect the targets into the conference
Text Messaging Database
1208
2. Server receives call setup request from originator, queries call setup software for provider capabilities
3. Server software may return conference capabilities to server
10. Server sends conference setup information to Conference setup software
15. Text Messaging Server sends DNIS or IP address of conference targets who cannot be connected by host and need to be the initiators the connection process
1206
Conference Setup Software
#17 InboundConnection
11. Send cconference info (setup and target info) info to conference Bridge
14. For targets who wish to initiate connection from their end bridge returns DNIS, IP address, or other unique identifier
Conference Bridge
12. Conference bridge is created
13. targets are called
1210a
1210b
1210c
Outbound Call
Outbound Call
Outbound Call
Outbound Video Broadcast
Outbound Video Broadcast
Outbound Video Broadcast
Target#1
Target#2
Target#3
Personal Computer
Personal Computer
Personal Computer
1216
1212a
1214b
1214c

Figure 13

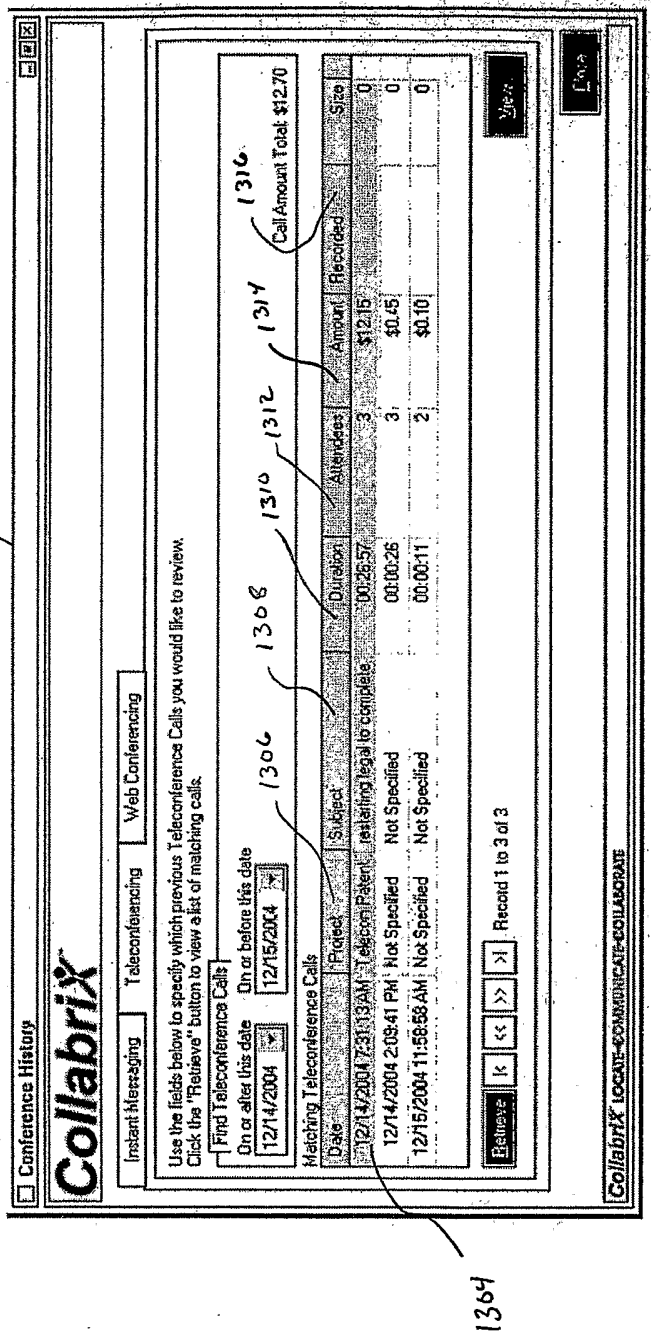

1302
Conference History
Collabrix
Instant Messaging
Teleconferencing
Web Conferencing
Use the fields below to specify which previous Teleconference Calls you would like to review.
Click the "Retrieve" button to view a list of matching calls.
Find Teleconference Calls
On or after this date
12/14/2004
On or before this date
12/15/2004
1306
1308
1310
1312
1314
1316
Call Amount Total: $12.70
Matching Teleconference Calls
Date
Project
Subject
Duration
Attendees
Amount
Recorded
Size
12/14/2004 7:31:13 AM
Telecon Patent
restating legal to complete
00:26:57
3
$12.15
0
12/14/2004 2:09:41 PM
Not Specified
Not Specified
00:00:26
3
$0.45
0
12/15/2004 11:58:58 AM
Not Specified
Not Specified
00:00:11
2
$0.10
0
Retrieve
Record 1 to 3 of 3
View
Close
Collabrix LOCATE-COMMUNICATE-COLLABORATE
1304

Figure 14

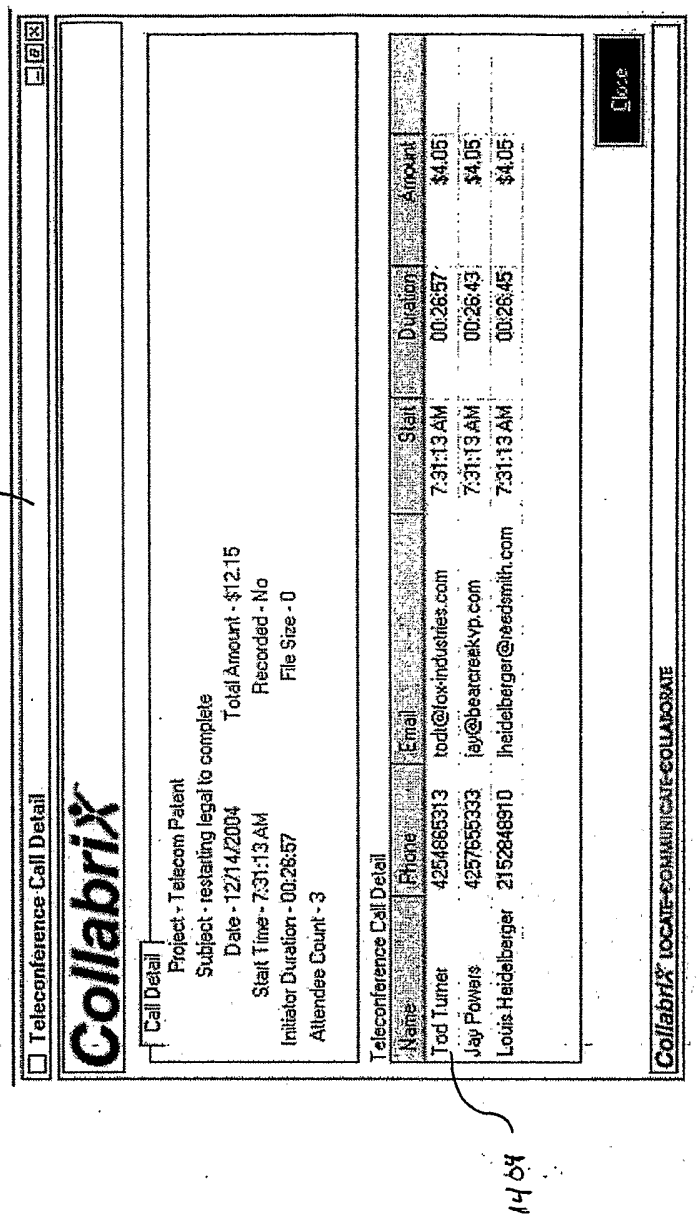
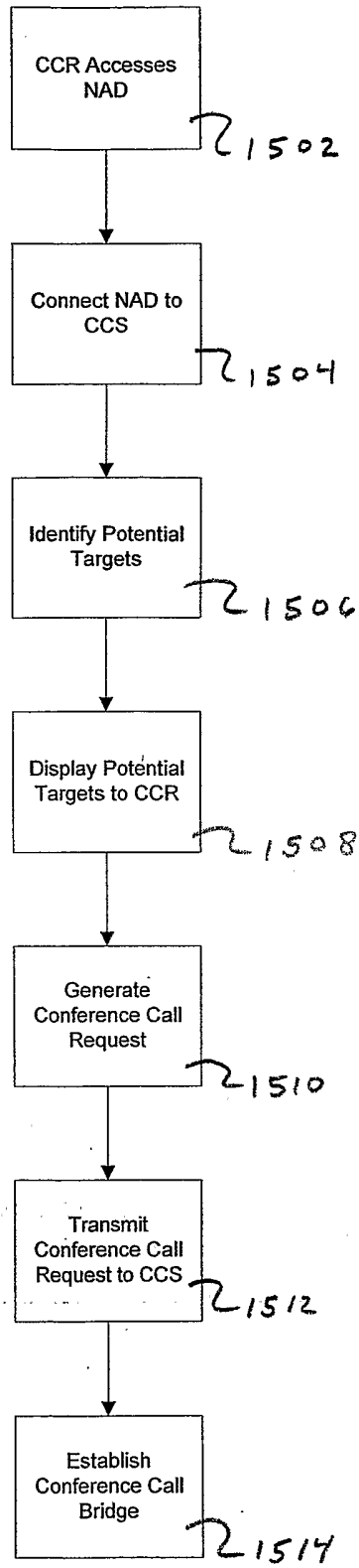

1402
Teleconference Call Detail
Collabrix
Call Detail
Project - Telecom Patent
Subject - restating legal to complete
Date - 12/14/2004
Total Amount - $12.15
Start Time - 7:31:13 AM
Recorded - No
Initiator Duration - 00:26:57
File Size - 0
Attendee Count - 3
Teleconference Call Detail
Name
Phone
Email
Start
Duration
Amount
Tod Turner
4254865313
todt@lox-industries.com
7:31:13 AM
00:26:57
$4.05
Jay Powers
4257655333
jay@bearcreekvp.com
7:31:13 AM
00:26:43
$4.05
Louis Heidelberger
2152848910
lheidelberger@reedsmith.com
7:31:13 AM
00:26:45
$4.05
Close
Collabrix LOCATE-COMMUNICATE-COLLABORATE
1404

Figure 15


CCR Accesses NAD
1502
Connect NAD to CCS
1504
Identify Potential Targets
1506
Display Potential Targets to CCR
1508
Generate Conference Call Request
1510
Transmit Conference Call Request to CCS
1512
Establish Conference Call Bridge
1514