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(54) **METHOD FOR POPULATING A CALLER'S INFORMATION TO A HOST-BASED ADDRESS BOOK**

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Publication Classification

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G06F 7/00 (2006.01)

(52) **U.S. Cl.** **707/101**

(57) **ABSTRACT**

A method and apparatus is provided to populate a caller's information to a host-based address book automatically or by a single click on a virtual button included in a popup window or by a series of simple commands.

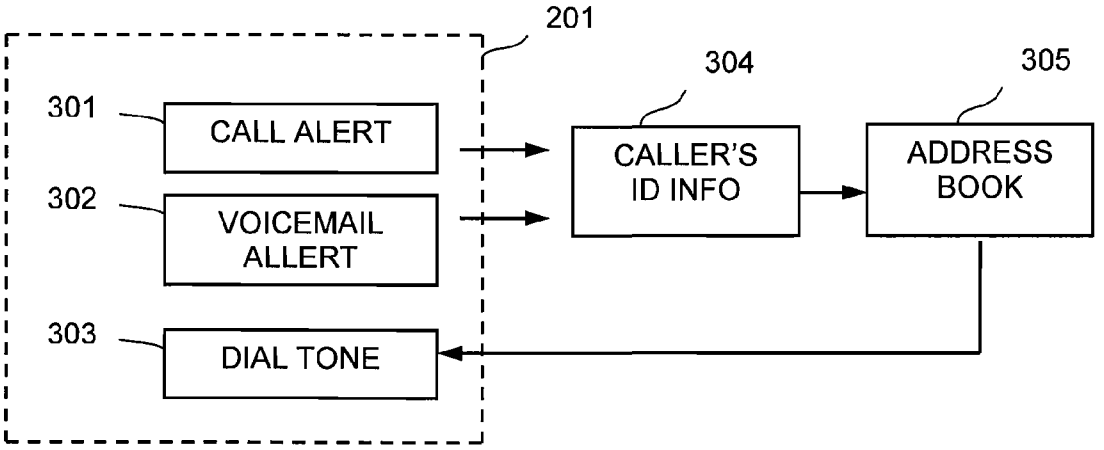


FIG. 1A
(PRIOR ART)

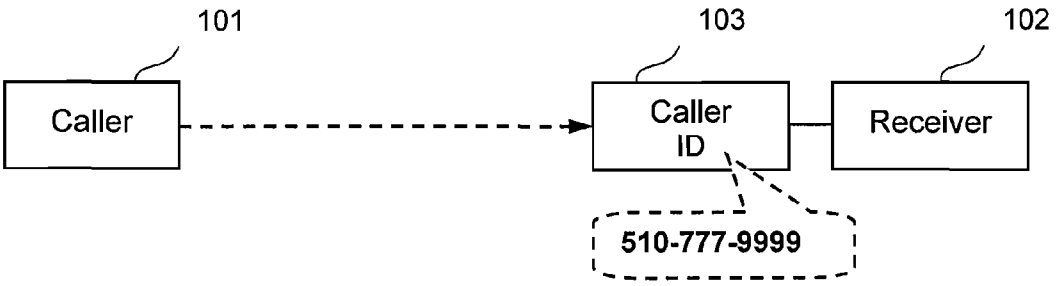


FIG. 1B
(PRIOR ART)

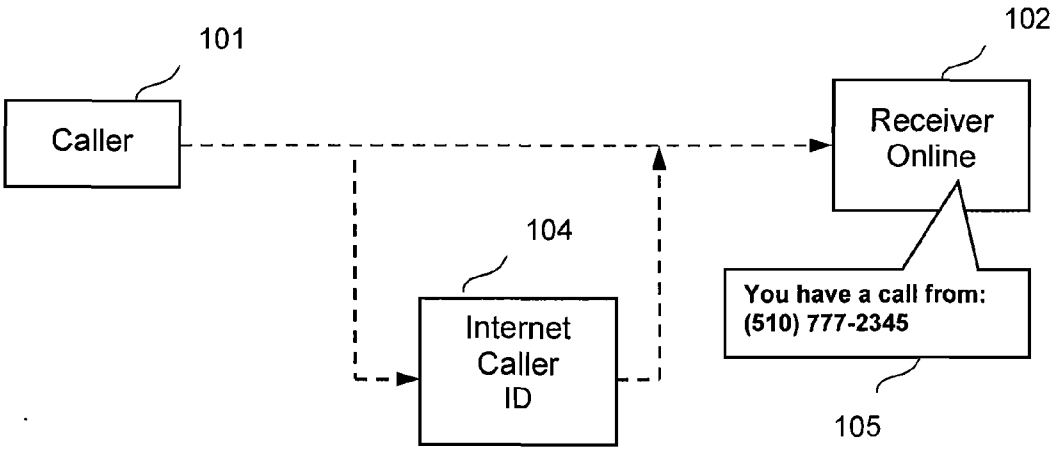


FIG. 2

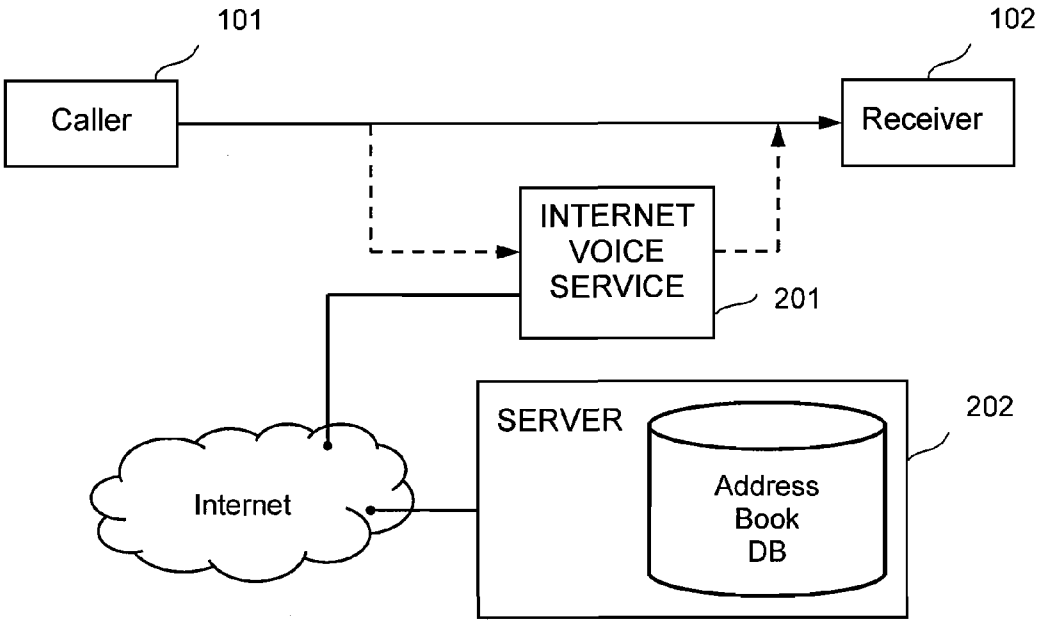

101
102
Caller
Receiver
INTERNET
VOICE
SERVICE
201
SERVER
202
Internet
Address
Book
DB

FIG. 3

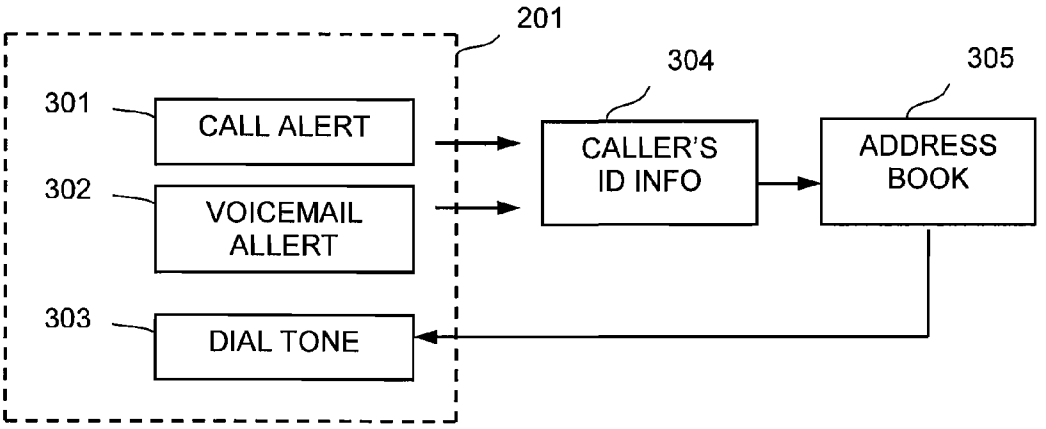

201
304
305
301
CALL ALERT
CALLER'S
ID INFO
ADDRESS
BOOK
302
VOICEMAIL
ALLERT
303
DIAL TONE

FIG. 4

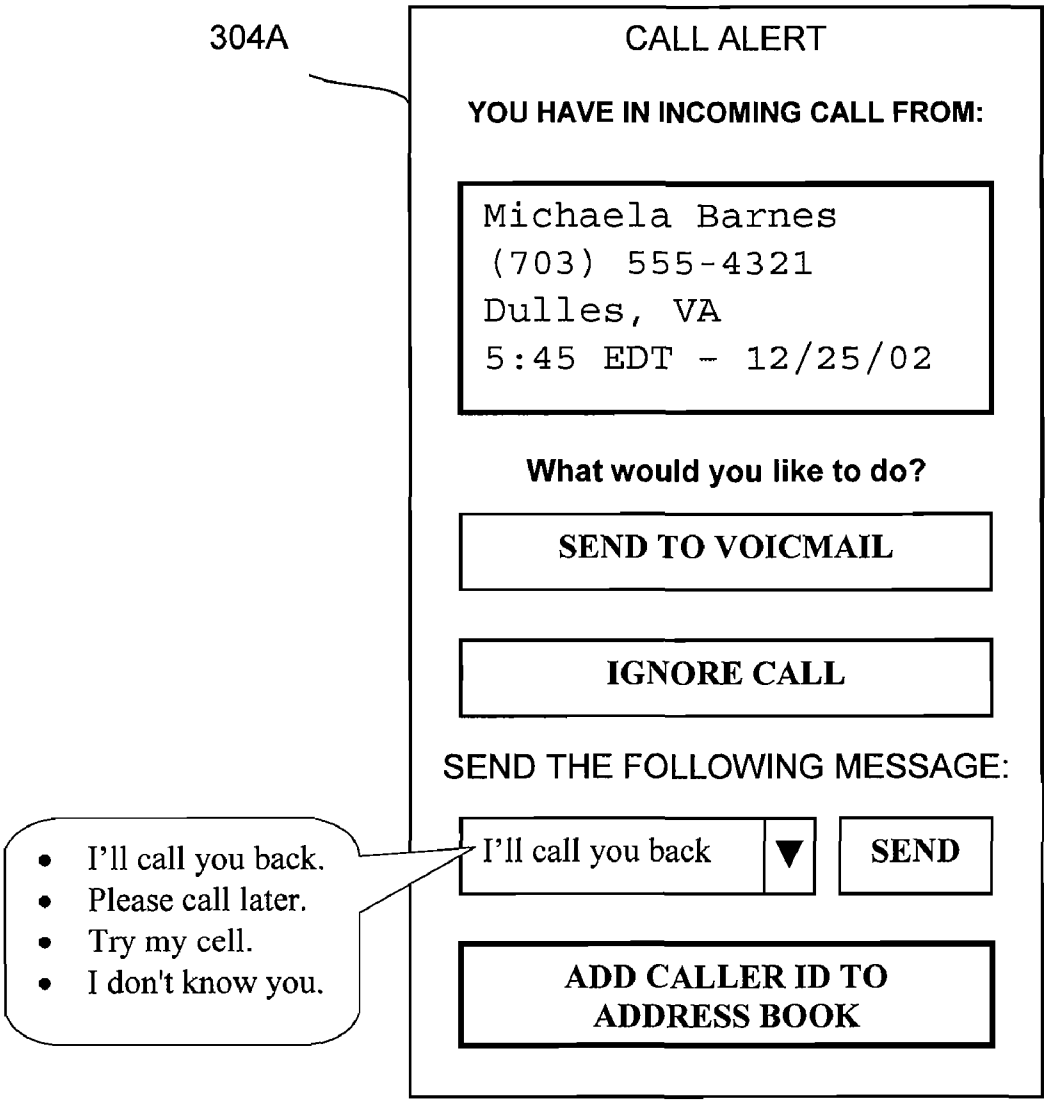

304A
CALL ALERT
YOU HAVE IN INCOMING CALL FROM:
Michaela Barnes
(703) 555-4321
Dulles, VA
5:45 EDT - 12/25/02
What would you like to do?
SEND TO VOICMAIL
IGNORE CALL
SEND THE FOLLOWING MESSAGE:
I'll call you back
SEND
ADD CALLER ID TO ADDRESS BOOK
I'll call you back.
Please call later.
Try my cell.
I don't know you.

FIG. 5

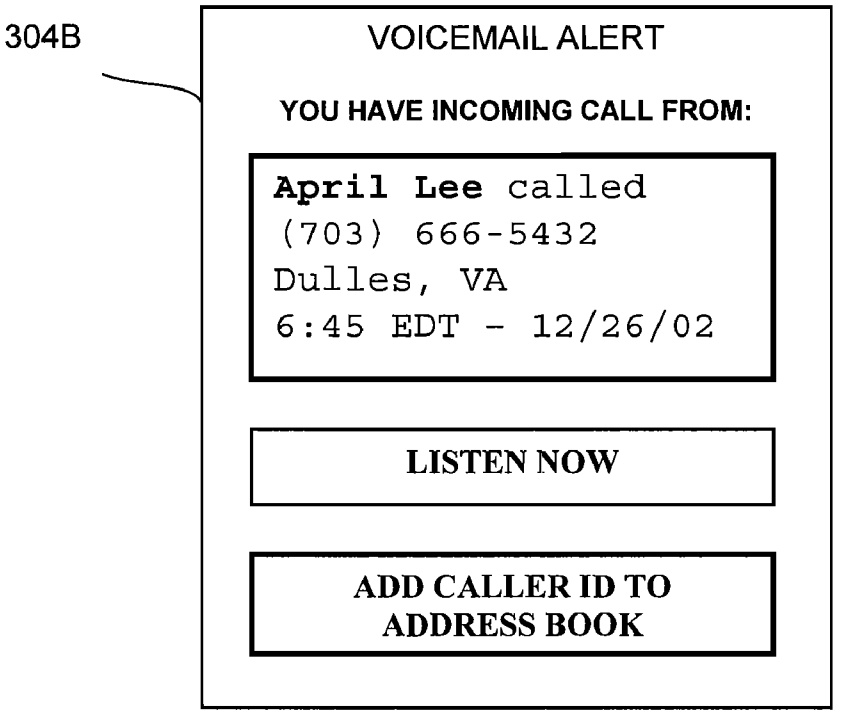


FIG. 6A

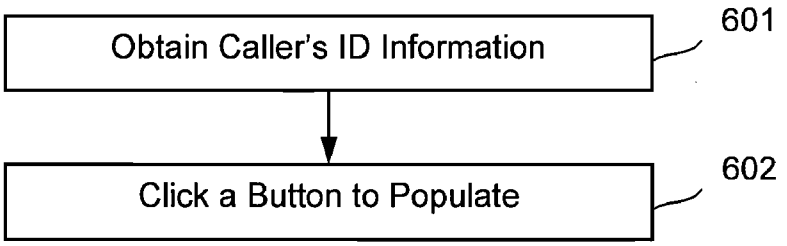


FIG. 6B

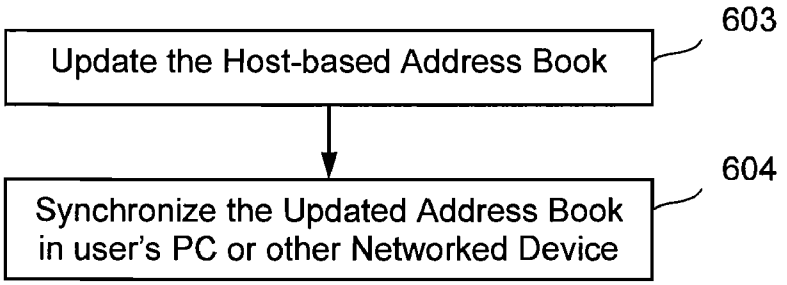


FIG. 7

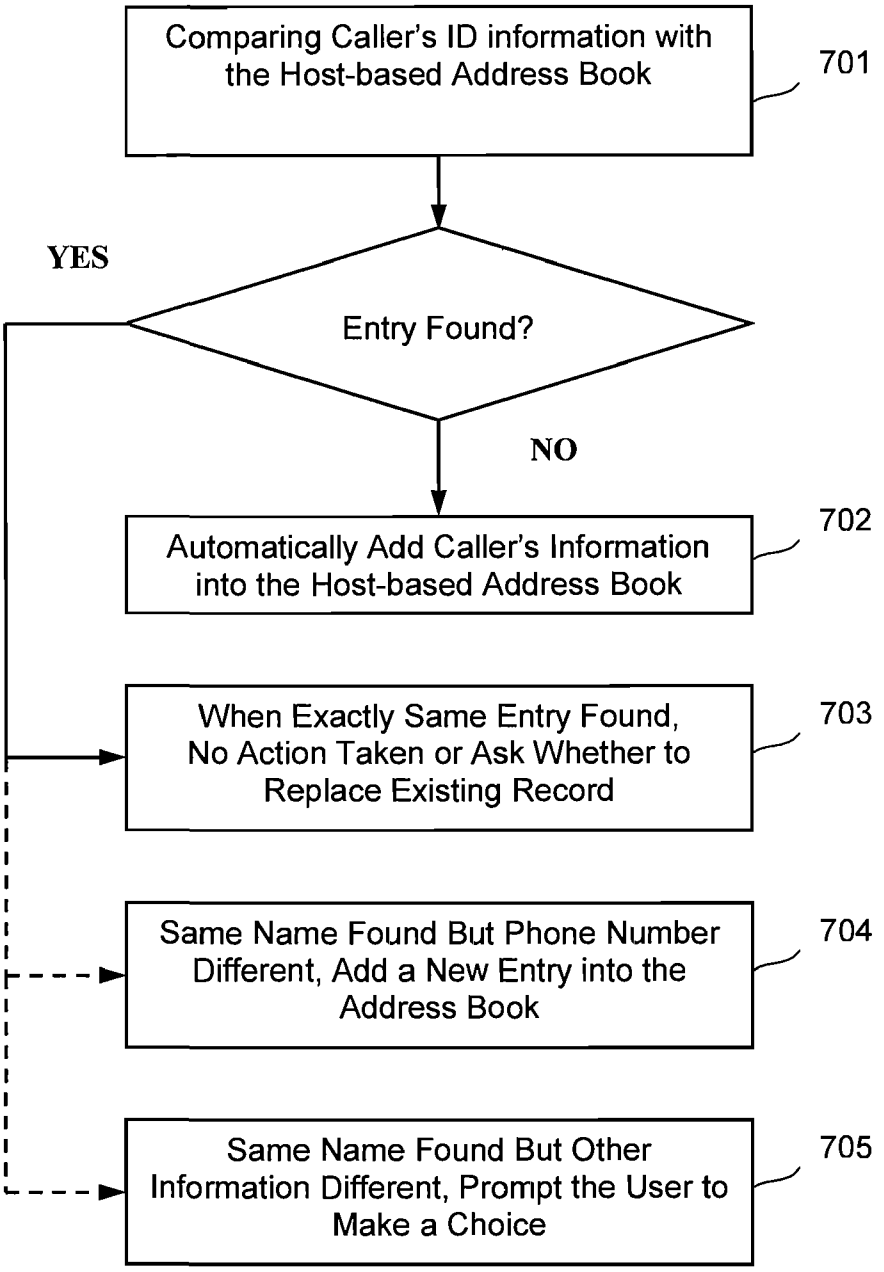
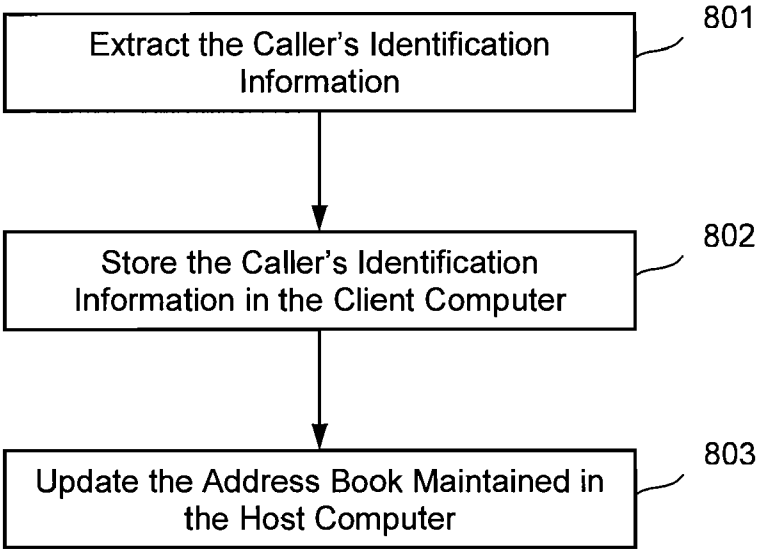

Comparing Caller's ID information with the Host-based Address Book
701
YES
Entry Found?
NO
Automatically Add Caller's Information into the Host-based Address Book
702
When Exactly Same Entry Found, No Action Taken or Ask Whether to Replace Existing Record
703
Same Name Found But Phone Number Different, Add a New Entry into the Address Book
704
Same Name Found But Other Information Different, Prompt the User to Make a Choice
705

FIG. 8


Extract the Caller's Identification Information
801
Store the Caller's Identification Information in the Client Computer
802
Update the Address Book Maintained in the Host Computer
803

METHOD FOR POPULATING A CALLER'S INFORMATION TO A HOST-BASED ADDRESS BOOK

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application is a continuation of the following co-pending application, and claims the benefit thereof in accordance with 35 USC 120: U.S. application Ser. No. 10/354,509 entitled "METHOD OF POPULATING CALLER'S INFORMATION TO A HOST-BASED ADDRESS BOOK" and filed on Jan. 29, 2003 in the names of the present inventor(s). The entirety of the foregoing application is hereby incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Technical Field

[0003] The invention relates generally to Internet communication technology. More particularly, the invention relates to a method and apparatus for populating a caller's identification information to a host-based address book by one or more commands.

[0004] 2. Description of the Prior Art

[0005] Traditionally, if a telephone receiver wants to get a caller's information such as name, telephone number, city and state, etc., he needs to ask the receiver and write down the information manually. "Caller ID" and "Internet Caller ID" technologies have fundamentally changed this situation. As **FIG. 1A** shows, a regular Caller ID **103** is a device connected to a telephone. When the caller **101** called the receiver **102**, the Caller ID **106** displays the caller's telephone number. Using Caller ID, the receiver can recognize who is calling before he decides to pick up the phone. This also works for intra switch. For example, when a call is placed from two people off the same local switch, just like two neighbors, the Caller ID information is still passed.

[0006] **FIG. 1B** illustrates an Internet Caller ID model. When a caller **101** called the receiver **102** while the receiver is online, the Internet Caller ID **104** pops up a message **105** to the receiver **102**. The receiver may have a predetermined period of time, 24 seconds or 4 ring cycles for example, to decide to handle the call. He can decide to answer it, or ignore it, or write down the caller's name and phone number and call her later. If the receiver **102** did not take the call within the predetermined period of time, the caller **101** would be sent to a voice mail if the receiver has one.

[0007] America Online has developed Internet based telephone technologies called AOL Call Alert (ACA) and AOL-Home Voicemail (VOX) which provide various online services including a screen popup showing the number of an incoming call, the name associated with the caller, and the city and state. While a user is online, if a caller calls the user, ACA pops up a message window showing the caller's information. The user may take the call, ignore the call, or click a button to send a prerecorded message. If he decides to ignore the call, the caller is directed to a voice mail. The user may check his voicemail from his e-mail Inbox. He can listen to the voicemail by clicking a button or forward the voicemail to other people. VOX pops up a similar message window as in ACA. In VOX, the voice mail messages are retrievable from the phone set, just like the traditional voice mail.

[0008] Using ACA and VOX, if the user wants to record the caller's ID information into his address book associated with his Internet account, he has to copy the information or type the information into the address book and save it. This is inconvenient and it even may cause errors in transcribing.

[0009] What is desired is a mechanism with which the user may populate the caller's ID information to his host-based address book by one or more simple commands, such as a single click or double click of his mouse.

SUMMARY OF THE INVENTION

[0010] This invention provides a method to use already available caller's ID information in the Internet based telephone service to populate a host based address book. Because the caller's ID information is stored in a host based address book, it is available anywhere, from any phone, in the world if Internet access is possible. Strategically, the more addresses that are populated in an address book, the stickier that account is. If the address book is populated with more phone numbers, then it provides a basis for voice based dialing and other services.

[0011] By giving a simple command, such as a single click on a virtual button in the popup window provided by the Internet based telephone service, the caller's information is automatically populated to the host based address book. The address book stored in the user's PC and PDA can be synchronized whenever the device is connected to the Internet and the user logs on his Internet account. The synchronization may also be done wirelessly on cellular phones via "over the air" (OTA).

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] **FIG. 1A** is schematic block diagram illustrating a regular Caller ID device inserted into a telephone system according to the prior art;

[0013] **FIG. 1B** is schematic block diagram illustrating an Internet Caller ID inserted into the telephone system according to the prior art;

[0014] **FIG. 2** is schematic block diagram illustrating a comprehensive Internet Voice Service inserted into a telephone system according to the invention;

[0015] **FIG. 3** is a block diagram illustrating the scheme to populate a caller's ID information to a host-based address book and dial a call from the address book;

[0016] **FIG. 4** is schematic diagram illustrating a sample popup window supported by Call Alert Service;

[0017] **FIG. 5** is schematic diagram illustrating a sample popup window supported by Voicemail Alert Service;

[0018] **FIG. 6A** is a flow diagram illustrating a method for populating a caller's information to a host-based address book;

[0019] **FIG. 6B** is a flow diagram illustrating futher steps of the method illustrated in **FIG. 6A**;

[0020] **FIG. 7** is a flow diagram illustrating a method according to an equally preferred embodiment of the invention wherein the caller identification information extracted from an inbound call is automatically populated to the host-based address book without the user's intervention; and

[0021] **FIG. 8** is a flow diagram illustrating a method according to another equally preferred embodiment of the invention wherein a client computer first stores the extracted caller identification information before update the host-based address book.

DETAILED DESCRIPTION OF THE INVENTION

[0022] **FIG. 2** is block schematic diagram illustrating a telephone service system wherein an Internet enabled Voice Service **201** is inserted into all inbound and outbound member telephone. The Server **202** maintains in its database a host-based address book for each member.

[0023] **FIG. 3** further illustrates the operations of the system in **FIG. 2**. The Voice Service **201** may comprise a Call Alert (inbound) **301**, a Voicemail Alert (inbound) **302**, and a dial-tone with voice activated dialing (outbound) **303**. Both the Call Alert **301** and the Voicemail Alert **302** provides a Caller ID popup window **304** which shows the realtime phone information including the caller's name, phone number, city and state as well as the time when he called. The user can add the real time phone information to his host based address book by giving a simple command such as clicking a virtual button in the pop up window.

[0024] Call Alert **301** is a service that allows the user to never miss a call when he is online. It notifies the user of incoming calls as they happen when the user residential phone line is connected to the Internet with the Server **202**. Call Alert **301** uses a feature of the user's telephone service known as Call Forward Busy. When someone calls the user when he is online with the Server **202**, the call is directed to the Call Alert. A Caller ID Window **304** pops up on the user's computer screen, notifying him of an incoming call. The window shows him the name, number, city, and state of the calling party (where Caller ID is available). The user is then given several choices on how to handle the call. For examples:

[0025] Take a message. The caller is prompted to leave a message for the user. If a message is left, the user is notified with a message alert window that gives him the option to listen to the message right away. In addition, messages are sent to the user's Inbox, allowing him to listen to, forward and save the message.

[0026] Send a sessage. The user can play **1** of several pre-recorded messages for the caller. For example, the user may choose "I'll call you back", "Please call later", "Try my cell", or "Don't know you". He is able to set a preference for which of the above actions is activated for calls that come in if he is away from the computer or do not see the alert window in time to select an action.

[0027] Ignore call. The caller hears continuous ringing so that the user can stay online in complete privacy.

[0028] To sign up for the call alert service, the user needs to go through a short registration process. To complete the registration, the user needs to call the toll-free number given from his home phone number. This step is required by the local phone company in order to confirm he is the owner of the home phone number he has requested the Call Alert on. Note that if the line the user is online with is the same line that he wants forwarded (which it usually is), then the user is not required to go through the step of calling in. The user's order is then sent to his phone company so they can add a call forwarding feature to his phone line (the feature is "Call Forward Busy"). The Call Forward Busy service forwards incoming calls that receive a busy signal while the user is online, allowing Call Alert to give him notice of the call on his computer screen.

[0029] Call Alert **301** complements the user's answering machine and other networked devices. While the user is online, it handles the busy calls by giving him notice of the calls. While he is offline, it leaves unanswered calls to his answering machine as usual. Any networked PC or TV that is enabled with text voicemail alerts can be programmed to use speech to tell the user the real time caller identification information. This allows the user to hear the caller identification information while he is in the proximity of an enabled PC or TV. While a call is coming in, the user may pick up the phone to hear the name and number of the caller and then decide to accept the call or send it to voicemail, or he can order to add the caller's information to the host-based address book.

[0030] Voicemail Alert **302** is a service that notifies the user of voicemails. The user may check the messages via phone by calling a number or via logging on his account with the Server **202** when the user residential phone line is connected to the Internet. Same as Call Alert **301**, a Caller ID Window **304** pops up on the user's computer screen, notifying him of the name, telephone number, city and state of the calling party. The user's incoming e-mails and voice mails are all stored in his Inbox. The user may listen to the message by simply clicking the button "Listen", or forward the voicemail message to as many people as he likes, just like forwarding an e-mail, all at the same time. The user may also save the voicemail message for future review.

[0031] Address Book Dialing **303** is a service that allows the user to use the speech recognition of the voice platform as the user interface to initiate a telephone call to a person listed in the host-based address book. For example, a user may simply say "Call Mom" and his Mom's number is dialed.

[0032] **FIG. 4** is a schematic diagram illustrating a sample Call Alert popup window **304**A. The user can add the caller's information to his host based address book by simply clicking a button called, for example, "Add Caller ID To Address Book". The user may give a series of commands to complete the population. For example, by typing and clicking, the user modifies and adds the information to be populated. Alternatively, the system may complete the population automatically without the user's intervention whenever a new caller is identified or a registered caller's new data such as phone number is identified.

[0033] **FIG. 5** is a schematic diagram illustrating a sample Voice Alert popup window **304**B. Alternatively, an Avral™ or other technique may be used to alert the user. The user can add the caller's information to his host based address book by simply clicking a button called, for example, "Add Caller ID To Address Book". The user may give a series of commands to complete the population. For example, by typing and clicking, the user modifies and adds the information to be populated. Alternatively, the system may complete the population automatically without the user's intervention whenever a new caller is identified or a regis-

tered caller's new data such as phone number is identified, or the user may populate such information by voice command.

[0034] **FIG. 6A** is a flow diagram illustrating a method for populating a caller's information to a host-based address book according to the first preferred embodiment of the invention. The method comproses the following steps:

[0035] Step **601**: Obtaining the caller's identification information from an incoming call signal. The caller's identification information may include but is not limited to, caller's name, telephone number, city and state where the caller called from, and

[0036] Step **602**: Clicking a virtual button to give a command to populate the obtained caller's identification information to a host-based address book. The user may give further commands to modify the information to be populated.

[0037] **FIG. 6B** is a flow diagram illustrating further steps of Step **602** described above:

[0038] Step **603**: Updating the host-based address book via the computer which is connected to the Internet via the telephone line; and

[0039] Step **604**: Synchronizing the address books stored in any device such as PC, PDA, cellular phone, etc., which are connected to the Internet.

[0040] **FIG. 7** is a flow diagram illustrating a method according to an equally preferred embodiment of the invention wherein the caller identification information extracted from an inbound call is automatically populated to the host-based address book without the user's intervention. The method comprises the steps of:

[0041] Step **701**: Compare a caller's ID information with the host-based address book;

[0042] Step **702**: If the caller's name is not found from the address book, automatically add his information into the address book;

[0043] Step **703**: If an exactly same entry is found in the address, no action is needed, or simply ask the user whether he wants to replace the existing record;

[0044] Step **704**: If the caller's name is found but the telephone number under the name in the address book is different from that of the caller's, automatically add the the caller's information into the address book as a new entry;

[0045] Step **705**: Alternatively, if the caller's name is found but other information under the name in the address book is different from that of the caller's, pop up a prompt window asking the user to make other choices.

[0046] **FIG. 8** is a flow diagram illustrating a method according to another equally preferred embodiment of the invention. The method comprises the steps of:

[0047] Step **801**: Extracting a caller's identification information transmitted in conjunction with an attempted initiation of a telephone call to a telephone line connected to a receiver's telephone, the telephone line being connected to a client computer with which the user may access his Internet account maintained by a host computer;

[0048] Step **802**: Store the caller's identification information into the client computer; and

[0049] Step **803**: Update the user's address book associated with his Internet account by the client computer based on the stored caller's identification information.

[0050] The methods described above may further include a step for automatically updating individual address changes in every member's address book. This is based on a publish and subscribe model, i.e. there is only one database record of the address that many people subscribe to. Family, friends, business associates can link to a user's address, automatically get an update to their host address book, and then have the update synchronized to all PIMs and PDAs. Given the member information already on file, the connected address book may be sent to millions of members. The addresses for all the members in a member's buddy list can also be populated.

[0051] Although the invention is described herein with reference to the preferred embodiment, one skilled in the art will readily appreciate that other applications may be substituted for those set forth herein without departing from the spirit and scope of the present invention.

[0052] Accordingly, the invention should only be limited by the Claims included below.

1. A method for populating a personal online contacts directory associated with a user's online services account, where an online services provider provides multiple Internet accessible, user configurable, personal online contacts directories each associated with a user's online services account, and where service has been established for at least some users' telephone lines such that the online services provider is notified of incoming calls to each said line, the method comprising operations of:

responsive to the online services provider receiving an indication of an incoming call placed to a user, where the indication occurs while the user is logged-in to the online services provider, performing operations comprising:

the online services provider transmitting a substantially real-time interactive indication of the incoming call to the user via online connection by which the user is logged into to the online services provider;

the online services provider utilizing caller-ID data received in conjunction with the incoming call to extract information identifying a party who placed the incoming call;

responsive to user direction submitted via the interactive indication of the incoming call, the online services provider updating the user's personal online contacts directory to include at least part of the extracted information.

2. The method of claim 1, where service has been established for users' telephone lines such that the online services provider is notified of incoming calls to each said line under prescribed conditions.

3. The method of claim 2, the prescribed conditions comprising incoming calls to lines occurring while the lines are busy.

4. The method of claim 2, the prescribed conditions comprising incoming calls going unanswered by the users.

5. The method of claim 1, where the operation of the online services provider receiving an indication of an incoming call placed to a user comprises the online services provider receiving redirection of the incoming call.

6. The method of claim 1, where the operation of online services provider receiving an indication of an incoming call placed to a user comprises the online services provider receiving redirection of the incoming call because the user's line is busy.

7. The method of claim 1, where the operation of the online services provider transmitting an interactive indication of the incoming call to the user comprises:

causing the user's computer to display the indication.

8. The method of claim 7, where the operation of the online services provider updating the user's personal online contacts directory to include at least part of the extracted information occurs responsive to the user selecting a prescribed graphical feature of the displayed indication.

9. A method for populating a personal online contacts directory associated with a user's online services account, where an online services provider provides multiple Internet accessible, user configurable, personal online contacts directories each associated with a user's online services account, and where service has been established for at least some users' telephone lines such that the online services provider is notified of incoming calls to each said line, the method comprising operations of:

responsive to the online services provider receiving an indication of an incoming call placed to a user, the online services provider utilizing caller-ID data received in conjunction with the incoming call to extract information identifying a party who placed the incoming call;

responsive to the online services provider receiving an indication that the party who placed the incoming call left a voicemail message, the online services provider performing operations comprising:

while the user is logged-in to the online services provider, transmitting an interactive indication of the voicemail message to the user via online connection by which the user is logged-in to the online services provider;

responsive to user direction via the interactive indication of the voicemail message, the online services provider updating the user's personal online contacts directory to include at least part of the extracted information.

10. The method of claim 9, where service has been established for users' telephone lines such that the online services provider is notified of incoming calls to each said line under prescribed conditions.

11. The method of claim 10, the prescribed conditions comprising incoming calls to lines occurring while the lines are busy.

12. The method of claim 10, the prescribed conditions comprising incoming calls going unanswered by the users.

13. The method of claim 9, where the online services provider receiving an indication of an incoming call placed to a user comprises the online services provider receiving redirection of the incoming call.

14. The method of claim 9, where the online services provider receiving an indication of an incoming call placed to a user comprises the online services provider receiving redirection of the incoming call because the user's line is busy.

15. The method of claim 9, where the online services provider receiving an indication of an incoming call placed to a user comprises the online services provider receiving redirection of the incoming call because the incoming call goes unanswered by the user.

16. The method of claim 9, where the operation of the online services provider transmitting an interactive indication of the voicemail message to the user comprises:

causing the user's computer to display the indication.

17. The method of claim 16, where the operation of the online services provider updating the user's personal online contacts directory to include at least part of the extracted information occurs responsive to the user selecting a prescribed graphical feature of the displayed indication.

* * * * *