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(54) **COMMUNICATIONS SYSTEM WITH RADIO DEVICE AND SERVER**

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(57) **ABSTRACT**

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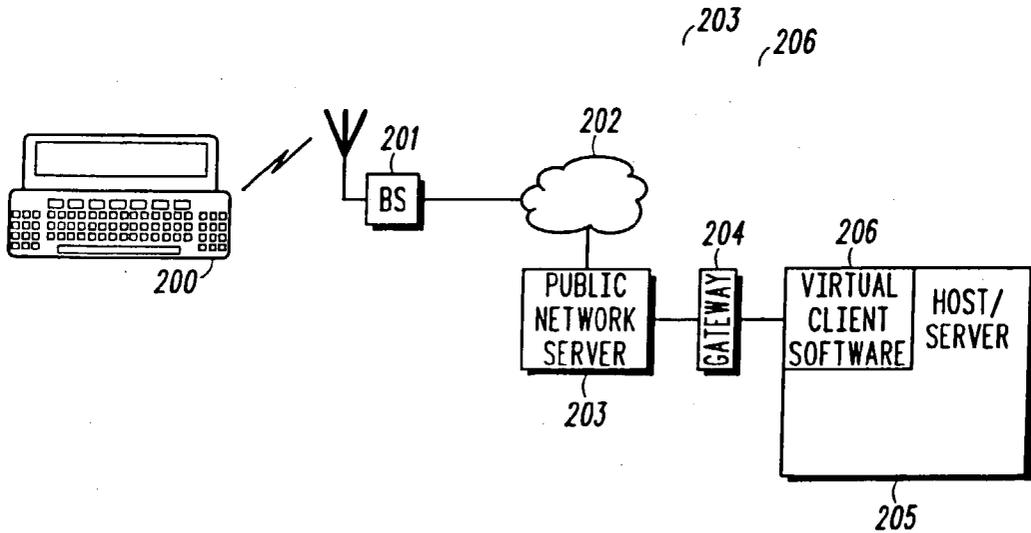
A communications system having a first server (205) with an electronic mail (e-mail) database for managing e-mail accounts, for storing radio device addresses associated with those accounts, and for storing electronic mail messages associated with those accounts. Each message has a header and text. A gateway connects the first server to a two-way radio network. A radio device (200) has an electronic messaging application. The radio device is capable of two-way communication over the two-way radio network. The first server comprises message handling software arranged to send, to the radio device, a portion of a message of a predetermined size, including a header portion and a text portion. The radio device (200) can request more of a message.

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Related U.S. Application Data

(60) Division of application No. 09/645,832, filed on Aug. 25, 2000, which is a continuation of application No. 09/013,439, filed on Jan. 26, 1998, now Pat. No. 6,157,630.



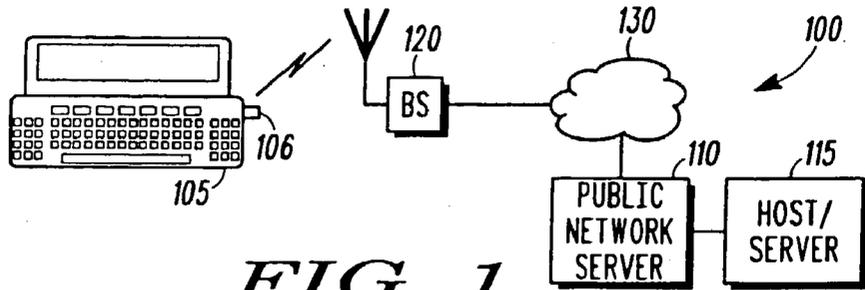


FIG. 1

— PRIOR ART —

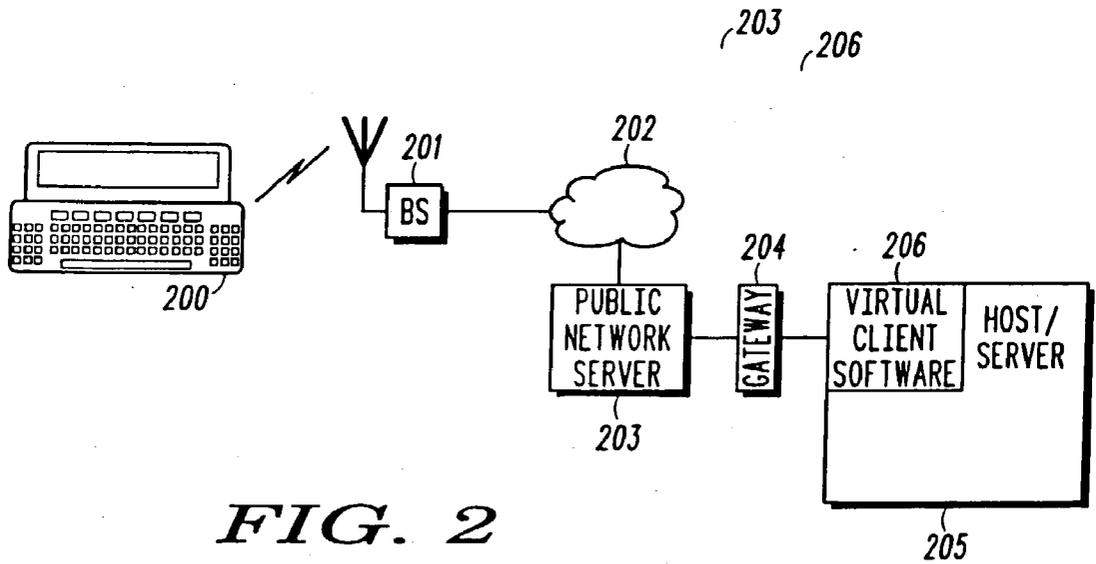


FIG. 2

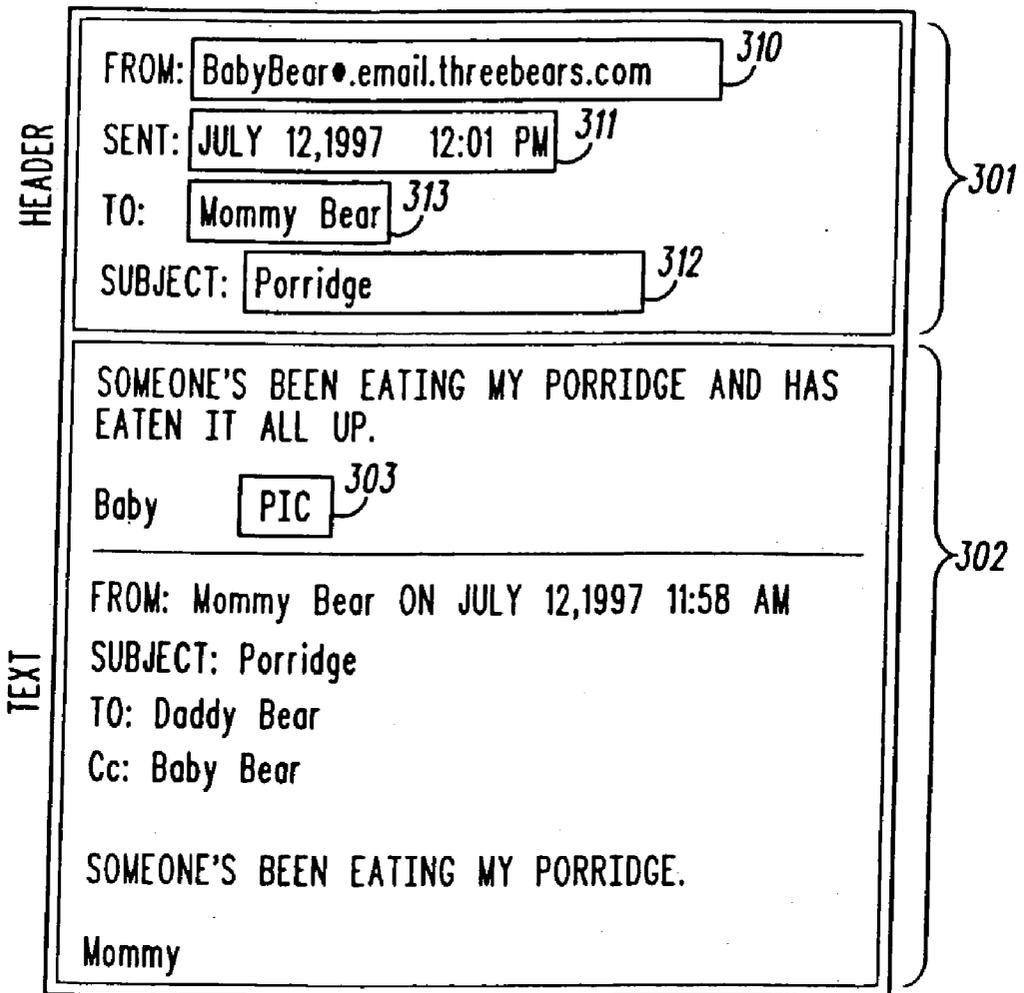


FIG. 3

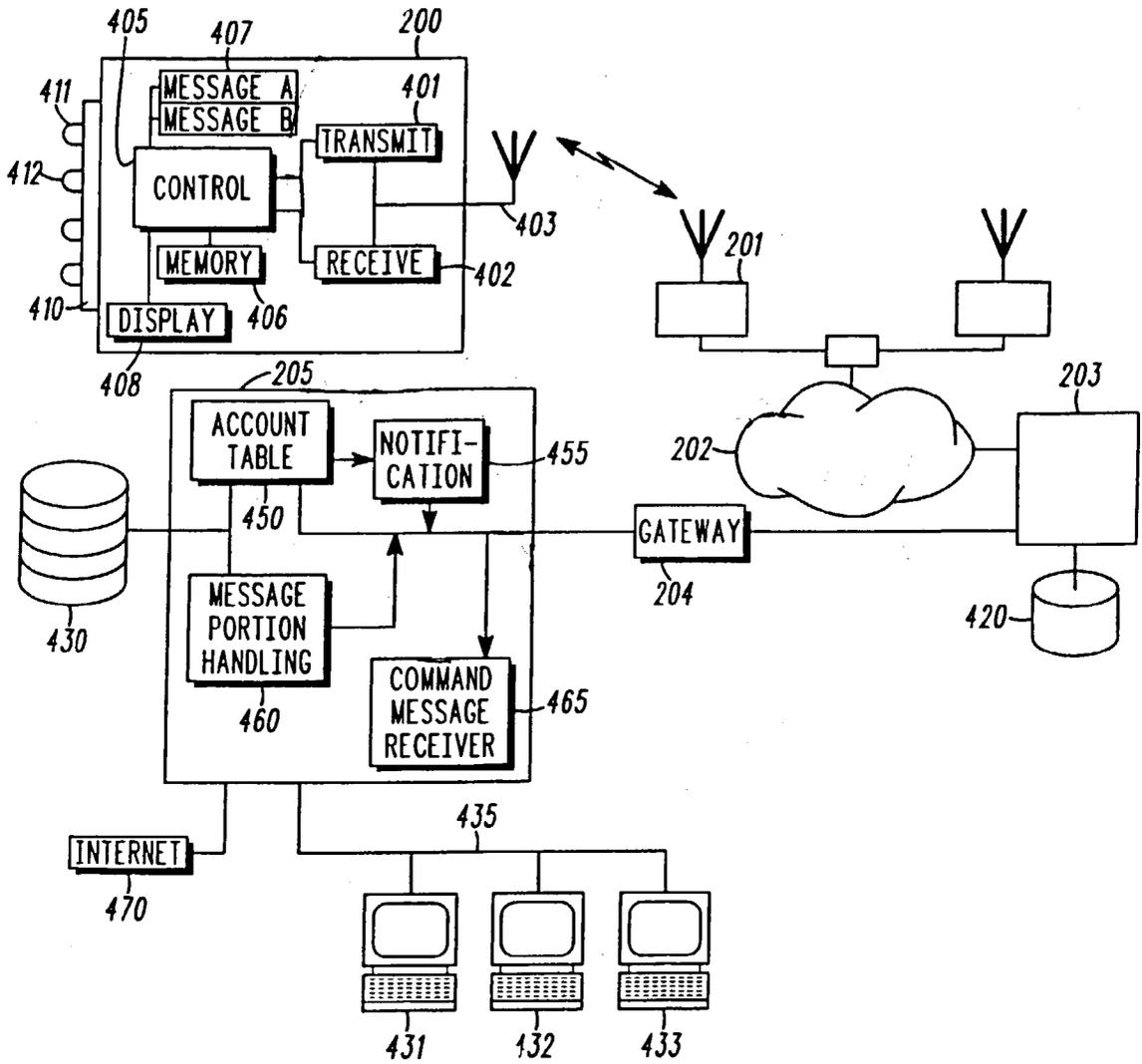
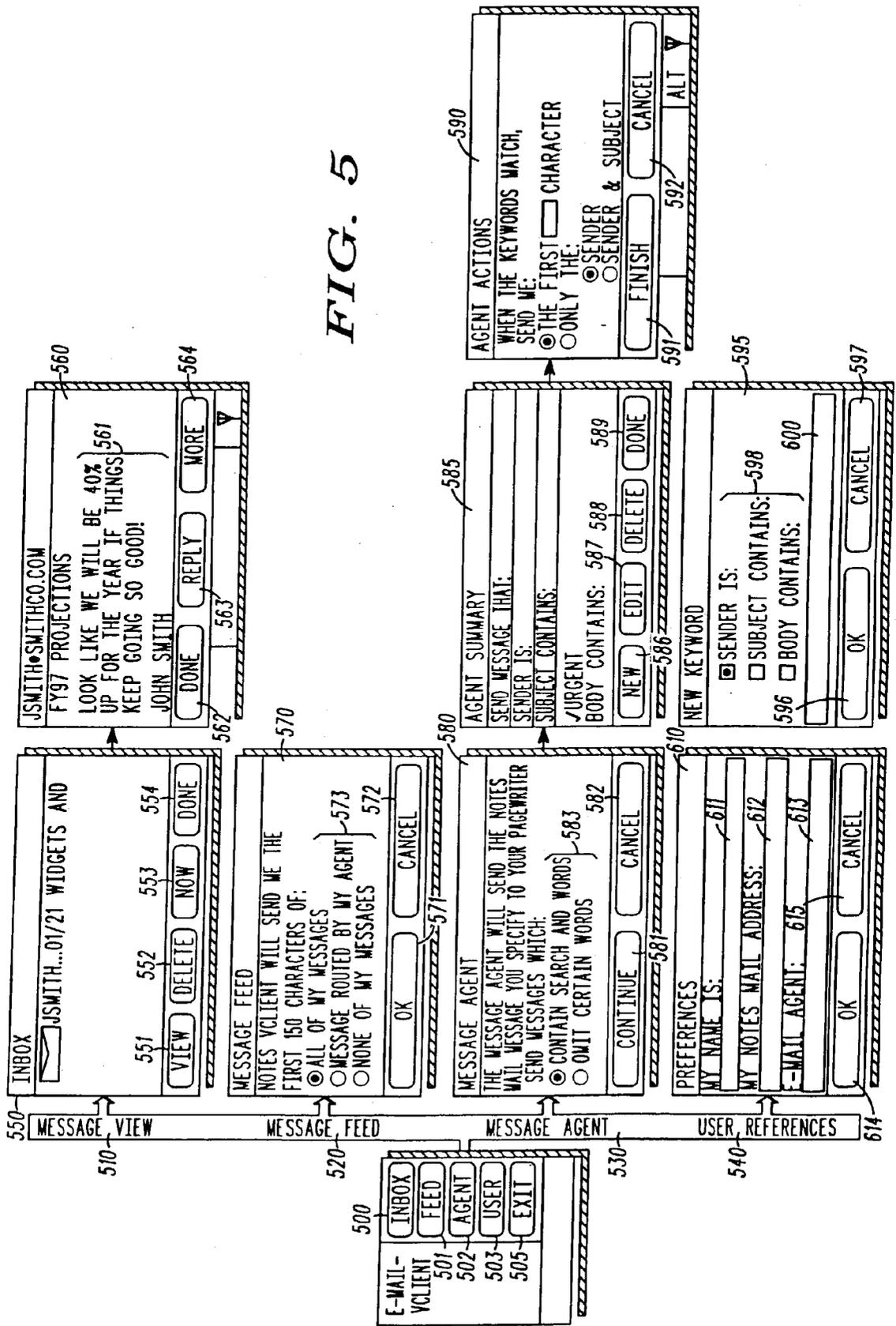


FIG. 4



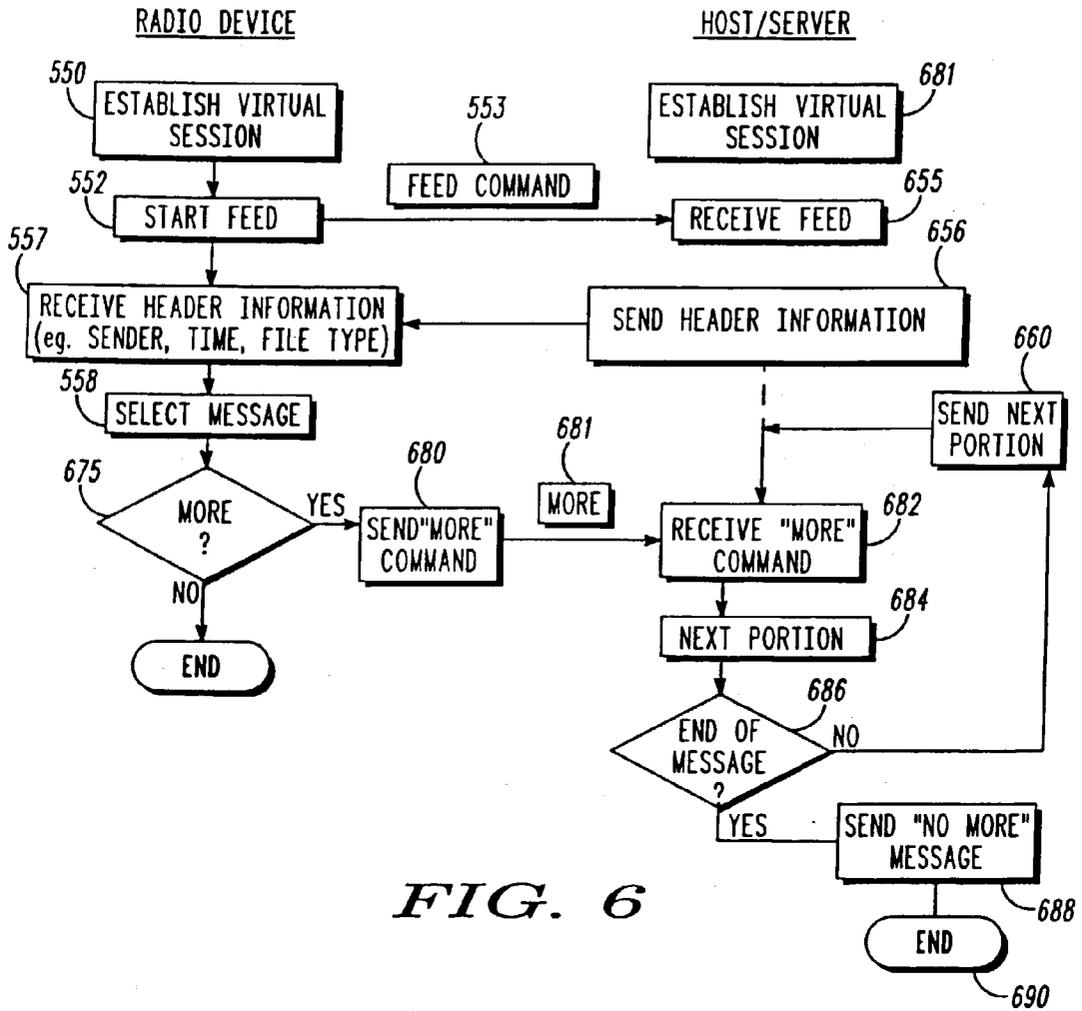


FIG. 6

COMMUNICATIONS SYSTEM WITH RADIO DEVICE AND SERVER

FIELD OF THE INVENTION

[0001] This invention relates to a communications system with a radio device and a server. Separately and in addition, it relates to a radio device (e.g., a pager) for such a system having certain software referred to as "Client" software and a server having certain software referred to as "Server" software. A radio communications system such as (but not limited to) an asymmetric public two-way paging system connects the radio device and the server.

BACKGROUND OF THE INVENTION

[0002] There is an increasing demand for businessmen, professionals and ordinary consumers to have greater access to communications on the move. Paging systems have become very popular for communications, enabling a user to carry a lightweight, low cost device that has good wide-area and in-building penetration. In the past, paging systems have suffered from the disadvantage of being one-way only, but recently Motorola, Inc. has introduced the "Reflex" asymmetric two-way paging system which enables a user to respond to incoming messages. Asymmetric systems are particularly beneficial for sending out to the pager volumes of data that exceed the volumes expected to be sent back. They are particularly suited to the sending back of short acknowledgments or tags identifying "canned" responses (such as "OK" or "I'm unable to reply right now").

[0003] Simultaneously with the development of asymmetric two-way paging systems, symmetric two-way data systems such as the 'ARDIS' (trademark) system have developed, enabling significant volumes of data to be sent in both directions over a nationwide public data system.

[0004] It is known to provide remote electronic mail (e-mail) connection between a private e-mail server and a portable computer using a two-way radio modem such as a "Personal Messenger 100D" (trademark) modem manufactured by Motorola, Inc. Such an arrangement is shown in FIG. 1. The modem 106 is plugged into a PCMCIA slot of a portable computer 105 and a two-way connection to the private e-mail server is established (almost like establishment of a two-way telephone modem link) between a portable computer and its host server. The connection is via a base station 120 and a public network server 110 of the public two-way radio network 130. In such an arrangement, the computer behaves just as if it were connected by a wireless local area network (LAN) to the server, except that the connection is slow (low band width and high latency). A screen will appear on the portable computer 105 showing the entire contents of an "in" box maintained at the host server 115, with message types, sender names, times of receipt and the like. By selecting a particular message (using a mouse or otherwise), a command is sent to the server causing the entire message to be downloaded to the portable computer.

[0005] Such two-way radio messaging systems tend to be expensive, partly because of the cost of providing a significant bandwidth radio channel which is largely dedicated (at a given time) to the user. Another contribution to the high cost is the separate modem and portable computer.

[0006] There is a need for a convenient and inexpensive way to access a private e-mail server over a radio system.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 shows a prior art two-way radio communication system.

[0008] FIG. 2 shows a two-way radio communication system in accordance with the present invention.

[0009] FIG. 3 shows an example of an e-mail message for purposes of illustration.

[0010] FIG. 4 shows details of the communication system of FIG. 2.

[0011] FIG. 5 shows screen shots of screens that appear on a display of the radio device of FIG. 2.

[0012] FIG. 6 shows a flow diagram illustrating certain operations in the radio device of FIG. 2.

[0013] FIG. 7 shows a flow diagram illustrating the steps of establishing a virtual session between a radio device and a host/server.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0014] Referring to FIG. 2, a radio communications system is shown comprising a radio device 200 in the form of a two-way pager, preferably a PageWriter (trademark) pager available from Motorola, Inc. at 200 North Point Center East Street 100, Alpharetta, Ga., 30202, USA. The radio device 200 is in communication with a base station 201 of a public asymmetric two-way paging system 202, having a public network server 203. Such a system is provided, for example, under the trademark Skytel. Connected to the public network server 203 via a gateway 204 is a private network server 205, referred to as a "host" server. The term "host" indicates that certain communications devices are associated with the host server 205, i.e., are registered with that host server. Such communication devices include LAW connected terminals (described below) and include the radio device 200. The host sever 205 has virtual-client software 206, described in greater detail below.

[0015] The radio device 200 may be a two-way page a portable computer with radio capability, for example, a portable computer having a modem. The network 202 is not necessarily an asymmetric paging network, but can alternatively be a symmetric radio network, such as the "ARDIS" network. The base station 201 is shown for illustration only. The network 202 will in fact have many base stations dispersed around the nation. The network 202 is shown as having a single base station 201 for two-way communication with the radio device 200, but an alternative arrangement is possible in which there are many more receivers than transmitters in the network 202. The gateway 204 between the public network server 203 and the host server 205 is preferably an internet connection, but can take many forms. The connection may be a dedicated connection, or a public ISDN connection, or an analog modem connection. The gateway 204 could even be a radio connection into the network 202.

[0016] Referring to FIG. 3, an example of an electronic mail (e-mail) message is shown. The message comprises a header 301 and a body or text 302. The message is also shown as having an attachment 303, for example a picture.

Within the header there is a sender field **310**, a date and time field **311** and a subject field **312**. There is also an address field illustrated here as field **313**. A further field is typically available (but not shown in **FIG. 3**), this being a cc field, indicating other recipients of the message. The attachment **303** can be included within the body of the message, or there may be an information field in the header **301**, indicating the existence of the attachment and (optionally) the nature of the attachment.

[**0017**] In a prior art e-mail system using a radio network connection, it is known to present information from the header **301** at a radio device, in the form of a summary page summarizing, typically in column form, senders of messages, times of receipt and subject. It is a problem that the text **302** of a message can be very long. In the example given in **FIG. 3**, there is a message from Baby Bear to Mommy Bear, but as a continuation of this message, there is an earlier message from Mommy Bear to Daddy Bear. It is quite typical for multiple messages to be stacked together in a lengthy text. To send an entire message to a radio device can result in extensive and unnecessary usage of the limited and valuable capacity of the radio channel. Additionally, it is illustrated in **FIG. 3** that there is an attachment **303**, which is a picture imbedded in the body of the text **302**. Attachments are commonly even larger than the text in which they are embodied. Pictures, for example, represent very large data files. The recipient of the message may not need the attachment or may not have the capability of viewing the attachment.

[**0018**] The manner in which a message such as the message shown in **FIG. 3** is handled by the system illustrated in **FIG. 2** will be described, and for the purposes of description, further details of the system on **FIG. 2** are described with reference to **FIG. 4**. In the following description, elements already described with reference to **FIG. 2** are not described again.

[**0019**] Referring to the radio device **200** illustrated in **FIG. 4**, it is shown as having a transmitter **401** and receiver **402** coupled to an antenna **403** (e.g., using a duplexer or antenna switch, neither of which is illustrated). The transmitter **401** and receiver **402** are connected to a control circuit **405**, preferably a microprocessor. The control circuit **405**, has associated memory **406** and has prestored message memory **407**. The memory **406** and the associated message memory **407** can indeed be the same memory circuit. Also shown connected to the control circuit **405** is display **408** and a keyboard **410**. Due to the small size of the device **200**, the keyboard **410** is necessarily very restricted. It preferably has a key for each letter of the alphabet, but can be limited to fewer keys even than this. In a selected mode of operation of the device **200**, selected keys of the keyboard **410**, e.g. keys **411** and **412**, correspond to selected messages in the message store **407**.

[**0020**] Referring to the host server **205**, there is an e-mail database **430**, forming part of the host server **205** and there are computer terminals **431**, **432** and **433** connected to the server **205** via a local area network **435**. The terminals **431** to **433** and the local area network **435** are optional, but are included to assist in an explanation of the invention.

[**0021**] The host server **205** has virtual client software **206** which interacts with client software in the radio device **200**. The virtual client software includes an account table **450**, in

which account numbers or identifiers in the e-mail server database **430** are correlated with account numbers or identifiers in the public network server **203**. Also included in the virtual client software of the host server **205** are a notification agent **455**, a message portion handling routine **460** and a command message receiver **465**. In operation, users can use the terminals **431** to **433** to generate e-mail messages and send these e-mail messages to each other and to other recipients outside the local area network **435**. Where messages are to be sent to other recipients, they can be sent by the server **205** to internet connection **470**. A user of a terminal, e.g., terminal **431**, can view a page which displays summary information of all his incoming messages and a page summarizing all his outgoing messages. Each of these pages shows the receiver (or sender) of the message, the time and the subject header. This information is presented to the terminal from the e-mail database **430**. In the database **430**, there is a section allocated to each user. Sections of the database **430** are identified by user account number. Thus, for example, referring to the message of **FIG. 3**, each of Daddy Bear, Mommy Bear and Baby Bear has an account in the database **430**. Each account is identified (in the example given) simply by the account holder's name. These accounts can be referred to as e-mail accounts. If a user of a terminal, e.g., terminal **431**, wishes to see a particular message in his account, he can select that message and the server **205** will deliver the entire message, including the entire header and the entire text and all attachments from the database **430** to the terminal **431**.

[**0022**] Referring now to the radio device **200**, this device is able to act in almost the same manner as a terminal **431**, but with certain differences in function and user interaction as described below. Radio device **200** first establishes a virtual session with server **205** in a manner described in U.S. Pat. No. 5,771,353 to Eggleston, et al., issued on Jun. 23, 1998 and assigned to the assignee of the present invention. That application is incorporated herein by reference. In the course of establishing a virtual session, device **200** sends a message directed at server **205** indicating the e-mail account in server database **430** to which device **200** wishes to have access. In so doing, a correlation is entered into account table **450** correlating the e-mail account number or identifier with the paging network address of the pager **200**.

[**0023**] A process by which a virtual session is established between the radio device **200** and host server **205** is illustrated in the flow chart embodiment of **FIG. 7**. This process typically begins with a user event, such as instantiation (forming) of a communications object at the radio device **200** and sending a registration message (steps **701-702**). Alternatively, the infrastructure could initiate the communications by sending a page or the like requesting the radio device **200** to register (for example, when the radio device **200** has registered with the two way paging system **202** but not yet requested registration with the host server **205**). In any event, once a registration message is received by the host server **205** in step **703**, the host server **205** preferably authenticates and otherwise qualifies the radio device **205** in steps **704** and **705**. Upon successful authentication, the host server **205** instantiates a communications session object (CSO) including client parameters retrieved from an inactive client parameter store, as modified by the user in his registration or subsequent messages (step **706**). These parameters include at a minimum client (e.g., radio device) identifiers, but may also include additional preferences

based on the type of communications involved. Following instantiation at the host server **205**, a response message, e.g., a further registration message, is sent to the radio device **200**, and an acknowledgment (ACK) returned to the host server **205**; both radio device **200** and host server **205** then retain the instantiated objects as fully qualified, and start session timers (steps **707-709**). At this point a virtual session has been established between the radio device **200** and host server **205**. If the registration is not successful, then any instantiated object is deleted, with the radio device **200** returned to an inactive status.

[**0024**] The typical radio device **200** includes a data encoder/decoder **404** to accommodate the system communications protocol(s). The host system server **205** includes some form of protocol translators or formatters **462 . . . 464**. The protocol translators serve to format or code the messages as appropriate for transport between the host system server **205** and radio device **200**; these include e.g., appropriate protocol software that can be located at the host system server **205**, or any other convenient processor per design of the given communication system.

[**0025**] By the way of explanation of paging network addresses, each pager or other radio device **200** registered on the public radio network **202** has an address and a corresponding account in a database **420**, associated with public network server **203**. Account table **450** maintains a table of correlations between e-mail account numbers or identifiers in database **430** with public network account numbers in database **420**. In this manner, when a message is received from a given radio device **200**, server **205** receives the message with an identification indicating the radio device from which it is received and is able to correlate that radio device with the appropriate e-mail account number. Similarly, when an e-mail is addressed to a particular account number and needs to be sent to the user of that account at his radio device **200**, the appropriate address of the radio device is identified in account table **450** and the message is sent to the correct radio device.

[**0026**] Radio device **200** is able to generate a number of pre-identified messages stored in message storage **407**. Some of these messages are commands. The commands that can be sent include "OK," "Finish," and "Move."

[**0027**] In operation, message portion handling routine **460** sends to the radio device **200** a selected list of headers of messages in the in-box for the account in database **430** that corresponds to the radio device **200**. The headers are short, giving merely the sender of a message (field **310** of **FIG. 3**) the date or time (field **311**) and the subject (field **312**) or a portion of the subject field. Rules are set up by the individual user in database **430** defining how many and what form of header information the user wishes to receiver in viewing his in-box. For example, the user can set up a rule which provides that only the last 10 messages are shown or he can set up a rule which provides that only messages received in the last 24 hours are shown. For each message, a predetermined limit is set for the amount of text from the body of the message that is sent to the radio device **200**.

[**0028**] Preferably, the first few lines of text are all that is sent upon receipt of the view command. In this manner, the network **202** is not tied up and overused by having to send the entire text **302** of the e-mail message. Similarly, the memory **406** of the device **200** (which is very limited) is not

congested with lengthy e-mail message text and with attachments. A limit of 300 characters is a suitable limit.

[**0029**] If the user **200** needs more of the message, a further button (or a repeat of the previous button) can be pressed, causing another command (e.g., the command "move") to be sent to the server **205**, causing the next few lines of text to be sent to the radio device **200**. In this way, a user can continue receiving further portions of a message until he is satisfied that he has understood enough of the message for his purposes. For example, a message may require the setting up of a meeting and the user can page through the message until he has received the time, place and date of the meeting and the user may not wish to review any more of the message until he has returned to his office. When the user of the radio device **200** returns to his office, he can use one of the terminals **431** to **433** to read the complete message, print it off and read any attachments.

[**0030**] Referring now to **FIG. 5**, a series of examples of screen shots displayed on the display **408** of a radio device **200** are shown. Each screen shot represents a mode of operation of the radio device. Accordingly, there is a software routine in the control circuit **405** of radio device **200** which corresponds to each of the nine screen shots in **FIG. 5**. **FIG. 5** could equally be presented as a state diagram illustrating the transitions between these respective software routines.

[**0031**] In **FIG. 5**, there is an opening screen **500**, which is of a highest level mode, which is presented to a user upon power-up of the radio device **200**. As a function of the process of powering-up and presenting of the screen **500**, the radio device **200** establishes a virtual session with the public network server **203** of the public radio network **202**. Screen **500** shows five on screen buttons **501** to **505**. These are labeled "in-box," "feed," "agent," "user" and "exit." Preferably, the five on-screen buttons, **501** to **505** correspond to five hardware buttons on the keyboard **410**, such as buttons **411** and **412**, etc. Alternatively, the display **408** may have a digitizer, and a stylus can be used to select and activate on-screen buttons. Each of buttons **501** to **504** represents a mode of operation illustrated on the right of screen **500**. These modes of operation are message view mode **510**, message feed mode **520**, message agent mode **530** and user preferences mode **540**.

[**0032**] In the message view mode **510**, the first screen presented is an in-box screen **550**. This screen has four on-screen buttons **551**, **552**, **553** and **554**. These buttons correspond to the commands "view," "delete," "new" and "done." Screen **550** illustrates the contents of the user's in-box as stored in server database **430** (**FIG. 4**). The information is presented in the form of rows illustrating, for each message, the sender, the date of receipt and a portion of the subject field. By activating button **551** (using keypad **410** or using a stylus) the process proceeds to screen **560**. Screen **560** presents the sender, date of receipt and subject of the message and also presents a portion of the text of the message. The portion **561** of the text is only a few lines of text. The size of the portion **561** is either predetermined (e.g., selected to fit within the display **408**) or is selectable by the user defining a preference for the length of the message portion. Other arrangements can, be devised for limiting the size of the message portion **561**, for example, the message port can be terminated at a given character or

set of characters. As an example, the message can be terminated at the occurrence of the first or second carriage return symbol.

[0033] Screen 560 has three on-screen buttons, 562, 563 and 564 correspond to the commands “done,” “reply” and “more.” Further buttons (not shown) can be caused to appear corresponding to, the commands “delete,” “forward,” and “reply.”

[0034] Turning to message feed mode 520, activation of this mode by activation of button 502 presents screen 570. This screen has on-screen buttons 571 and 572 corresponding to the commands “OK,” and “cancel.” Screen 570 also has some mode select buttons 573.

[0035] Referring to message agent mode 530. Activation of this mode presents message agent screen 580 having “continue” and “cancel” buttons 581 and 582 and having preference selection buttons 583. From screen 580, the process can proceed to screen 585 (agent summary screen) having buttons 586 through 589 representing the command “new,” “edit,” “delete,” and “done.”

[0036] From agent summary screen 585 the process can proceed to agent action screen 590, which presents “finish” button 591 and “cancel” button 592. There are various other preference buttons are illustrated on the screen 590. Alternately from screen 585, the process can proceed to screen 595, having buttons 596 and 597 representing the commands “OK” and “cancel.” Screen 595 also has user preference buttons 598.

[0037] Finally, user preference mode 540 causes the presentation of screen 610 having entry field 611, 612 and 613 and having command buttons 614 and 615 for the commands “OK” and “cancel.”

[0038] In operation, the application opens with screen 500. From this screen the user can proceed to one of the four modes of operation 510 to 540 using the buttons 501 to 504, respectively. Alternately, by pressing button 505 “exit,” the application quits and returns to a default application unrelated to the function of messaging. Upon selection of message feed mode 520, screen 570 is presented in which the user can select whether he wishes all messages or only messages routed by the user’s agent or no messages to be fed to the radio device 200.

[0039] Upon selecting one of the first two preferences and activating button 571, a message is sent from the user device 200 to the server 205 instructing the server 205 to begin sending (feeding) messages to the radio device 200. The message sent from the radio device 200 to the server 205 indicates, according to buttons 573, whether all messages in the in box are to be fed or whether only those messages that are identified by an agent (described below) are to be fed to the radio device 200. Upon receipt of this message at command message receiver 465, server 205 commences sending through the gateway 204 and through the public radio network 202, for each of the desired messages the header and a portion of the text. Once sent, the messages can be viewed at the radio device 200 as shown in screens 550 and 560.

[0040] Referring to mode 530, this mode is activated by pressing 503 and brings up screen 580 which allows the user of the radio device 200 to define a set of rules (to be stored

in database 430) defining the messages or forms of messages or types of messages that the user of the radio device 200 wishes to receive. Thus, for example, selection buttons 583 can call for messages which contain certain words or messages which omit certain words. Progressing from screen 580, button 581 can be pressed closing the program to proceed to screen 585, the agent summary screen. Screen 585 summarizes the messages that are to be sent from the server 205 to the radio device 200. For example, messages can be selected identified by sender or by subject key word or by urgency flag or by body (text). By activating the button 586, the program proceeds to screen 595 and a new key word can be entered. The field to be searched is selected by preference buttons 598 and a key word is entered in field 600. The key word entered in field 600 can cause a search by the server 205 in the sender field, the subject field or the body field, according to the selection made in section buttons 598.

[0041] By pressing edit button 587 in screen 585, agent action screen 590 is presented, inviting the server 205 to send the entire message or only the first predefined number of characters or only the sender or only the sender and subject when the key words match. By activating button 591, a message is sent to the command message receiver 465 of the server 205 identifying the agent actions defined by the user. These agent actions are stored as a rule in database 430 and thereafter define the degree of filtering of messages from the user’s in box to the radio device 200.

[0042] By activating user preference mode 540 the user can enter his name in field 611, his e-mail address in field 612 and his e-mail alert in field 613. By pressing button 614, a message is sent to the server 205 and received at the command message receiver 465. This message can entirely change the e-mail address of the user of the radio device 200, causing an update in the account table 450 showing a new correspondence between an e-mail address and a pager address. This feature allows a user of the radio device 200 to permit a fellow user to enter an e-mail address and to permit a different e-mail account to be viewed.

[0043] Summarizing FIG. 5, it has been described how four modes of operation of a software program stored in controller 405 of radio device 200 are available. The message view mode allows the user of device 200 to view e-mail messages from the e-mail server 205. Message feed mode 520 instructs the server 205 to begin transmitting a user’s messages from the e-mail server to the radio device 200. The message agent mode 530 allows a user of the device 200 to remotely set up a set of filtering parameters or rules to be stored in database 430 and to be associated with the user’s e-mail account. This set of rules or filtering parameters defines the types of messages or aspects of messages that the user wishes to view remotely. This feature has the great advantage of flexibility in allowing the user to select messages to be presented at the radio device 200. This feature is most useful in a device having a very limited screen size and memory capacity, because indiscriminate presentation of all messages to the radio device can unnecessarily fill up the memory and fill up the screen, causing irritation to the user.

[0044] Finally, user preferences mode 540 allows the user to identify himself to the server 205 to identify which particular e-mail account is to be viewed, independent of the address of the radio device 200 in the public radio network 202.

[0045] Referring to FIG. 6, a flow diagram is shown describing the operation of the radio device 200 in association with the host server 205. Steps that take place at the radio device 200 are shown on the left and steps that take place at the host server 205 are shown on the right. Arrows between the left and right hand sides of the diagram represent messages (including command messages) exchanged between the radio device and the server. FIG. 6 is presented by way of illustration of the process of starting the feed of messages from the host server to the radio device, reading of a portion of the message and requesting of more of the same message. Flow diagrams similar to the diagram in FIG. 6 can readily be created by one skilled in the art to illustrate the other operations and interactions between the radio device and the server described above with reference to FIG. 5.

[0046] Referring in detail to FIG. 6, the flow begins by establishing a virtual session between the radio device 200 and the host server 205. This establishment of a virtual session takes place at steps 650 in the radio device and 651 in the host server. Following commencement of a virtual session, and following activation of on-screen key 502, a command to start feed is generated. This command (feed command 653) is sent to the server and received at the server in step 655. On receipt of this command, the server sends header information in step 656 and this information is received at the radio device in step 657.

[0047] Upon activation of the "view" button 551 in screen 550, a message is selected (step 658) and displayed on the display of the radio device. Flow proceeds to step 675. At step 675, if the user requires more of the message, he presses on-screen button 564 and flow proceeds from step 675 to step 680, causing a command 681 to be generated and sent to the server requesting more of the message. This command is received at step 682 and in step 684 a counter is incremented to identify the next portion of the message. If, in step 686, there is no more message to be sent, i.e., the counter has reached the end of the message, an error command can be sent in step 688, indicating that there is no more message to be sent and the process ends at 690. On the other hand, if step 686 identifies that there is more message to be sent, flow proceeds to step 664 and an outbound paging message is formatted to deliver the next portion of the body of the message and the process continues.

[0048] The above description has been given by way of example only and modifications of detail can be made by one of ordinary skill in the art without departing from the spirit and scope of the invention.

1. A method of redirecting messages between a host system and a radio device during a virtual session between the same, comprising the steps of:

- initiating communication between the host system and the radio device;
- registering the radio device at the host system and generating a redirection trigger;
- receiving messages directed to a first address at the host system from a plurality of message senders;
- in response to the redirection trigger, continuously redirecting the messages from the host system to the radio device;

receiving the messages at the radio device;

generating reply messages at the radio device to be sent to the plurality of message senders and transmitting the reply messages to the host system;

receiving the messages at the host system from the radio device and correlating address information of the messages such that the messages use an appropriate address associated with the host system as the originating address, wherein messages generated at either the host system or the radio device share the address associated with the host system; and

transmitting the messages from the host system to the plurality of message senders.

2. The method of claim 1, further comprising the step of: storing information regarding the configuration of the radio device at the host system.

3. The method of claim 1, wherein the configuration information stored at the host system includes:

(A) the network address of the radio device; and

(B) protocol information regarding the format or coding of the messages.

4. The method of claim 3, wherein the configuration information stored at the host system further includes:

(C) an indication of an identification of a radio device.

5. The method of claim 3, further comprising the steps of:

for each message to be redirected, the host system determining whether the message includes an attachment;

if so, then maintaining the attachment at the host system.

6. The method of claim 5, wherein the type of attachment is a readable file.

7. The method of claim 1, wherein the received messages are addressed using a sender address and a receiver address, the method further comprising the steps of:

determining whether the receiver address is associated with the radio device;

if the receiver address is associated with the radio device, then determining a network address of the radio device and readdressing the messages using the receiver address and the network address of the radio device; and

after receiving the redirecting messages at the radio device, displaying the messages at the radio device using the sender address and the receiver address, so that the radio device is able to act in the same manner as a terminal at the host system.

8. The method of claim 1, wherein the communication is initiated between the host system and the radio device in response to an external event or a networked event.

9. The method of claim 8, wherein the external event includes the step of sending a registration message from the radio device to the host system.

10. The method of claim 8, wherein the networked event includes the step of sending a page from the host system to the radio device.

11. The method of claim 10, wherein the sending step is initiated in response to the host system determining that the radio device has registered with a wireless system.

12. The method of claim 9, wherein the external event further comprises the step of forming a communications object at the radio device.

13. The method of claim 8, further comprising the step of authenticating the radio device at the host system after the communication has been initiated.

14. The method of claim 1, wherein the radio device is a pager.

15. The method of claim 1, wherein the radio device is equipped to send and receive messages.

16. The method of claim 1, wherein the host system includes a set of rules for limiting the redirection of only those messages that are transmitted to the host system from a sender identified by the set of rules.

17. The method of claim 16, wherein a user can modify the set of rules.

18. The method of claim 27, wherein the user can modify the set of rules by configuring the host system.

19. The method of claim 17, wherein the user can modify the set of rules by transmitting a message from the radio device to the host system.

20. The method of claim 16, wherein the set of rules is activated and deactivated at the host system.

21. The method of claim 16, wherein the set of rules is activated and deactivated by a message transmitted from the radio device to the host system.

22. A message redirection method performed at a host system during a virtual session between the host system and a radio device, comprising the steps of:

- associating a first address with the host system;
- initiating communication between the host system and the radio device;
- registering the radio device at the host system and generating a redirection trigger;
- receiving messages at the host system from a plurality of message senders;
- in response to the redirection trigger, continuously redirecting the received messages from the host system to the radio device;
- receiving reply messages from the radio device at the host system and correlating address information of the reply messages using the first address associated with the host system as the originating address, wherein messages generated at either the host system or the radio device share the first address; and

transmitting the configured reply messages from the host system to the plurality of message senders.

23. A message redirection method performed during a virtual session between a host system and a radio device comprising the steps of:

- initiating communication between the host system and the radio device;
- registering the radio device at the host system and generating a redirection trigger;
- receiving messages at the host system from a plurality of message senders;
- in response to the redirection trigger, continuously redirecting the received messages from the host system to a radio device associated with the host system;

receiving the redirected messages at the radio device;

generating reply messages at the radio device;

transmitting the reply messages from the radio device to the host system;

receiving the reply messages at the host system and correlating the reply messages using the first email address for the user of the radio device as the address originating the reply messages, wherein messages generated at either the host system or the radio device share the first email address; and

transmitting the correlated reply messages from the host system to the plurality of message senders.

24. A method for redirecting messages between a host system and a radio device during a virtual session between the same, comprising the steps of:

initiating communication between the host system and the radio device;

registering the radio device at the host system and generating a redirection trigger;

receiving incoming messages directed to a first address at the host system from a plurality of message senders, wherein the first address is associated with messages generated at the host system by a user of the radio device;

in response to the redirection trigger, continuously redirecting the incoming messages from the host system to the radio device;

receiving outgoing messages generated at the radio device at the host system;

correlating address information of the outgoing messages so that the first address is used as an originating address of the outgoing messages, wherein messages generated at either the radio device or the host system share the first address; and

transmitting the outgoing messages from the host system to the message recipients,

redirecting the received message to the message recipient.

25. A method for redirecting messages generated at a radio device by a message sender destined for a message recipient, comprising the steps of:

initiating communication between the host system and the radio device;

registering the radio device at the host system and generating a redirection trigger;

continuously redirecting messages received at the host system to the radio device;

receiving a message, generated at the radio device by the message sender destined for the message recipient, at a message portion handling routine associated with a host system, wherein messages generated at the host system by the message sender use a first address;

correlating address information of the received message such that the received message uses the message sender's first address as the address originating the message,

wherein messages generated at either the radio device or the host system share the message sender's first address; and

redirecting the configured received message to the message recipient.

26. The method of claim 25, wherein the communication is initiated between the host system and the radio device in response to an external event or a networked event.

27. The method of claim 25, further comprising the steps of:

configuring one or more message filters at the host system;

and filtering received messages at the host system using the one or more message filters prior to redirecting messages to the radio device.

28. A method of redirecting messages between a host system and a radio device, comprising the steps of:

configuring one or more redirection events at the host system;

detecting that a redirection event has occurred at the host system and generating a redirection trigger;

receiving messages directed to a first address at the host system from a plurality of message senders;

in response to the redirection trigger, continuously redirecting the messages from the host system to the radio device;

receiving the messages at the radio device;

generating reply messages at the radio device to be sent to the plurality of message senders and transmitting the reply messages to the host system;

receiving the reply messages at the host system and correlating address information of the reply messages such that the reply messages use the first address associated with the host system as the originating address, wherein messages generated at either the host system or the radio device share the first address; and

transmitting the reply messages from the host system to the plurality of message senders.

29. The method of claim 28, further comprising the step of:

storing information regarding the configuration of the radio device at the host system.

30. The method of claim 29, wherein the configuration information stored at the host system includes:

(A) the network address of the radio device; and

(B) protocol information regarding the format or coding of the messages.

31. The method of claim 30, wherein the configuration information stored at the host system further includes:

(C) an indication of an identification of a radio device.

32. The method of claim 30, further comprising the steps of:

for each message to be redirected, the host system determining whether the message includes an attachment;

if so, then maintaining the attachment at the host system.

33. The method of claim 32, wherein the type of attachment is a readable file.

34. The method of claim 28, wherein the received messages are addressed using a sender address and a receiver address, the method further comprising the steps of:

determining whether the receiver address is associated with the radio device;

if the receiver address is associated with the radio device, then determining a network address of the radio device and readdressing the messages using the receiver address and the network address of the radio device; and

after receiving the redirecting messages at the radio device, displaying the messages at the radio device using the sender address and the receiver address, so that the radio device is able to act in the same manner as a terminal at the host system.

35. The method of claim 28, wherein the redirection events include external events or networked events.

36. The method of claim 35, wherein the external event is a message from the radio device to start redirection.

37. The method of claim 28, wherein the radio device is a pager.

38. The method of claim 28, wherein the radio device is equipped to send and receive messages.

39. The method of claim 28, wherein the host system includes a set of rules for limiting the redirection of only those messages that are transmitted to the host system from a sender identified by the set of rules.

40. The method of claim 39, wherein a user can modify the set of rules.

41. The method of claim 40, wherein the user can modify the set of rules by configuring the host system.

42. The method of claim 40, wherein the user can modify the set of rules by transmitting a message from the radio device to the host system.

43. The method of claim 39, wherein the set of rules is activated and deactivated at the host system.

44. The method of claim 39, wherein the set of rules is activated and deactivated by a message transmitted from the radio device to the host system.

45. A message redirection method operating at a host system, comprising the steps of:

associating a first address with the host system;

configuring one or more redirection events at the host system;

detecting that a redirection event has occurred at the host system and generating a redirection trigger;

receiving messages at the host system from a plurality of message senders;

in response to the redirection trigger, continuously redirecting the received messages from the host system to a radio device associated with the host system;

receiving reply messages from the radio device at the host system, translating the reply messages, and correlating the address information of the reply message in order to use the first address associated with the host system as the originating address, wherein messages generated at either the radio device or the host system share the first address; and

transmitting the translated reply messages from the host system to the plurality of message senders.

46. A message redirection method comprising the steps of:

configuring one or more redirection events at a host system;

detecting that a redirection event has occurred at the host system and generating a redirection trigger;

receiving messages at the host system from a plurality of message senders;

in response to the redirection trigger, continuously redirecting the received messages from the host system to a radio device associated with the host system, wherein a first email address for the user of the radio device is associated with the host system;

receiving the redirected messages at the radio device;

generating reply messages at the radio device;

transmitting the reply messages from the radio device to the host system;

receiving the reply messages at the host system, translating the reply messages, and correlating the address information of the reply message in order to use the first email address for the user of the radio device as the address originating the reply messages, wherein messages generated at either the host system or the radio device share the first email address; and

transmitting the translated reply messages from the host system to the plurality of message senders.

47. A method for redirecting messages generated at a radio device by a message sender destined for a message recipient, comprising the steps of:

receiving a message, generated at the radio device by the message sender destined for the message recipient, at a message portion handling routine with a host system, wherein messages generated at the host system by the message sender use a first address;

correlating address information of the received message such that the received message uses the message sender's first address as the address originating the message, wherein messages generated at either the radio device or host system share the message sender's first address; and

redirecting the received message to the message recipient;

configuring one or more redirection events at the host system;

detecting that a redirection event has occurred at the host system and generating a redirection trigger; and

continuously redirecting messages received at the host system to the radio device.

48. The method of claim 47, further comprising the steps of:

configuring one or more message filters at the host system;

and filtering received messages at the host system using the one or more message filters prior to redirecting messages to the radio device.

49. The method for redirecting messages between a host system and a radio device, comprising the steps of:

configuring one or more redirection events at the host system;

detecting that a redirection event has occurred at the host system and generating a redirection trigger;

receiving incoming messages directed to a first address at the host system from a plurality of message senders, wherein the first address is associated with messages generated at the host system by a user of the radio device;

in response to the redirection trigger, continuously redirecting the incoming messages from the host system to the radio device;

receiving outgoing messages generated at the radio device at the host system;

correlating address information of the outgoing messages so that the first address is used as an originating address of the outgoing messages, wherein messages generated at either the radio device or the host system share the first address; and

transmitting the outgoing messages from the host system to message recipients.

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