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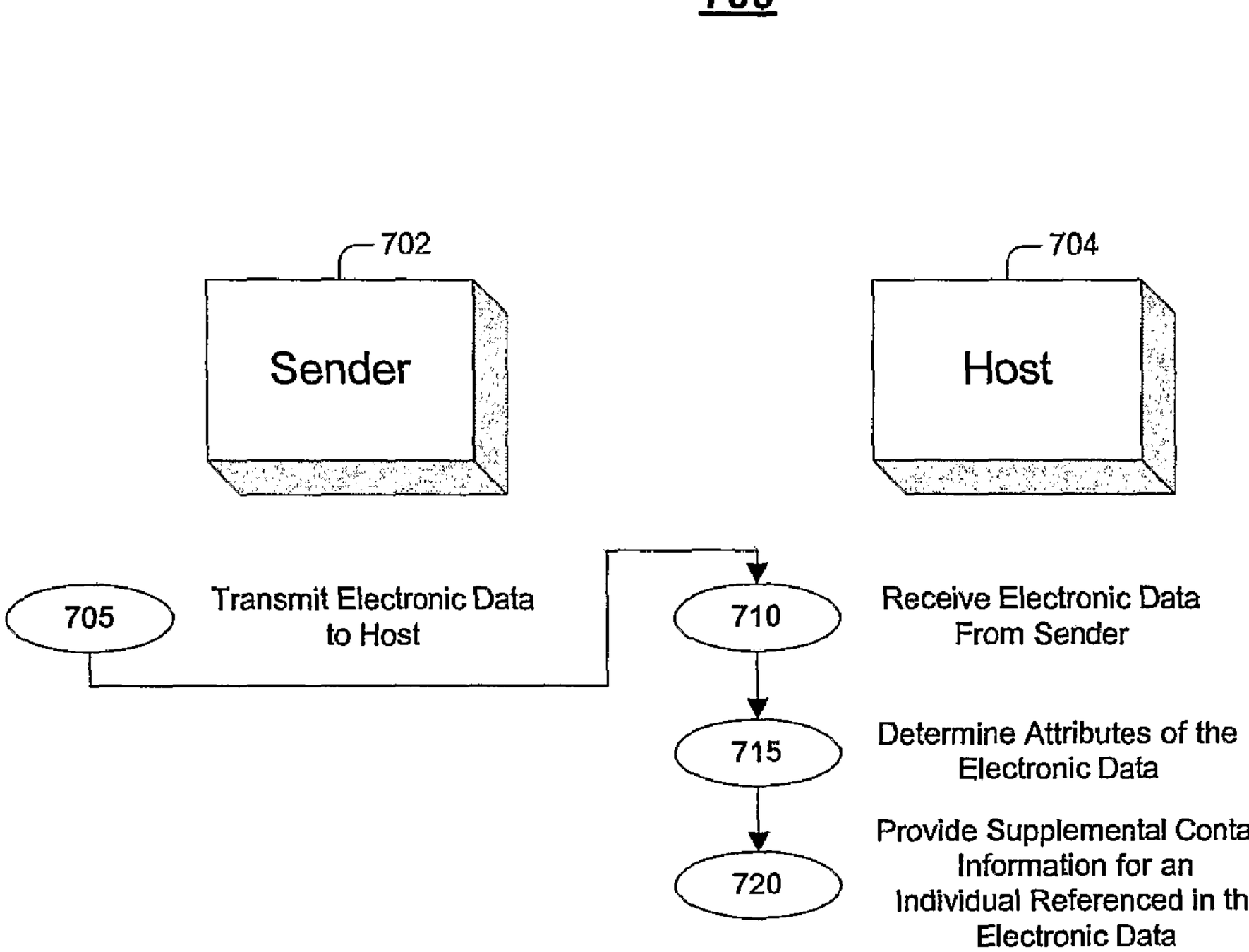

(57) Abrégé/Abstract:
Providing supplemental information for an individual referenced in an electronic message typically includes receiving an electronic message, examining the electronic message, detecting an identifier for a referenced individual contained in the electronic message,

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and making supplemental information for the referenced individual available to a recipient of the electronic message. The supplemental information may include information that is in addition to information contained in the electronic message. The supplemental information may include at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

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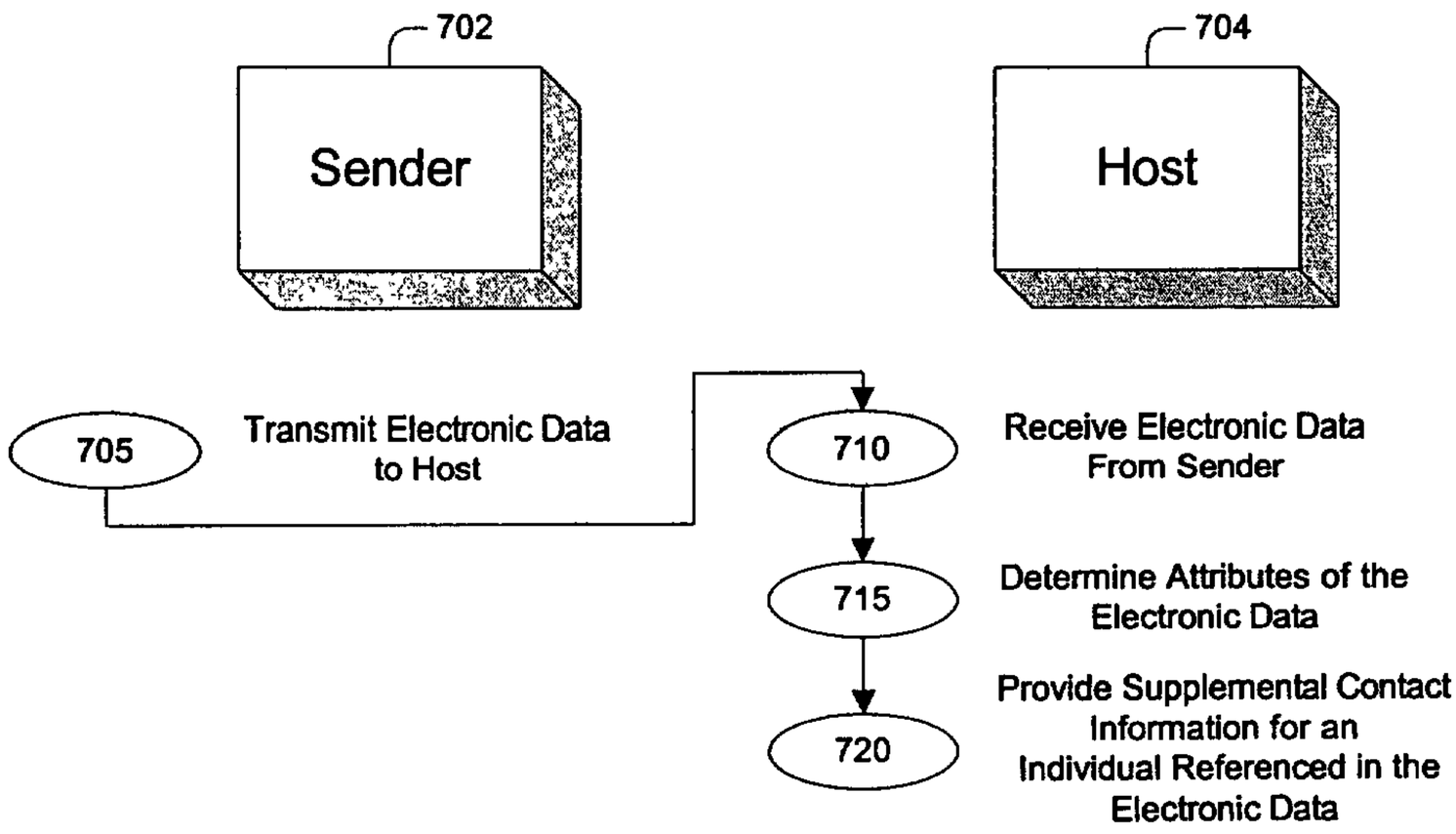
(54) Title: PROVIDING SUPPLEMENTAL CONTACT INFORMATION CORRESPONDING TO A REFERENCED INDIVIDUAL TECHNICAL FIELD



(57) Abstract: Providing supplemental information for an individual referenced in an electronic message typically includes receiving an electronic message, examining the electronic message, detecting an identifier for a referenced individual contained in the electronic message, and making supplemental information for the referenced individual available to a recipient of the electronic message. The supplemental information may include information that is in addition to information contained in the electronic message. The supplemental information may include at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

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PROVIDING SUPPLEMENTAL CONTACT INFORMATION CORRESPONDING TO A REFERENCED INDIVIDUAL

TECHNICAL FIELD

The present invention relates generally to online communications systems and more particularly to an online communications system that automatically provides supplemental contact information corresponding to a referenced individual.

BACKGROUND

In the client-server network architecture of the Internet and/or the Web, electronic documents are stored in computer systems running server programs and are accessed by computer systems running client programs. For example, information on the Web is provided by Web servers and is accessible by a client program such as a Web browser (e.g., Netscape's Navigator, Microsoft's Internet Explorer, or Java's micro-browser).

Information on the Internet and/or Web may be represented by specially formatted text files (e.g., Web pages) written in Hypertext Markup Language ("HTML") or some other markup language, such as XML, HDML, and/or VRML. Each text file may be identified by a network address such as a Universal Resource Locator ("URL"). A typical Web page may include one or more hyperlinks referring to the network addresses of other Web pages. Hyperlinks may be displayed as underlined text or graphical images that, when clicked, send a request for the associated page. For example, when a hyperlink in a home page is selected, a request is sent out by the client to the address specified in the hyperlink, and the associated Web page is downloaded and displayed, by replacing the home page on the user's screen with the associated Web page.

Browsers and other client programs typically use a communications protocol such as Hypertext Transfer Protocol ("HTTP") to request pages from Web servers. HTTP is a request/response protocol. Through a connection established between a client and a server, the client sends a request to the server, and the server provides a response to the client.

An Internet service provider ("ISP") may be used to provide subscribers with access to the Internet and/or the World Wide Web ("Web"). In general, a subscriber relies on an ISP to provide computers that are connected to and therefore enable communication

over the Internet and/or the Web. An ISP may offer services in addition to basic Internet access such as, for example, providing e-mail and instant messaging services that enable electronic communication, Web-hosting services that allow subscribers to publish homepages, newsgroup services that allow subscribers to read and post to newsgroups, and image services that allow subscribers to view and order digital images of pictures from a developed film roll.

SUMMARY

According to one aspect of the present invention, there is provided a method for providing supplemental information corresponding to an individual referenced in an electronic message, the method comprising: receiving an electronic message from a sender and intended for at least one recipient, the electronic message comprising address information and content; detecting an identifier representing a referenced individual contained in the electronic message by examining at least one of the address information and the content of the electronic message; retrieving supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual; inserting the supplemental contact information into the electronic message; and enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the inserted supplemental contact information, wherein the supplemental contact information is in addition to information contained in the electronic message received from the sender and is accessible to the recipient through the display of the electronic message.

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According to another aspect of the present invention, there is provided a method for receiving supplemental contact information for an individual referenced in an electronic message, the method comprising: receiving, on behalf of an intended recipient and from a host, an electronic message that was sent by a sender and that includes an identifier representing a referenced individual, the electronic message comprising address information and content; receiving, on behalf of the intended recipient and from the host, supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual, wherein the supplemental contact information is in addition to information contained in the electronic message; and enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the supplemental contact information, wherein the supplemental contact information is accessible to the recipient through the display of the electronic message.

According to still another aspect of the present invention, there is provided a computer readable storage medium having stored thereon computer readable code executable on a computer for providing supplemental contact information corresponding to an individual referenced in an electronic message, the computer readable code comprising: computer readable code that causes the computer to receive an electronic message from a sender and intended for at least one recipient, the electronic message comprising address information and content; computer readable code that causes the computer to detect an identifier representing a referenced individual contained in the electronic message by examining at least one

of the address information and the content of the electronic message; computer readable code that causes the computer to retrieve supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual; computer readable code that causes the computer to insert the supplemental contact information into the electronic message; and computer readable code that causes the computer to enable display of the electronic message to the recipient, the enabled display of the electronic message comprising the inserted supplemental contact information, wherein the supplemental contact information is in addition to information contained in the electronic message received from the sender and is accessible to the recipient through the display of the electronic message.

According to yet another aspect of the present invention, there is provided a computer readable storage medium having stored thereon computer readable code executable on a computer for providing supplemental contact information corresponding to an individual referenced in an electronic message, the computer readable code comprising: computer readable code that causes the computer to receive, on behalf of an intended recipient and from a host, an electronic message that was sent by a sender and that includes an identifier representing a referenced individual, the electronic message comprising address information and content; computer readable code that causes the computer to receive, on behalf of the intended recipient and from the host, supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced

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individual, wherein the supplemental contact information is in addition to information contained in the electronic message; and computer readable code that causes the computer to display the electronic message to the recipient, the enabled display of the electronic message comprising the supplemental contact information, wherein the supplemental contact information is accessible to the recipient through the display of the electronic message.

According to a further aspect of the present invention, there is provided a system for providing supplemental contact information corresponding to an individual referenced in an electronic message, comprising: means for receiving an electronic message from a sender and intended for at least one recipient, the electronic message comprising address information and content; means for detecting an identifier representing a referenced individual contained in the electronic message by examining at least one of the address information and the content of the electronic message; means for retrieving supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual; means for inserting the supplemental contact information into the electronic message; and means for enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the inserted supplemental contact information, wherein the supplemental contact information is in addition to information contained in the electronic message received from the sender and is accessible to the recipient through the display of the electronic message.

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According to yet a further aspect of the present invention, there is provided a system for receiving supplemental contact information for an individual referenced in an electronic message, comprising: means for receiving, on behalf of an intended recipient and from a host, an electronic message that was sent by a sender and that includes an identifier representing a referenced individual, the electronic message comprising address information and content; means for receiving, on behalf of the intended recipient and from the host, supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual, wherein the supplemental contact information is in addition to information contained in the electronic message; and means for enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the supplemental contact information, wherein the supplemental contact information is accessible to the recipient through the display of the electronic message.

Providing supplemental information for an individual referenced in an electronic message typically includes receiving an electronic message, examining the electronic message, detecting an identifier for a referenced individual contained in the electronic message, and making supplemental information for the referenced individual available to a recipient of the electronic message. The supplemental information may include information that is in addition to information contained in the electronic message.

A personal address book may be updated with the supplemental information of the referenced individual. A global address book that includes the supplemental information for the referenced individual may be maintained. The global address book may be automatically updated when the referenced individual makes changes to the supplemental information.

A status of online presence for the referenced individual may be made available. A real time messaging capability of the referenced individual may be determined such that the real time messaging capability of the referenced individual may be made available.

An invitation may be sent to the referenced individual to subscribe to an instant messaging service. An invitation to subscribe to an instant messaging service may be sent to a referenced individual who is not an instant messaging service subscriber.

An e-mail address may be detected for the referenced individual and a domain may be stripped from the e-mail address such that a reverse-lookup may be performed to obtain an instant messaging screen name for the referenced individual. An indicator associated with the referenced individual may be displayed to indicate available supplemental information.

The referenced individual may define the rights of recipients for viewing the supplemental information associated with the referenced individual. The referenced individual may define the rights of recipients for viewing the supplemental information to change temporally. The referenced individual may define the rights of recipients to enable only designated recipients to view the supplemental information associated with the referenced individual, only persons designated in a personal address book to view the supplemental information associated with the referenced individual, and/or only persons designated in a global address book to view the supplemental information associated with the referenced individual.

The supplemental information may include a screen name, which may be added to an instant messaging buddy list. Real time contact information for the referenced individual may be made available to the recipient of the electronic message.

The supplemental information may include supplemental contact information. The supplemental information may be made visually perceivable to the recipient of the

electronic message in response to a cursor being moved over the identifier contained in the electronic message.

Receiving supplemental information for an individual referenced in an electronic message typically includes receiving from a host an electronic message that includes an identifier for a referenced individual and receiving supplemental information for the referenced individual from the host. The supplemental information may be in addition to information contained in the electronic message.

Implementations may include one or more of the features described above.

These general and specific aspects may be implemented using a system, a method, or a computer program, or any combination of systems, methods, and computer programs.

Other features and advantages will be apparent from the description and drawings, and from the claims.

DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram of a communications system.

Figs. 2-6 are block diagrams of expansions of aspects of the block diagram of Fig. 1.

Figs. 7 and 8 are flows charts of communications methods that may be implemented by the system of Fig. 1.

Figs. 9-11 are illustrations of different graphical user interfaces that may be provided by the system of Fig. 1.

DETAILED DESCRIPTION

For illustrative purposes, Figs. 1-5 show an example of a communications system for implementing techniques for transferring electronic data. For brevity, several elements in the figures described below are represented as monolithic entities. However, as would be understood by one skilled in the art, these elements each may include numerous interconnected computers and components designed to perform a set of specified operations and/or may be dedicated to a particular geographical region.

Referring to Fig. 1, a communications system 100 is capable of delivering and exchanging data between a client system 105 and a host system 110 through a

communications link 115. The client system 105 typically includes one or more client devices 120 and/or client controllers 125, and the host system 110 typically includes one or more host devices 135 and/or host controllers 140. For example, the client system 105 or the host system 110 may include one or more general-purpose computers (e.g., personal computers), one or more special-purpose computers (e.g., devices specifically programmed to communicate with each other and/or the client system 105 or the host system 110), or a combination of one or more general-purpose computers and one or more special-purpose computers. The client system 105 and the host system 110 may be arranged to operate within or in concert with one or more other systems, such as, for example, one or more LANs ("Local Area Networks") and/or one or more WANs ("Wide Area Networks").

The client device 120 (or the host device 135) is generally capable of executing instructions under the command of a client controller 125 (or a host controller 140). The client device 120 (or the host device 135) is connected to the client controller 125 (or the host controller 140) by a wired or wireless data pathway 130 or 145 capable of delivering data.

The client device 120, the client controller 125, the host device 135, and the host controller 140 each typically include one or more hardware components and/or software components. An example of a client device 120 or a host device 135 is a general-purpose computer (e.g., a personal computer) capable of responding to and executing instructions in a defined manner. Other examples include a special-purpose computer, a workstation, a server, a device, a component, other physical or virtual equipment or some combination thereof capable of responding to and executing instructions. The client device 120 and the host device 135 may include devices that are capable of peer-to-peer communications.

An example of client controller 125 or a host controller 140 is a software application loaded on the client device 120 or the host device 135 for commanding and directing communications enabled by the client device 120 or the host device 135. Other examples include a program, a piece of code, an instruction, a device, a computer, a computer system, or a combination thereof, for independently or collectively instructing the client device 120 or the host device 135 to interact and operate as described. The client controller 125 and the host controller 140 may be embodied permanently or temporarily in

any type of machine, component, physical or virtual equipment, storage medium, or propagated signal capable of providing instructions to the client device 120 or the host device 135.

The communications link 115 typically includes a delivery network 160 making a direct or indirect communication between the client system 105 and the host system 110, irrespective of physical separation. Examples of a delivery network 160 include the Internet, the World Wide Web, WANs, LANs, analog or digital wired and wireless telephone networks (e.g. PSTN, ISDN, and xDSL), radio, television, cable, satellite, and/or any other delivery mechanism for carrying data. The communications link 115 may include communication pathways 150 and 155 that enable communications through the one or more delivery networks 160 described above. Each of the communication pathways 150 and 155 may include, for example, a wired, wireless, cable or satellite communication pathway.

Fig. 2 illustrates a communications system 200 including a client system 205 communicating with a host system 210 through a communications link 215. Client system 205 typically includes one or more client devices 220 and one or more client controllers 225 for controlling the client devices 220. Host system 210 typically includes one or more host devices 235 and one or more host controllers 240 for controlling the host devices 235. The communications link 215 may include communication pathways 250 and 255 that enable communications through the one or more delivery networks 260.

Examples of each element within the communications system of Fig. 2 are broadly described above with respect to Fig. 1. In particular, the host system 210 and the communications link 215 typically have attributes comparable to those described with respect to host system 110 and communications link 115 of Fig. 1. Likewise, the client system 205 of Fig. 2 typically has attributes comparable to and illustrates one possible implementation of the client system 105 of Fig. 1.

The client device 220 typically includes a general-purpose computer 270 having an internal or external storage 272 for storing data and programs such as an operating system 274 (e.g., DOS, Windows™, Windows 95™, Windows 98™, Windows 2000™, Windows Me™, Windows XP™, Windows NT™, OS/2, or Linux) and one or more application programs. Examples of application programs include authoring applications

276 (e.g., word processing programs, database programs, spreadsheet programs, or graphics programs) capable of generating documents or other electronic content; client applications 278 (e.g., AOL client, CompuServe client, AIM client, AOL TV client, or ISP client) capable of communicating with other computer users, accessing various computer resources, and viewing, creating, or otherwise manipulating electronic content; and browser applications 280 (e.g., Netscape's Navigator or Microsoft's Internet Explorer) capable of rendering standard Internet content.

The general-purpose computer 270 also includes a central processing unit 282 (CPU) for executing instructions in response to commands from the client controller 225. In one implementation, the client controller 225 includes one or more of the application programs installed on the internal or external storage 272 of the general-purpose computer 270. In another implementation, the client controller 225 includes application programs externally stored in and performed by one or more device(s) external to the general-purpose computer 270.

The general-purpose computer typically will include a communication device 284 for sending and receiving data. One example of the communication device 284 is a modem. Other examples include a transceiver, a set-top box, a communication card, a satellite dish, an antenna, or another network adapter capable of transmitting and receiving data over the communications link 215 through a wired or wireless data pathway 250. The general-purpose computer 270 also may include a TV ("television") tuner 286 for receiving television programming in the form of broadcast, satellite, and/or cable TV signals. As a result, the client device 220 can selectively and/or simultaneously display network content received by communications device 284 and television programming content received by the TV tuner 286.

The general-purpose computer 270 typically will include an input/output interface 288 for wired or wireless connection to various peripheral devices 290. Examples of peripheral devices 290 include, but are not limited to, a mouse 291, a mobile phone 292, a personal digital assistant 293 (PDA), a MP3 player (not shown), a keyboard 294, a display monitor 295 with or without a touch screen input, a TV remote control 296 for receiving information from and rendering information to subscribers, and an audiovisual input device 298.

Although devices such as a mobile telephone 292, a PDA 293, a MP3 player (not shown), and a TV remote control 296 may be peripheral with respect to the general-purpose computer 270, in another implementation, such devices may themselves include the functionality of the general-purpose computer 270 and operate as the client device 220. For example, the mobile phone 292 or the PDA 293 may include computing and networking capabilities and function as a client device 220 by accessing the delivery network 260 and communicating with the host system 210. Furthermore, the client system 205 may include one, some or all of the components and devices described above.

Referring to Fig. 3, a communications system 300 is capable of delivering and exchanging information between a client system 305 and a host system 310 through a communication link 315. Client system 305 typically includes one or more client devices 320 and one or more client controllers 325 for controlling the client devices 320. Host system 310 typically includes one or more host devices 335 and one or more host controllers 340 for controlling the host devices 335. The communications link 315 may include communication pathways 350 and 355 that enable communications through the one or more delivery networks 360.

Examples of each element within the communications system of Fig. 3 are broadly described above with respect to Figs. 1 and 2. In particular, the client system 305 and the communications link 315 typically have attributes comparable to those described with respect to client systems 105 and 205 and communications links 115 and 215 of Figs. 1 and 2. Likewise, the host system 310 of Fig. 3 may have attributes comparable to and illustrates one possible implementation of the host systems 110 and 210 shown in Figs. 1 and 2.

The host system 310 includes a host device 335 and a host controller 340. The host controller 340 is generally capable of transmitting instructions to any or all of the elements of the host device 335. For example, in one implementation, the host controller 340 includes one or more software applications loaded on the host device 335. In other implementations, as described above, the host controller 340 may include any of several other programs, machines, and devices operating independently or collectively to control the host device 335.

The host device 335 includes a login server 370 for enabling access by subscribers and for routing communications between the client system 305 and other elements of the host device 335. The host device 335 also includes various host complexes such as the depicted OSP ("Online Service Provider") host complex 380 and IM ("Instant Messaging") host complex 390. To enable access to these host complexes by subscribers, the client system 305 includes communication software, for example, an OSP client application and an IM client application. The OSP and IM communication software applications are designed to facilitate the subscriber's interactions with the respective services and, in particular, may provide access to all the services available within the respective host complexes.

Typically, the OSP host complex 380 supports different services, such as e-mail, discussion groups, chat, news services, and Internet access. The OSP host complex 380 is generally designed with an architecture that enables the machines within the OSP host complex 380 to communicate with each other and employs certain protocols (i.e., standards, formats, conventions, rules, and structures) to transfer data. The OSP host complex 380 ordinarily employs one or more OSP protocols and custom dialing engines to enable access by selected client applications. The OSP host complex 380 may define one or more specific protocols for each service based on a common, underlying proprietary protocol.

The IM host complex 390 is generally independent of the OSP host complex 380, and supports instant messaging services irrespective of a subscriber's network or Internet access. Thus, the IM host complex 390 allows subscribers to send and receive instant messages, whether or not they have access to any particular ISP. The IM host complex 390 may support associated services, such as administrative matters, advertising, directory services, chat, and interest groups related to the instant messaging. The IM host complex 390 has an architecture that enables all of the machines within the IM host complex to communicate with each other. To transfer data, the IM host complex 390 employs one or more standard or exclusive IM protocols.

The host device 335 may include one or more gateways that connect and therefore link complexes, such as the OSP host complex gateway 385 and the IM host complex gateway 395. The OSP host complex gateway 385 and the IM host complex gateway 395

may directly or indirectly link the OSP host complex 380 with the IM host complex 390 through a wired or wireless pathway. Ordinarily, when used to facilitate a link between complexes, the OSP host complex gateway 385 and the IM host complex gateway 395 are privy to information regarding the protocol type anticipated by a destination complex, which enables any necessary protocol conversion to be performed incident to the transfer of data from one complex to another. For instance, the OSP host complex 380 and IM host complex 390 generally use different protocols such that transferring data between the complexes requires protocol conversion by or at the request of the OSP host complex gateway 385 and/or the IM host complex gateway 395.

Referring to Fig. 4, a communications system 400 is capable of delivering and exchanging information between a client system 405 and a host system 410 through a communication link 415. Client system 405 typically includes one or more client devices 420 and one or more client controllers 425 for controlling the client devices 420. Host system 410 typically includes one or more host devices 435 and one or more host controllers 440 for controlling the host devices 435. The communications link 415 may include communication pathways 450 and 455 that enable communications through the one or more delivery networks 460. As shown, the client system 405 may access the Internet 465 through the host system 410.

Examples of each element within the communications system of Fig. 4 are broadly described above with respect to Figs. 1-3. In particular, the client system 405 and the communications link 415 typically have attributes comparable to those described with respect to client systems 105, 205, and 305 and communications links 115, 215, and 315 of Figs. 1-3. Likewise, the host system 410 of Fig. 4 may have attributes comparable to and illustrates one possible implementation of the host systems 110, 210, and 310 shown in Figs. 1-3. Fig. 4 describes an aspect of the host system 410, focusing primarily on one particular implementation of OSP host complex 480.

The client system 405 includes a client device 420 and a client controller 425. The client controller 425 is generally capable of establishing a connection to the host system 410, including the OSP host complex 480, the IM host complex 490 and/or the Internet 465. In one implementation, the client controller 425 includes an OSP application for communicating with servers in the OSP host complex 480 using exclusive OSP protocols.

The client controller 425 also may include applications, such as an IM client application, and/or an Internet browser application, for communicating with the IM host complex 490 and the Internet 465.

The host system 410 includes a host device 435 and a host controller 440. The host controller 440 is generally capable of transmitting instructions to any or all of the elements of the host device 435. For example, in one implementation, the host controller 440 includes one or more software applications loaded on one or more elements of the host device 435. In other implementations, as described above, the host controller 440 may include any of several other programs, machines, and devices operating independently or collectively to control the host device 435.

The host system 410 includes a login server 470 capable of enabling communications with and authorizing access by client systems 405 to various elements of the host system 410, including an OSP host complex 480 and an IM host complex 490. The login server 470 may implement one or more authorization procedures to enable simultaneous access to the OSP host complex 480 and the IM host complex 490. The OSP host complex 480 and the IM host complex 490 are connected through one or more OSP host complex gateways 485 and one or more IM host complex gateways 495. Each OSP host complex gateway 485 and IM host complex gateway 495 may perform any protocol conversions necessary to enable communications between the OSP host complex 480, the IM host complex 490, and the Internet 465.

The OSP host complex 480 supports a set of services from one or more servers located internal to and external from the OSP host complex 480. Servers external to the OSP host complex 480 generally may be viewed as existing on the Internet 465. Servers internal to the OSP complex 480 may be arranged in one or more configurations. For example, servers may be arranged in centralized or localized clusters in order to distribute servers and subscribers within the OSP host complex 480.

In one implementation of Fig. 4, the OSP host complex 480 includes a routing processor 4802. In general, the routing processor 4802 will examine an address field of a data request, use a mapping table to determine the appropriate destination for the data request, and direct the data request to the appropriate destination. In a packet-based implementation, the client system 405 may generate information requests, convert the

requests into data packets, sequence the data packets, perform error checking and other packet-switching techniques, and transmit the data packets to the routing processor 4802. Upon receiving data packets from the client system 405, the routing processor 4802 may directly or indirectly route the data packets to a specified destination within or outside of the OSP host complex 480. For example, in the event that a data request from the client system 405 can be satisfied locally, the routing processor 4802 may direct the data request to a local server 4804. In the event that the data request cannot be satisfied locally, the routing processor 4802 may direct the data request externally to the Internet 465 or the IM host complex 490 through the gateway 485.

The OSP host complex 480 also includes a proxy server 4806 for directing data requests and/or otherwise facilitating communication between the client system 405 and the Internet 465. The proxy server 4806 may include an IP ("Internet Protocol") tunnel for converting data from OSP protocol into standard Internet protocol and transmitting the data to the Internet 465. The IP tunnel also converts data received from the Internet 465 in the standard Internet protocol back into the OSP protocol and sends the converted data to the routing processor 4802 for delivery back to the client system 405.

The proxy server 4806 also may allow the client system 405 to use standard Internet protocols and formatting to access the OSP host complex 480 and the Internet 465. For example, the subscriber may use an OSP TV client application having an embedded browser application installed on the client system 405 to generate a request in standard Internet protocol, such as HTTP ("HyperText Transport Protocol"). In a packet-based implementation, data packets may be encapsulated inside a standard Internet tunneling protocol, such as, for example, UDP ("User Datagram Protocol") and routed to the proxy server 4806. The proxy server 4806 may include an L2TP ("Layer Two Tunneling Protocol") tunnel capable of establishing a point-to-point protocol (PPP) session with the client system 405.

The proxy server 4806 also may act as a buffer between the client system 405 and the Internet 465, and may implement content filtering and time saving techniques. For example, the proxy server 4806 can check parental controls settings of the client system 405 and request and transmit content from the Internet 465 according to the parental control settings. In addition, the proxy server 4806 may include one or more caches for

storing frequently accessed information. If requested data is determined to be stored in the caches, the proxy server 4806 may send the information to the client system 405 from the caches and avoid the need to access the Internet 465.

Referring to Fig. 5, a communications system 500 is capable of delivering and exchanging information between a client system 505 and a host system 510 through a communication link 515. Client system 505 typically includes one or more client devices 520 and one or more client controllers 525 for controlling the client devices 520. Host system 510 typically includes one or more host devices 535 and one or more host controllers 540 for controlling the host devices 535. The communications link 515 may include communication pathways 550 and 555 that enable communications through the one or more delivery networks 560. As shown, the client system 505 may access the Internet 565 through the host system 510.

Examples of each element within the communications system of Fig. 5 are broadly described above with respect to Figs. 1-4. In particular, the client system 505 and the communications link 515 typically have attributes comparable to those described with respect to client systems 105, 205, 305, and 405 and communications links 115, 215, 315, and 415 of Figs. 1-4. Likewise, the host system 510 of Fig. 5 may have attributes comparable to and illustrates one possible implementation of the host systems 110, 210, 310, and 410 shown in Figs. 1-4. Fig. 5 describes an aspect of the host system 510, focusing primarily on one particular implementation of IM host complex 590.

The client system 505 includes a client device 520 and a client controller 525. The client controller 525 is generally capable of establishing a connection to the host system 510, including the OSP host complex 580, the IM host complex 590 and/or the Internet 565. In one implementation, the client controller 525 includes an IM application for communicating with servers in the IM host complex 590 utilizing exclusive IM protocols. The client controller 525 also may include applications, such as an OSP client application, and/or an Internet browser application for communicating with the OSP host complex 580 and the Internet 565, respectively.

The host system 510 includes a host device 535 and a host controller 540. The host controller 540 is generally capable of transmitting instructions to any or all of the elements of the host device 535. For example, in one implementation, the host controller

540 includes one or more software applications loaded on one or more elements of the host device 535. However, in other implementations, as described above, the host controller 540 may include any of several other programs, machines, and devices operating independently or collectively to control the host device 535.

The host system 510 includes a login server 570 capable of enabling communications with and authorizing access by client systems 505 to various elements of the host system 510, including an OSP host complex 580 and an IM host complex 590. The login server 570 may implement one or more authorization procedures to enable simultaneous access to the OSP host complex 580 and the IM host complex 590. The OSP host complex 580 and the IM host complex 590 are connected through one or more OSP host complex gateways 585 and one or more IM host complex gateways 595. Each OSP host complex gateway 585 and IM host complex gateway 595 may perform any protocol conversions necessary to enable communication between the OSP host complex 580, the IM host complex 590, and the Internet 565.

To access the IM host complex 590 to begin an instant messaging session, the client system 505 establishes a connection to the login server 570. The login server 570 typically determines whether the particular subscriber is authorized to access the IM host complex 590 by verifying a subscriber identification and password. If the subscriber is authorized to access the IM host complex 590, the login server 570 employs a hashing technique on the subscriber's screen name to identify a particular IM server 5902 for use during the subscriber's session. The login server 570 provides the client system 505 with the IP address of the particular IM server 5902, gives the client system 505 an encrypted key (i.e., a cookie), and breaks the connection. The client system 505 then uses the IP address to establish a connection to the particular IM server 5902 through the communications link 515, and obtains access to that IM server 5902 using the encrypted key. Typically, the client system 505 will be equipped with a Winsock API ("Application Programming Interface") that enables the client system 505 to establish an open TCP connection to the IM server 5902.

Once a connection to the IM server 5902 has been established, the client system 505 may directly or indirectly transmit data to and access content from the IM server 5902 and one or more associated domain servers 5904. The IM server 5902 supports the

fundamental instant messaging services and the domain servers 5904 may support associated services, such as, for example, administrative matters, directory services, chat and interest groups. In general, the purpose of the domain servers 5904 is to lighten the load placed on the IM server 5902 by assuming responsibility for some of the services within the IM host complex 590. By accessing the IM server 5902 and/or the domain server 5904, a subscriber can use the IM client application to view whether particular subscribers ("buddies") are online, exchange instant messages with particular subscribers, participate in group chat rooms, trade files such as pictures, invitations or documents, find other subscribers with similar interests, get customized news and stock quotes, and search the World Wide Web.

In the implementation of Fig. 5, the IM server 5902 is directly or indirectly connected to a routing gateway 5906. The routing gateway 5906 facilitates the connection between the IM server 5902 and one or more alert multiplexors 5908, for example, by serving as a link minimization tool or hub to connect several IM servers 5902 to several alert multiplexors 5908. In general, an alert multiplexor 5908 maintains a record of alerts and subscribers registered to receive the alerts.

Once the client system 505 is connected to the alert multiplexor 5908, a subscriber can register for and/or receive one or more types of alerts. The connection pathway between the client system 505 and the alert multiplexor 5908 is determined by employing another hashing technique at the IM server 5902 to identify the particular alert multiplexor 5908 to be used for the subscriber's session. Once the particular multiplexor 5908 has been identified, the IM server 5902 provides the client system 505 with the IP address of the particular alert multiplexor 5908 and gives the client system 505 an encrypted key (i.e., a cookie). The client system 505 then uses the IP address to connect to the particular alert multiplexor 5908 through the communication link 515 and obtains access to the alert multiplexor 5908 using the encrypted key.

The alert multiplexor 5908 is connected to an alert gate 5910 that, like the IM host complex gateway 595, is capable of performing the necessary protocol conversions to form a bridge to the OSP host complex 580. The alert gate 5910 is the interface between the IM host complex 590 and the physical servers, such as servers in the OSP host complex 580, where state changes are occurring. In general, the information regarding

state changes will be gathered and used by the IM host complex 590. However, the alert multiplexor 5908 also may communicate with the OSP host complex 580 through the IM host complex gateway 595, for example, to provide the servers and subscribers of the OSP host complex 580 with certain information gathered from the alert gate 5910.

The alert gate 5910 can detect an alert feed corresponding to a particular type of alert. The alert gate 5910 may include a piece of code (alert receive code) capable of interacting with another piece of code (alert broadcast code) on the physical server where a state change occurs. In general, the alert receive code installed on the alert gate 5910 instructs the alert broadcast code installed on the physical server to send an alert feed to the alert gate 5910 upon the occurrence of a particular state change. Upon detecting an alert feed, the alert gate 5910 contacts the alert multiplexor 5908, which in turn, informs the client system 505 of the detected alert feed.

In the implementation of Fig. 5, the IM host complex 590 also includes a subscriber profile server 5912 connected to a database 5914 for storing large amounts of subscriber profile data. The subscriber profile server 5912 may be used to enter, retrieve, edit, manipulate, or otherwise process subscriber profile data. In one implementation, a subscriber's profile data includes, for example, the subscriber's buddy list, alert preferences, designated stocks, identified interests, and geographic location. The subscriber may enter, edit and/or delete profile data using an installed IM client application on the client system 505 to interact with the subscriber profile server 5912.

Because the subscriber's data is stored in the IM host complex 590, the subscriber does not have to reenter or update such information in the event that the subscriber accesses the IM host complex 590 using a new or a different client system 505. Accordingly, when a subscriber accesses the IM host complex 590, the IM server 5902 can instruct the subscriber profile server 5912 to retrieve the subscriber's profile data from the database 5914 and to provide, for example, the subscriber's buddy list to the IM server 5902 and the subscriber's alert preferences to the alert multiplexor 5908. The subscriber profile server 5912 also may communicate with other servers in the OSP host complex 580 to share subscriber profile data with other services. Alternatively, user profile data may be saved locally on the client device 505.

Referring to Fig. 6, a communications system 600 is capable of delivering and exchanging information between a client system 605 and a host system 610 through a communication link 615. Client system 605 typically includes one or more client devices 620 and one or more client controllers 625 for controlling the client devices 620. Host system 610 typically includes one or more host devices 635 and one or more host controllers 640 for controlling the host devices 635. The communication link 615 may include communication pathways 650 and 655 that enable communications through the one or more delivery networks 660. The network 660 may be any known or described delivery network including, but not limited, to a telephone network and/or the Internet.

Examples of each element within the communication system of Fig. 6 are broadly described above with respect to Figs. 1-5. In particular, the client system 605 and the communications link 615 typically have attributes comparable to those described with respect to client systems 105, 205, 305, 405, and 505 and communications links 115, 215, 315, 415, and 515 of Figs. 1-5. Likewise, the host system 610 of Fig. 6 may have attributes comparable to and illustrates one possible implementation of the host systems 110, 210, 310, 410, and 510 shown in Figs. 1-5, respectively. However, Fig. 6 describes an aspect of the host system 610, focusing primarily on one particular implementation of the host device 635.

The client system 605 includes a client device 620 and a client controller 625. The client controller 625 is generally capable of establishing a connection to the host system 610 through the delivery network 615. In one implementation, the client controller 625 includes one or more applications, such as an IM application, an OSP application, and/or an Internet browser application.

The host system 610 includes a host device 635 and a host controller 640. The host controller 640 is generally capable of transmitting instructions to any or all of the elements of the host device 635. For example, in one implementation, the host controller 640 includes one or more software applications loaded on one or more elements of the host device 635. However, in other implementations, as described above, the host controller 640 may include any of several other programs, machines, and devices operating independently or collectively to control the host device 635. The host device 635 includes a mail gateway 6350 having a send mail server 6352 and a read mail server 6354. The

send mail server 6352 is configured to perform functions relating to transmitting electronic data. The read mail server 6354 is configured to perform functions relating to receiving and accessing electronic data. The mail gateway 6350 is in communication with one or more processing servers 6360.

The mail gateway 6350 also is in communication with the storage area 6370 and a tandem database 6380. The storage area 6370 includes electronic content databases 6372, 6374 and attachment database 6376. The tandem database 6380 includes a system of folders that store electronic data for subscribers of the host system 610.

The host device 635 also includes an identification ("ID") host complex 6390. The ID host complex 6390 includes a configuration server 6392 in communication with the client system 605, the read mail server 6352, a look-up server 6394, and an IM server 6396. The IM server 6396 typically has attributes comparable to some or all elements of IM host complexes 390, 490, 590, and 690. In general, the IM server 6396 is capable of supporting instant messaging services including the identification of whether a particular individual is available for IM messaging, the look-up server 6394 is capable of finding subscriber account information (e.g., screen name) from a given e-mail address, and the configuration server 6392 is capable of configuring communication schemes between the intended recipient of an e-mail message and the sender and/or other recipients of the e-mail message. The configuration server 6392 may include an electronic data store (e.g., a cache) that may be used, for example, to cache attributes of electronic data communicated using the host 610. The cache of attributes of electronic data may be associated with a previously encountered message (e.g., a cache entry may indicate that a message stored in the cache with ID=514 references individuals x, y, z) to avoid the need to analyze the message each time it is encountered.

Referring to Figs. 7 and 8, a sender 702 and a host 704 interact according to a procedure 700 to transmit electronic data. The procedure 700 may be implemented by any type of hardware, software, device, computer, computer system, equipment, component, program, application, code, storage medium, or propagated signal.

Examples of each element of Figs. 7 and 8 are broadly described above with respect to Figs. 1-6. In particular, the sender 702 typically has attributes comparable to those described with respect to client devices 120, 220, 320, 420, 520, and 620 and/or

client controllers 125, 225, 325, 425, 525, and 625. The host 704 typically has attributes comparable to those described above with respect to host devices 135, 235, 335, 435, 535, and 635 and/or host controllers 140, 240, 340, 440, 540, and 640. The sender 702 and/or the host 704 may be directly or indirectly interconnected through a known or described delivery network.

Initially, the sender 702 transmits electronic data to the host 704 (step 705). In one implementation, the sender 702 is a client system 605 associated with an end user of the communication system 600. In another implementation, the sender 702 aids the client system 605 in transmitting electronic data through a communications link 615 to the host system 610. In yet another implementation, the sender 702 is a processing server 6360 within the host system 610. For example, the processing server 6360 may be a web mail server arranged to store and forward electronic data transmitted between end users of the communication system 600.

The host 704 receives the electronic data from the sender 702 (step 710). In one implementation, the host 704 includes a mail gateway such as mail gateway 6350 of Fig. 6. In this implementation, the mail gateway 6350 generally receives the electronic data from the client system 605 and/or the processing server 6360. Typically, the mail gateway 6350 will receive electronic content from subscribers through a dial-up telephone network or DSL (digital subscriber line) and will receive electronic content from non-subscribers indirectly through the Internet. The mail gateway 6350 may perform protocol conversions if necessary to receive electronic content from non-subscribers.

After receiving the electronic data from the sender 702 (step 710), the host 704 determines one or more attributes of the electronic data (step 715). Attributes of the electronic data may include, but are not limited to, an identification token, the author of the electronic data, the recipient(s) of the electronic data, the subject of the electronic data, the date and time of the transmission, and/or whether the electronic data contains attachments or embedded images. The host 704 typically will store the contents and attributes of the electronic data. For example, in one implementation of the structure shown by Fig. 6, contents of the electronic data are stored in the storage area 6370 and the attributes of the electronic data are cached locally in the configuration server 6392 and also stored in the tandem database 6380. The body of the electronic data is stored in electronic content

databases 6372, 6374 and any attachments are stored in the attachment database 6376. In this example, the body of the electronic data is stored twice to assure its availability. Due to the typically large sizes of attachments, however, such objects are only stored once to conserve memory space.

The tandem database 6380 includes a system of actual or virtual folders corresponding to the subscribers of the host system 610. Each folder may have properties assigned by the subscriber including, for example, properties for filtering electronic content from certain sources. When electronic data are received, the folder stores the attributes of the electronic data including the location(s) of the electronic data content (i.e., body and attachments) in the storage area 6370.

The host 704 then provides supplemental contact information for a referenced individual (step 720). The supplemental contact information for the referenced individual may be provided to the sender of the electronic data, the recipients of the electronic data, and other individuals referenced in the electronic data. In one implementation, the host 704 uses the supplemental contact information to configure a communication scheme between the recipient and the referenced individual.

In one implementation, the supplemental contact information may include real time contact information. Real time contact information includes information that reflects the current availability of the user to communicate through one or more communication schemes. For example, the real time contact information may include a referenced individual's current online status to communicate using instant messaging or a referenced individual's current availability to communicate using phone communications.

Additionally or alternatively, real time contact information may include information that reflects contact information provided by the referenced individual for display to others seeking their availability when viewing electronic messages that identify the individual.

Fig. 8 illustrates one implementation of a process 720 for providing supplemental contact information for a referenced individual. Initially, the configuration server 6392 detects a token or other information capable of identifying incoming electronic data (e.g., an e-mail message or an instant message) (step 805). The identification token may be intercepted by the configuration server 6392 and/or presented to the configuration server

6392 by the client system 605, the processing server 6360, and/or the read mail server 6354 (communication path not shown by Fig. 6). Referencing the token, the configuration server 6392 accesses a cache (step 810) and determines whether attributes of the electronic data are stored locally (step 815). Such attributes may include, but are not limited to, a listing of referenced individuals associated with the electronic data. The listing of referenced individuals may include the sender and all recipients associated with the electronic data identified from addressing information. The listing of referenced individuals also may include names detected in the body of an electronic communication. For example, the listing of referenced individuals associated with an e-mail message may include the sender of the e-mail message, all recipients of the e-mail message, and any names of individuals detected in the body of the e-mail message.

If attributes of the electronic data are stored locally, the configuration server 6392 retrieves the attributes from the local cache (step 820). If, on the other hand, attributes of the electronic data are not stored locally, the configuration server 6392 determines the attributes of the electronic data (step 825) and then supplements the local cache with those attributes (step 830). The configuration server 6392 may determine the attributes of the electronic data itself and/or may access another server to determine the attributes. In one implementation, the configuration server 6392 accesses the read mail server 6354. The read mail server 6354 then determines attributes of the electronic data. Determining attributes of the electronic data may include detecting referenced individuals associated with the electronic data by examining addressing information and the content of the electronic data. The read mail server 6354 then presents the attributes to the configuration server 6392. The configuration server 6392 receives the listing from the read mail server 6354 and stores the listing in the local cache.

The configuration server 6392 sends the listing of referenced individuals to the look-up server 6394, which can be used to determine the real time messaging capability of each referenced individual (step 835). In one implementation, the look-up server 6394 determines whether supplemental contact information is associated with any or all referenced individuals. The supplemental contact information may include e-mail addresses, IM screen names, telephone numbers, and/or mailing addresses associated with the referenced individual. However, the referenced individuals may or may not be subscribers of the communication system 600. For instance, in one implementation, the

listing includes e-mail addresses of subscribers and non-subscribers. Thus, to facilitate a determination of real time messaging capabilities, the configuration server 6392 may strip the domain (e.g., @aol.com) from the e-mail address of a subscriber with a recognized domain to obtain the subscriber's screen name and facilitate a reverse look-up process. In another implementation, the listing includes names detected in the content of an electronic message (e.g., an e-mail message or an instant message) or e-mail addresses otherwise recognizable to the configuration server 6392.

In general, the supplemental contact information will be provided by the referenced individuals themselves and will be maintained by the host system 610. For example, a subscriber may provide contact information when establishing an account with the host system 610. A subscriber also may provide contact information transparently by connecting to host system 610 and allowing the host system 610 to monitor the subscriber's online presence. In one implementation, the host system 610 maintains a global electronic address book containing supplemental contact information associated with subscribers. Each subscriber may control what type of contact information is provided and to whom such contact information is made available. In addition, each subscriber may place conditions on when certain contact information is made available. For instance, a subscriber may make certain contact information available only at specified times.

In one example, a subscriber may make supplemental contact information available only to family members. In this example, the subscriber may have minimal privacy concerns and therefore may allow family members access to supplemental contact information including home and work e-mail addresses, IM screen names, telephone numbers, facsimile numbers, and mailing addresses. In addition, the subscriber may provide contact information for a person to contact in emergency cases when the subscriber is unavailable.

In another example, the subscriber may make supplemental contact information available to fellow employees during working hours. In this example, the subscriber may allow fellow employees access to supplemental contact information including a work e-mail address, IM screen name, telephone number, facsimile number, and mailing address. In addition, the subscriber may provide contact information for an assistant or supervisor

that people should contact in urgent cases when the subscriber is unavailable. In another example for a working environment, the supplemental contact information may include an office layout (i.e., a map) so that a remote manager may be able to reach an unresponsive employee by sending a message to an employee located in close proximity to the unresponsive employee.

In yet another example, the subscriber may set preferences to enable the supplemental contact information to be provided to designated persons. For example, the subscriber may designate which group or groups of persons may receive the supplemental contact information, such as, senders of electronic messages, other recipient of electronic messages, and/or other individuals referenced. The subscriber may designate specific individuals to received the supplemental contact information. Additionally and/or alternatively, the subscriber may designate specific individuals who should be blocked from receiving the supplemental contact information.

A subscriber may set preferences that control the presentation of supplemental contact information by the host system 610. For example, the subscriber may allow the host system 610 to examine some or all of the content of electronic messages sent to or by the subscriber. In one implementation, the host system 610 may examine the content of an electronic message (e.g., an e-mail message or an instant message) authored by the subscriber or delivered to the subscriber, detect names of referenced individuals included in the electronic message, and provide supplemental contact information for each referenced individual, if available.

In addition, the host system 610 may update a personal address book associated with the subscriber. For example, the host system 610 may ask the subscriber if a referenced individual should be included in a subscriber's personal address book and/or may ask the subscriber if an existing entry for a referenced individual in the subscriber's personal address book should be updated with the supplemental contact information. Upon receiving an affirmative response from the subscriber, the host system 610 may populate and/or update the subscriber's personal address book. The subscriber's personal address book may be maintained on the host system 610 and/or on the subscriber's client system 605.

In some cases, a subscriber may allow the host system 610 to facilitate the acquisition of supplemental contact information. Typically, a subscriber will set preferences that control the amount of intervention by the host system 610. In one implementation, a subscriber may allow the host system 610 to automatically update a global electronic address book containing supplemental contact information associated with the subscriber. That is, the host system 610 may be permitted to automatically update a subscriber's contact information in the global electronic address book as new contact information for the subscriber becomes available. For example, contact information may be automatically added or updated whenever a subscriber creates and/or changes an e-mail address, screen name, telephone number, facsimile number, and/or mailing address. As such, the most current contact information associated with the subscriber may be made available to other subscribers.

In one implementation, the configuration server 6392 interacts with the IM server 6396 to make known whether referenced individuals are available for instant messaging communication, and to enable such communications. For example, the configuration server 6392 may request the IM server 6396 to identify the IM state (e.g., online, offline, away, busy, not a member) of each referenced individual. As described above, the IM server 6396 may be a network of interconnected servers capable of determining the status or online presence of subscribers. The online presence of the referenced individual can be detected, for example, from a persistent connection to an IM server and/or the activity of a specific control port.

In response to the request, the IM server 6396 identifies the IM state of the referenced individual to the configuration server 6392. In one implementation, the IM state is given by whether the referenced individual is online, offline, or does not have instant messaging capability. The configuration server 6392 may instruct the IM server 6396 to send an invitation to referenced individuals without instant messaging capability. The invitation may invite the referenced individual to subscribe to the IM host complex 6390 and/or the host system 610. For referenced individuals having instant messaging capability, the IM server 6396 reports whether each referenced individual is online or offline.

Once the look-up server 6394 has determined the supplemental contact information for the referenced individuals, the look-up server 6394 reports the real time messaging capabilities of each referenced individual to the configuration server 6392 (step 840). In one implementation, the look-up server 6394 identifies the capability of each referenced individual to communicate by e-mail, instant messaging, telephone, facsimile, and regular mail, for example, by using icons near references to the individual's name/reference within the electronic content, or by changing the font of the individual's name/reference. The look-up server 6394 also may provide supplemental contact information (e.g., screen name, e-mail address, telephone number, facsimile number, mailing address) to the configuration server 6392. Based on the reported capabilities of the references individuals, the configuration server 6392 facilitates real time communication with each referenced individual.

In one implementation, when the look-up server 6394 reports the real time messaging capabilities of each referenced individual to the configuration server 6392, the configuration server 6392 may present a particular instant messaging user interface ("UI"). For example, the configuration server 6392 may cause a user's existing buddy list window to be updated with the screen names of referenced individuals capable of participating in an IM session. Additionally or alternatively, a new buddy list window may be created and updated with referenced individuals capable of participating in an IM session. In the example of Fig. 9, the UI 900 includes a buddy list window. The screen names of referenced individuals who are able to receive instant messages will appear in the buddy list window in a new group called Mail Contacts. A user may send an instant message to a person in the Mail Contacts list by clicking that person's screen name. Thus, when an individual referenced in electronic content (e.g., in an e-mail) is determined to have IM capabilities, a buddy list window may be presented with a screen name of the referenced individual.

Fig. 10 illustrates another example of how the IM state of each of the sender and the recipients may be represented. An icon may indicate that the referenced individual has IM capability. The icon may be presented upon opening an e-mail message, for example, in response to one or more redirection commands associated with the IM state of the referenced individual. The redirection command may include a URL for navigating a browser to a particular URL associated with a graphical user interface and/or icon

corresponding to one of the IM states. By clicking on the IM icon, a subscriber may launch an instant message.

Where an icon does not appear next to a referenced individual, the referenced individual does not presently have IM capability, and selection of the subscriber reference (e.g., screen name) may elicit a list of other contact information. Thus, even if a referenced individual does not have IM capability, a subscriber still may be able to communicate with the referenced individual through an alternate communication scheme. For example, the configuration server 6392 may receive an e-mail address for a referenced individual with e-mail capability. In one implementation, the configuration server 6392 displays an e-mail address of a referenced individual. By clicking the e-mail address, the subscriber may launch an e-mail message to the referenced individual, or the user may be presented with other forms of contact information such as the telephone number of the individual.

It should be noted that the e-mail address is displayed according to the supplemental contact information. As such, the displayed e-mail address is not necessarily the e-mail address included in the originally-transmitted message. For example, if a referenced individual has indicated a preferred e-mail address, the preferred e-mail address will displace another e-mail address. To illustrate with reference to Fig. 10, assume that a referenced individual (Sally Smith) has indicated that a work e-mail address (sallysmith@straitsight.com) is to be provided as supplemental contact information during working hours and that a home e-mail address (sallysmith@aol.com) is to be provided as supplemental contact information during all other times. Even if a sender (Chris Barker) sends the e-mail message using the home e-mail address (sallysmith@aol.com), the work e-mail address (sallysmith@straitsight.com) may be displayed when the e-mail message is opened during working hours.

Figs. 11a and 11b illustrate another example of how the supplemental contact information for referenced individuals may be presented. For example, in Fig. 11a, e-mail 1100 includes two referenced individuals in the body of the e-mail 1100 (i.e., John Doe 1105 and Tim Smith 1110). As the cursor 1115 is moved over the referenced individuals 1105 and 1110, a window (e.g., a pop-up window) may be displayed for each referenced individual listing the individual's supplemental contact information. For instance, as

cursor 1115 is moved over John Doe 1105, pop-up window 1120 displays John Doe's supplemental contact information.

The supplemental contact information displayed in the pop-up window 1120 may depend on the date and/or time at which the e-mail is being viewed. In this case, the date-time stamp 1125a on e-mail 1100 indicates that the e-mail 1100 is being viewed on "04/24/2002 11:26 AM" 1125a. Based on the date and the time 1125a that the e-mail 1100 is being viewed, the supplemental contact information for John Doe indicates that the address "JDOE@AOL.COM" 1130a should be used to reach John Doe by e-mail.

In Fig. 11b, when the same e-mail 1100 is viewed at a different time 1125b, the pop-up window 1120 displays different supplemental contact information for John Doe 1105. In this case, based on the date and time 1125b that the e-mail 1100 is being viewed, the supplemental contact information for John Doe indicates that the address "JDOE@AIM.COM" 1130b should be used to reach John Doe by e-mail.

As is true with respect to other drawings, the contact information may be provided for individuals referenced in the header (e.g., To, From, cc) or body of the message, and may be formed of complete or partial names or aliases, or by complete or partial reference to other contact information that is recognizable and that may be associated with the individual. Furthermore, the pop-up window of Figs. 11a and 11b, while shown as being positioned so as to avoid overlap of the current message, may be positioned over, under, or away from the viewable area of the message that references the individual.

In one exemplary implementation, an individual referenced in an electronic message may make other supplemental information available to recipients of the electronic message based on the preferences of the recipient. A host system may facilitate this exchange of supplemental information by maintaining this other supplemental information for the referenced individual and by enabling recipients to designate the other supplemental information they desire to receive about referenced individuals. For example, the host may maintain other supplemental information provided by the referenced individual, such as, for example, a type of PDA used, date of birth, clothes sizes, favorites (e.g., type of food or restaurant), and other types of other supplemental information. A recipient, who also may subscribe to the host system, may designate what other supplemental information the recipient desires to receive about referenced

individuals, if that information is made available by a referenced individual. For example, in addition to supplemental contact information, a recipient also may want to receive information about a referenced individual's favorite restaurant. As long as that information is made available by a referenced individual, then the recipient may receive that information.

While the general aspects described above relate to instant messaging and e-mail, other types of supplemental contact information such as telephone numbers, facsimile numbers, and mailing addresses for the referenced individual may be displayed. In some implementations, all available supplemental contact information for a referenced individual is displayed. For example, a pull-down menu listing all supplemental contact information for a referenced individual may be presented by clicking text or an icon associated with the referenced individual. In such cases, a subscriber may choose the manner in which to contact the referenced individual. In other implementations, only the most efficient or reliable ways of contacting the referenced individual are displayed. For example, limited contact information such as a primary e-mail address, screen name, and telephone number may be displayed even if other contact information is available.

Other implementations are within the scope of the following claims.

66822-973

CLAIMS:

1. A method for providing supplemental information corresponding to an individual referenced in an electronic message, the method comprising:

receiving an electronic message from a sender and intended for at least one recipient, the electronic message comprising address information and content;

detecting an identifier representing a referenced individual contained in the electronic message by examining at least one of the address information and the content of the electronic message;

retrieving supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual;

inserting the supplemental contact information into the electronic message; and

enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the inserted supplemental contact information, wherein the supplemental contact information is in addition to information contained in the electronic message received from the sender and is accessible to the recipient through the display of the electronic message.

2. The method as in claim 1 wherein the supplemental contact information includes at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

3. The method as in claim 2 wherein the supplemental contact information includes supplemental contact information for the referenced individual that was communicated by the referenced individual to a host that maintains the supplemental contact information.

4. The method as in claim 1 wherein the electronic message includes an e-mail message.

5. The method as in claim 1 wherein the electronic message includes an instant message.

6. The method as in claim 1 further comprising configuring a communication scheme between the recipient of the electronic message and the individual referenced in the electronic message using the supplemental contact information.

7. The method as in claim 1 wherein the referenced individual includes at least one of the sender of the electronic message, a recipient of the electronic message, and a name included in a body of the electronic message.

8. The method as in claim 1 further comprising:

checking preferences of the referenced individual; and

enabling display of the electronic message to the recipient such that the inserted supplemental contact information is displayed according to the preferences of the referenced individual.

9. The method as in claim 1 further comprising:

checking preferences of the recipient; and

enabling display of the electronic message to the recipient such that the inserted supplemental contact information is displayed according to the preferences of the recipient.

10. The method as in claim 1 further comprising updating a personal address book with the supplemental contact information of the referenced individual.

11. The method as in claim 1 further comprising maintaining a global address book that includes the supplemental contact information for the referenced individual.

12. The method as in claim 11 further comprising automatically updating the global address book when the referenced individual makes changes to the, supplemental contact information.

13. The method as in claim 2 wherein the supplemental contact information includes a status of online presence for the referenced individual.

14. The method as in claim 1 wherein the supplemental contact information includes the real time messaging capability of the referenced individual.

15. The method as in claim 14 further comprising sending an invitation to the referenced individual to subscribe to an instant messaging service.

16. The method as in claim 15 wherein sending the invitation includes sending the invitation to the referenced individual who is not an instant messaging service subscriber.

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17. The method as in claim 1 wherein detecting an identifier includes detecting an e-mail address for the referenced individual and further comprising stripping a domain from the e-mail address and performing a reverse-lookup to obtain an instant messaging screen name for the referenced individual.

18. The method as in claim 1 wherein enabling display of the electronic message further includes enabling display of an indicator associated with the referenced individual to indicate available supplemental contact information.

19. The method as in claim 1 further comprising enabling the referenced individual to define rights of recipients for viewing the supplemental contact information associated with the referenced individual.

20. The method as in claim 19 wherein the rights of recipients for viewing the supplemental contact information may be defined to change temporally.

21. The method as in claim 19 wherein enabling the referenced individual to define the rights of recipients includes enabling only designated recipients to view the supplemental contact information associated with the referenced individual.

22. The method as in claim 19 wherein enabling the referenced individual to define the rights of recipients includes enabling only persons designated in a personal address book to view the supplemental contact information associated with the referenced individual.

23. The method as in claim 19 wherein enabling the referenced individual to define the rights of recipients includes enabling only persons designated in a global

address book to view the supplemental contact information associated with the referenced individual.

24. The method as in claim 1 wherein the supplemental contact information includes a screen name and further comprising adding the screen name to an instant messaging buddy list.

25. The method as in claim 1 wherein the enabled display of the electronic message includes real time contact information for the referenced individual.

26. A method for receiving supplemental contact information for an individual referenced in an electronic message, the method comprising:

receiving, on behalf of an intended recipient and from a host, an electronic message that was sent by a sender and that includes an identifier representing a referenced individual, the electronic message comprising address information and content;

receiving, on behalf of the intended recipient and from the host, supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual, wherein the supplemental contact information is in addition to information contained in the electronic message; and

enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the supplemental contact information, wherein the supplemental contact information is accessible to the recipient through the display of the electronic message.

27. The method as in claim 26 wherein the supplemental contact information includes at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

28. The method as in claim 26 wherein the supplemental contact information includes information that was communicated by the referenced individual to the host that maintains the supplemental contact information.

29. The method as in claim 26 wherein the electronic message includes an e-mail message.

30. The method as in claim 26 wherein the electronic message includes an instant message.

31. The method as in claim 26 wherein the referenced individual includes at least one of the sender of the electronic message, a recipient of the electronic message, and a name included in a body of the electronic message.

32. The method as in claim 26 further comprising updating a personal address book with the supplemental contact information of the referenced individual.

33. The method as in claim 26 further comprising maintaining a global address book that includes the supplemental contact information for the referenced individual.

34. The method as in claim 33 further comprising automatically updating the global address book when the referenced individual makes changes to the supplemental contact information.

35. The method as in claim 27 wherein the supplemental contact information includes a status of online presence for the referenced individual.

36. The method as in claim 26 wherein the supplemental contact information includes real time contact information for the referenced individual.

37. The method as in claim 26 wherein the supplemental contact information includes a real time messaging capability for the referenced individual.

38. A computer readable storage medium having stored thereon computer readable code executable on a computer for providing supplemental contact information corresponding to an individual referenced in an electronic message, the computer readable code comprising:

computer readable code that causes the computer to receive an electronic message from a sender and intended for at least one recipient, the electronic message comprising address information and content;

computer readable code that causes the computer to detect an identifier representing a referenced individual contained in the electronic message by examining at least one of the address information and the content of the electronic message;

computer readable code that causes the computer to retrieve supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual;

computer readable code that causes the computer to insert the supplemental contact information into the electronic message; and

computer readable code that causes the computer to enable display of the electronic message to the recipient, the enabled display of the electronic message comprising the inserted supplemental contact information, wherein the supplemental contact information is in addition to information contained in the electronic message received from the sender and is accessible to the recipient through the display of the electronic message.

39. The computer readable storage medium of claim 38 wherein the supplemental contact information includes at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

40. The computer readable storage medium of claim 39 wherein the supplemental contact information includes supplemental contact information for the referenced individual available that was communicated by the referenced individual to a host that maintains the supplemental contact information.

41. The computer readable storage medium of claim 38 wherein the electronic message includes an e-mail message.

42. The computer readable storage medium of claim 38 wherein the electronic message includes an instant message.

43. The computer readable storage medium of claim 38 further comprising computer readable code that causes the computer to configure a communication scheme between the sender

of the electronic message and the individual referenced in the electronic message using the supplemental contact information.

44. The computer readable storage medium of claim 38 wherein the referenced individual includes at least one of the sender of the electronic message, a recipient of the electronic message, and a name included in a body of the electronic message.

45. The computer readable storage medium of claim 38 further comprising computer readable code that causes the computer to check preferences of the referenced individual, wherein the computer readable code that causes the computer to enable display of the electronic message causes the computer to enable display of the electronic message to the recipient such that the inserted supplemental contact information is displayed according to the preferences of the referenced individual.

46. The computer readable storage medium of claim 38 further comprising computer readable code that causes the computer to check preferences of the recipient, wherein the computer readable code that causes the computer to enable display of the electronic message causes the computer to enable display of the electronic message to the recipient such that the inserted supplemental contact information is displayed according to the preferences of the recipient.

47. The computer readable storage medium of claim 38 further comprising computer readable code that causes the computer to update a personal address book with the supplemental contact information of the referenced individual.

48. The computer readable storage medium of claim 38 further comprising computer readable code that causes the computer to maintain a global address book that includes the supplemental contact information for the referenced individual.

49. The computer readable storage medium of claim 48 further comprising computer readable code that causes the computer to automatically update the global address book when the referenced individual makes changes to the supplemental contact information.

50. The computer readable storage medium of claim 39 wherein the supplemental contact information includes a status of online presence for the referenced individual.

51. The computer readable storage medium of claim 38 wherein the supplemental contact information includes a real time messaging capability of the referenced individual.

52. The computer readable storage medium of claim 51 further comprising computer readable code that causes the computer to send an invitation to the referenced individual to subscribe to an instant messaging service.

53. The computer readable storage medium of claim 52 wherein the computer readable code that causes the computer to send an invitation causes the computer to send the invitation to the referenced individual who is not an instant messaging service subscriber.

54. The computer readable storage medium of claim 38 wherein the computer readable code that causes the computer to detect an identifier causes the computer to detect an e-mail address for the referenced individual and further comprising

computer readable code that causes the computer to strip a domain from the e-mail address and to perform a reverse-lookup to obtain an instant messaging screen name for the referenced individual.

55. The computer readable storage medium of claim 38 wherein the computer readable code that causes the computer to enable display of the electronic message causes the computer to display an indicator associated with the referenced individual to indicate available supplemental contact information.

56. The computer readable storage medium of claim 38 further comprising computer readable code that causes the computer to enable the referenced individual to define rights of recipients for viewing the supplemental contact information associated with the referenced individual.

57. The computer readable storage medium of claim 56 wherein the rights of recipients for viewing the supplemental contact information may be defined to change temporally.

58. The computer readable storage medium of claim 56 wherein the computer readable code that causes the computer to enable the referenced individual to define rights of recipients causes the computer to enable only designated recipients to view the supplemental contact information associated with the referenced individual.

59. The computer readable storage medium of claim 56 wherein the computer readable code that causes the computer to enable the referenced individual to define rights of recipients causes the computer to enable only persons designated in a

personal address book to view the supplemental contact information associated with the referenced individual.

60. The computer readable storage medium of claim 56 wherein the computer readable code that causes the computer to enable the referenced individual to define rights of recipients causes the computer to enable only persons designated in a global address book to view the supplemental contact information associated with the referenced individual.

61. The computer readable storage medium of claim 38 wherein the supplemental contact information includes a screen name and further comprising computer readable code that causes the computer to add the screen name to an instant messaging buddy list.

62. The computer readable storage medium of claim 38 wherein the computer readable code that causes the computer to enable display of the electronic message causes the computer to make real time contact information for the referenced individual available to the recipient of the electronic message.

63. A computer readable storage medium having stored thereon computer readable code executable on a computer for providing supplemental contact information corresponding to an individual referenced in an electronic message, the computer readable code comprising:

computer readable code that causes the computer to receive, on behalf of an intended recipient and from a host, an electronic message that was sent by a sender and that includes

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an identifier representing a referenced individual, the electronic message comprising address information and content;

computer readable code that causes the computer to receive, on behalf of the intended recipient and from the host, supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual, wherein the supplemental contact information is in addition to information contained in the electronic message; and

computer readable code that causes the computer to display the electronic message to the recipient, the enabled display of the electronic message comprising the supplemental contact information, wherein the supplemental contact information is accessible to the recipient through the display of the electronic message.

64. The computer readable storage medium of claim 63 wherein the supplemental contact information includes at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

65. The computer readable storage medium of claim 63 wherein the supplemental contact information includes information that was communicated by the referenced individual to the host that maintains the supplemental contact information.

66. The computer readable storage medium of claim 63 wherein the electronic message includes an e-mail message.

67. The computer readable storage medium of claim 63 wherein the electronic message includes an instant message.

68. The computer readable storage medium of claim 63 wherein the referenced individual includes at least one of the sender of the electronic message, a recipient of the electronic message, and a name included in a body of the electronic message.

69. The computer readable storage medium of claim 63 further comprising computer readable code that causes the computer to update a personal address book with the supplemental contact information of the referenced individual.

70. The computer readable storage medium of claim 63 further comprising computer readable code that causes the computer to maintain a global address book that includes the supplemental contact information for the referenced individual.

71. The computer readable storage medium of claim 70 further comprising computer readable code that causes the computer to automatically update the global address book when the referenced individual makes changes to the supplemental contact information.

72. The computer readable storage medium of claim 64 wherein the supplemental contact information includes a status of online presence for the referenced individual.

73. The computer readable storage medium of claim 63 wherein the computer readable code that causes the computer to receive supplemental contact information associated with the referenced individual causes the computer to receive real time contact information for the referenced individual.

74. The computer readable storage medium of claim 63 wherein the computer readable code that causes the computer to receive supplemental contact information associated with the referenced individual causes the computer to receive a real time messaging capability for the referenced individual.

75. A system for providing supplemental contact information corresponding to an individual referenced in an electronic message, comprising:

means for receiving an electronic message from a sender and intended for at least one recipient, the electronic message comprising address information and content;

means for detecting an identifier representing a referenced individual contained in the electronic message by examining at least one of the address information and the content of the electronic message;

means for retrieving supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual;

means for inserting the supplemental contact information into the electronic message; and

means for enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the inserted supplemental contact information, wherein the supplemental contact information is in addition to information contained in the electronic message received from the sender and is accessible to the recipient through the display of the electronic message.

76. The system of claim 75 wherein the supplemental contact information includes at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

77. The system of claim 76 wherein the supplemental contact information includes supplemental contact information for the referenced individual that was communicated by the referenced individual to a host that maintains the supplemental contact information.

78. The system of claim 75 wherein the electronic message includes an e-mail message.

79. The system of claim 75 wherein the electronic message includes an instant message.

80. The system of claim 75 further comprising means for configuring a communication scheme between a sender of the electronic message and the individual referenced in the electronic message using the supplemental contact information.

81. The system of claim 75 wherein the referenced individual includes at least one of the sender of the electronic message, a recipient of the electronic message, and a name included in a body of the electronic message.

82. The system of claim 75 further comprising means for checking preferences of the referenced individual, and enabling display of the electronic message to the recipient such that the inserted supplemental contact information is displayed according to the preferences of the referenced individual.

83. The system of claim 75 further comprising means for checking preferences of the recipient, and enabling display of the electronic message to the recipient such that the inserted supplemental contact information is displayed according to the preferences of the recipient.

84. The system of claim 75 further comprising means for updating a personal address book with the supplemental contact information of the referenced individual.

85. The system of claim 75 further comprising means for maintaining a global address book that includes the supplemental contact information for the referenced individual.

86. The system of claim 85 further comprising means for automatically updating the global address book when the referenced individual makes changes to the supplemental contact information.

87. The system of claim 76 wherein the supplemental contact information includes a status of online presence for the referenced individual.

88. The system of claim 75 wherein the supplemental contact information includes the real time messaging capability of the referenced individual.

89. The system of claim 88 further comprising means for sending an invitation to the referenced individual to subscribe to an instant messaging service.

90. The system of claim 89 wherein the means for sending the invitation includes means for sending the invitation to the

referenced individual who is not an instant messaging service subscriber.

91. The system of claim 75 wherein the means for detecting an identifier includes means for detecting an e-mail address for the referenced individual and further comprising means for stripping a domain from the e-mail address and means for performing a reverse-lookup to obtain an instant messaging screen name for the referenced individual.

92. The system of claim 75 wherein the means for enabling display of the electronic message enables display of an indicator associated with-the referenced individual to indicate available supplemental contact information.

93. The system of claim 75 further comprising means for enabling the referenced individual to define rights of recipients for viewing the supplemental contact information associated with the referenced individual.

94. The system of claim 93 wherein the rights of recipients for viewing the supplemental contact information may be defined to change temporally.

95. The system of claim 93 wherein the means for enabling the referenced individual to define the rights of recipients includes means for enabling only designated recipients to view the supplemental contact information associated with the referenced individual.

96. The system of claim 93 wherein the means for enabling the referenced individual to define the rights of recipients includes means for enabling only persons designated in a

personal address book to view the supplemental contact information associated with the referenced individual.

97. The system of claim 93 wherein the means for enabling the referenced individual to define the rights of recipients includes means for enabling only persons designated in a global address book to view the supplemental contact information associated with the referenced individual.

98. The system of claim 75 wherein the supplemental contact information includes a screen name and further comprising means for adding the screen name to an instant messaging buddy list.

99. The system of claim 75 wherein the enabled display of the electronic message includes real time contact information for the referenced individual.

100. A system for receiving supplemental contact information for an individual referenced in an electronic message, comprising:

means for receiving, on behalf of an intended recipient and from a host, an electronic message that was sent by a sender and that includes an identifier representing a referenced individual, the electronic message comprising address information and content;

means for receiving, on behalf of the intended recipient and from the host, supplemental contact information associated with the referenced individual, the supplemental contact information comprising supplemental information for establishing communication with the referenced individual,

wherein the supplemental contact information is in addition to information contained in the electronic message; and

means for enabling display of the electronic message to the recipient, the enabled display of the electronic message comprising the supplemental contact information, wherein the supplemental contact information is accessible to the recipient through the display of the electronic message.

101. The system of claim 100 wherein the supplemental contact information includes at least one of an e-mail address, a screen name, a telephone number, a facsimile number, and a mailing address, each of which is associated with the referenced individual.

102. The system of claim 100 wherein the supplemental contact information includes information that was communicated by the referenced individual to the host that maintains the supplemental contact information.

103. The system of claim 100 wherein the electronic message includes an e-mail message.

104. The system of claim 100 wherein the electronic message includes an instant message.

105. The system of claim 100 wherein the referenced individual includes at least one of the sender of the electronic message, a recipient of the electronic message, and a name included in a body of the electronic message.

106. The system of claim 100 further comprising means for updating a personal address book with the supplemental contact information of the referenced individual.

107. The system of claim 100 further comprising means for maintaining a global address book that includes the supplemental contact information for the referenced individual.

108. The system of claim 107 further comprising means for automatically updating, the global address book when the referenced individual makes changes to the supplemental contact information.

109. The system of claim 101 wherein the supplemental contact information includes a status of online presence for the referenced individual.

110. The system of claim 100 wherein the supplemental contact information includes real time contact information for the referenced individual.

111. The system of claim 100 wherein the supplemental contact information includes a real time messaging capability for the referenced individual.

112. The method as in claim 1 wherein the supplemental contact information is accessible to the recipient of the electronic message in response to a cursor being moved over the identifier contained in the electronic message.

113. The method as in claim 26 wherein the supplemental contact information is accessible to the recipient of the electronic message in response to a cursor being moved over the identifier contained in the electronic message.

114. The computer readable storage medium of claim 38 wherein the supplemental contact information is accessible to the recipient of the electronic message in response to a cursor

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being moved over the identifier contained in the electronic message.

115. The computer readable storage medium of claim 63 wherein the supplemental contact information is accessible to the recipient of the electronic message in response to a cursor being moved over the identifier contained in the electronic message.

116. The system of claim 75 wherein the supplemental contact information is accessible to the recipient of the electronic message in response to a cursor being moved over the identifier contained in the electronic message.

117. The system of claim 100 wherein the supplemental contact information is accessible to the recipient of the electronic message in response to a cursor being moved over the identifier contained in the electronic message.

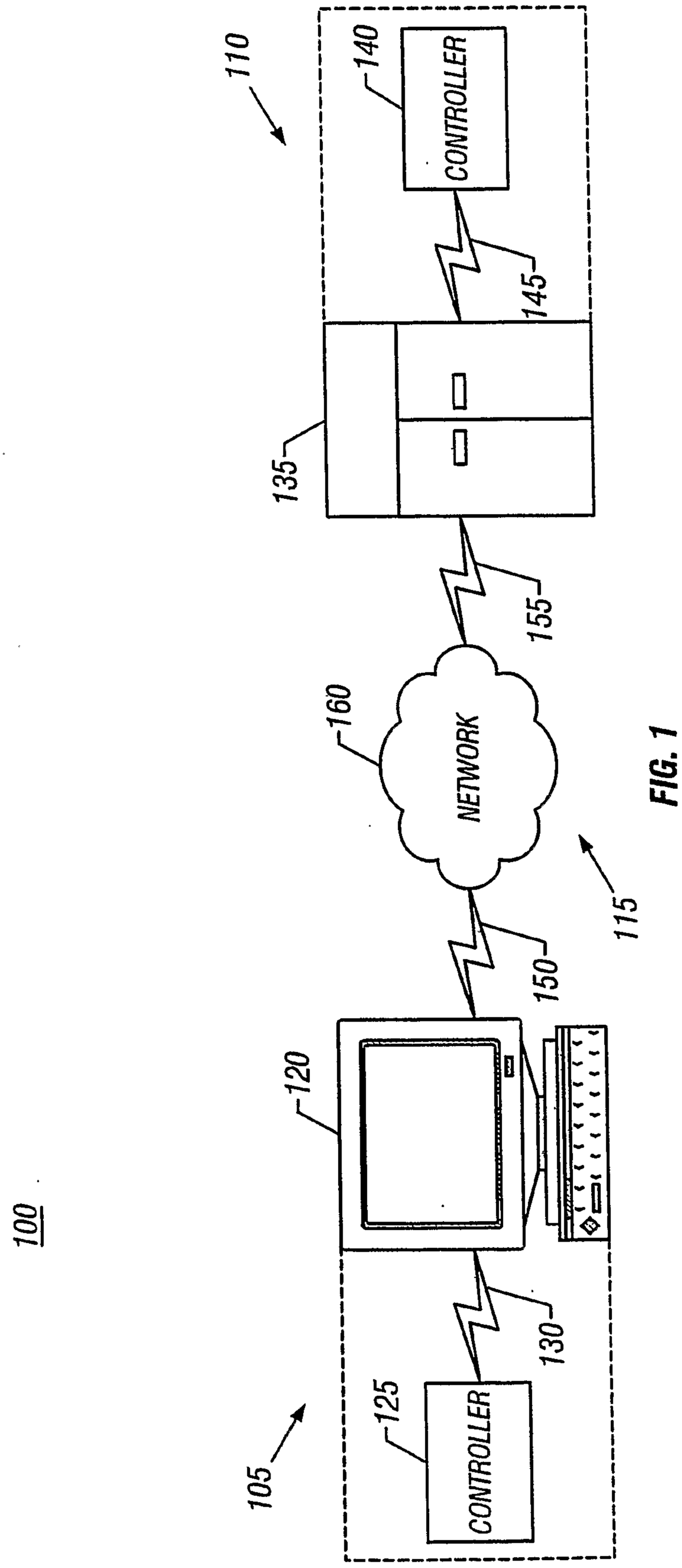
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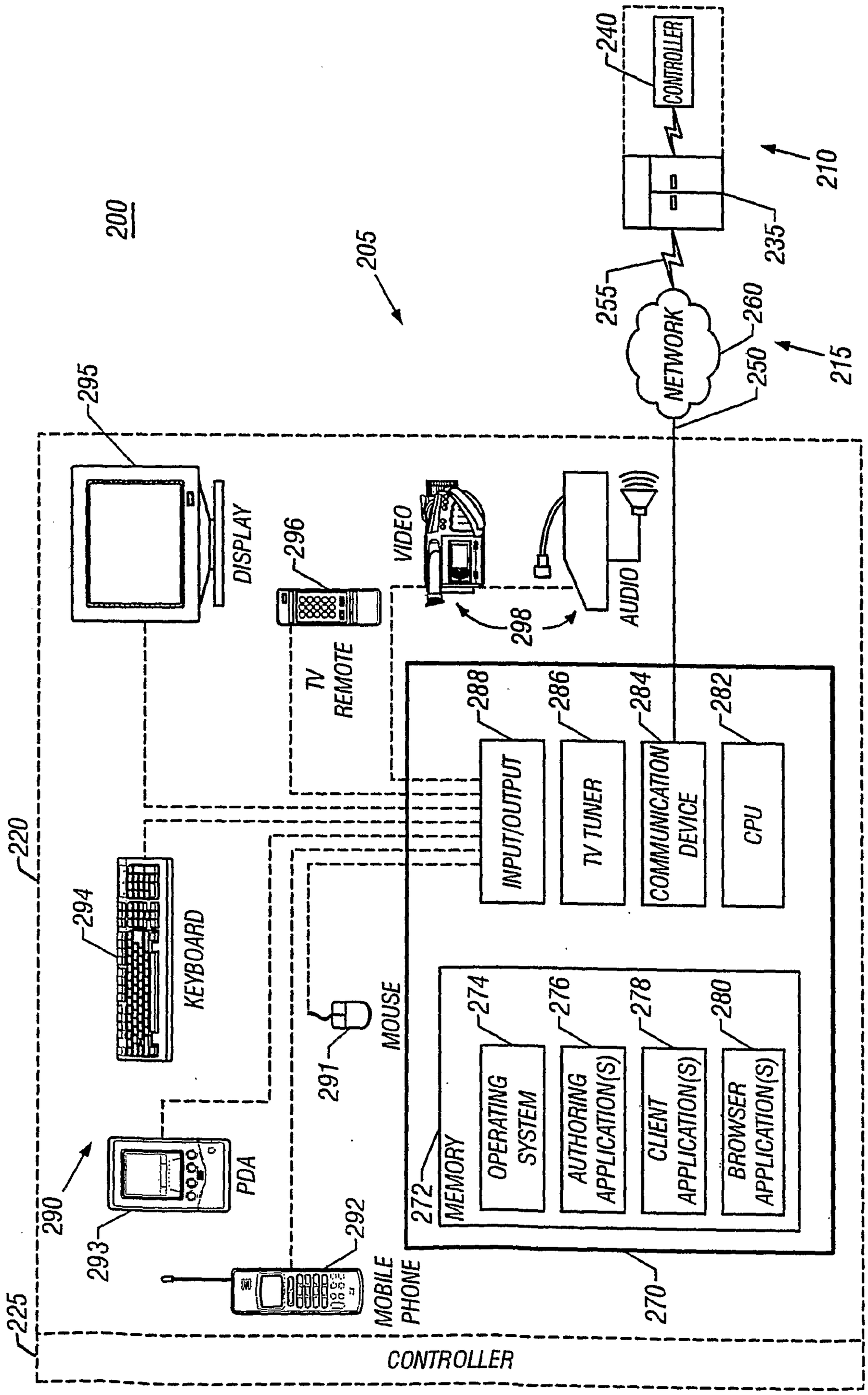
FIG. 1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MOUSE
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PDA
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MEMORY
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FIG. 2

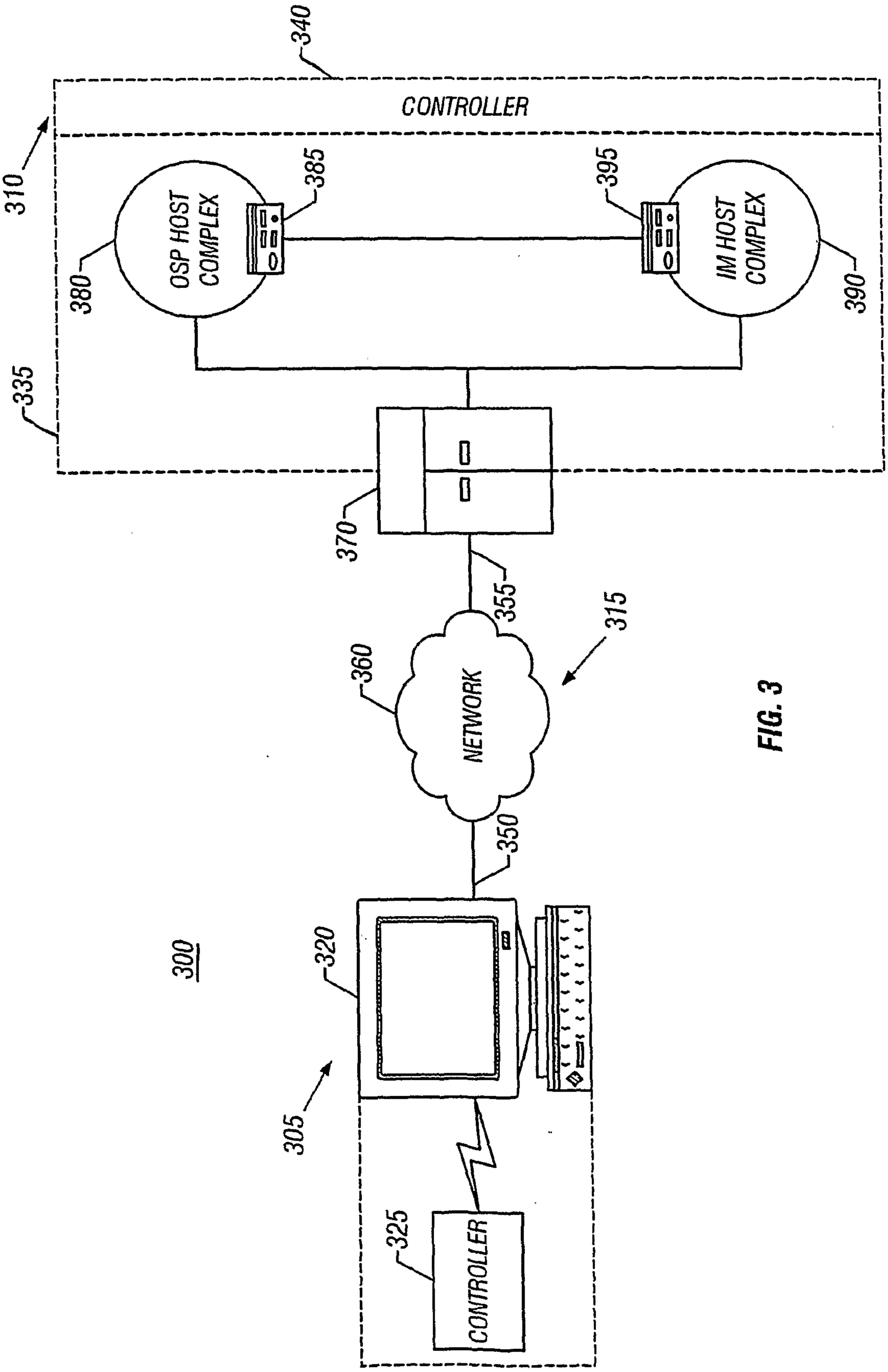
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FIG. 3

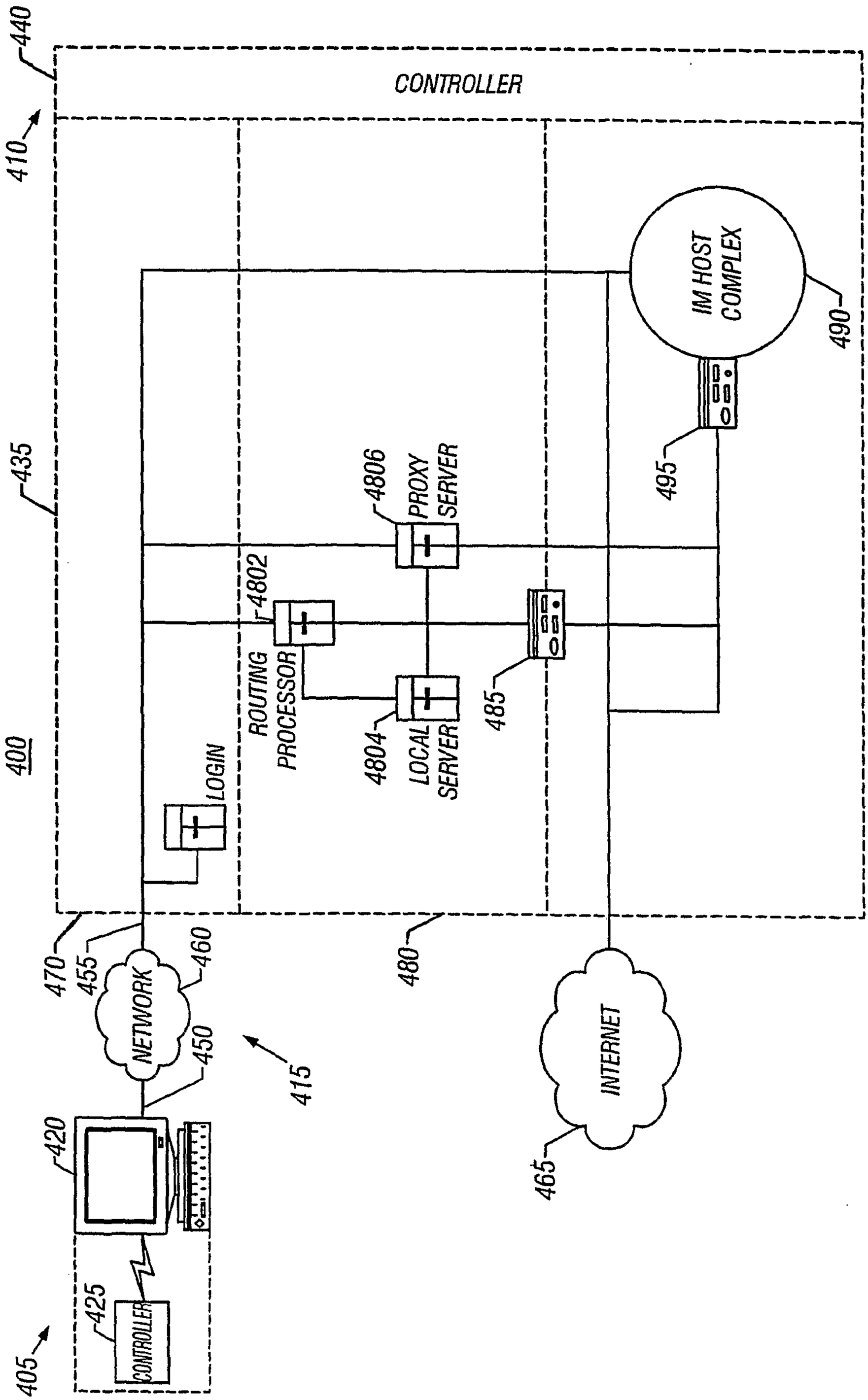
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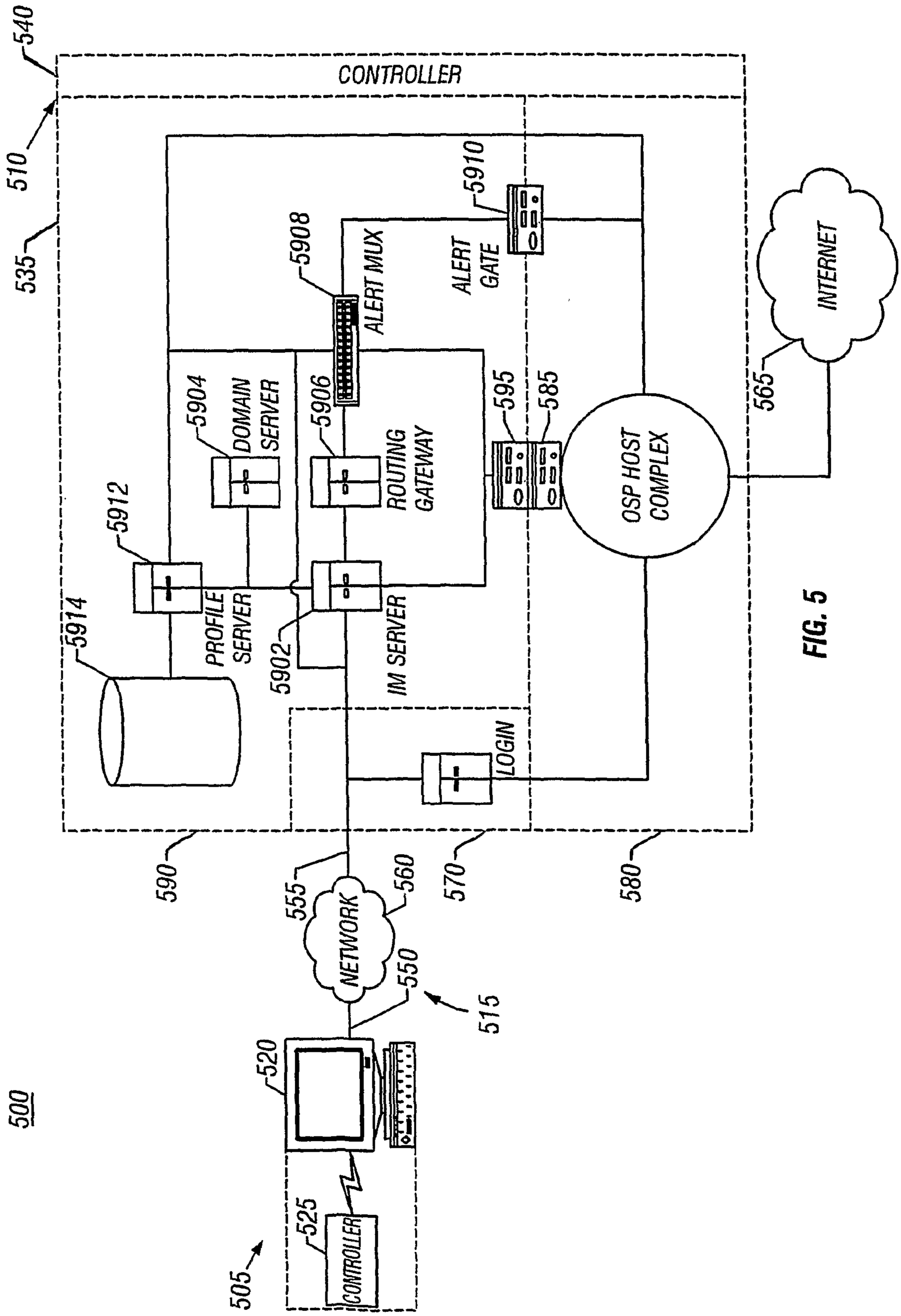
FIG. 4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PROFILE SERVER
ROUTING GATEWAY
IM SERVER
ALERT MUX
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FIG. 5

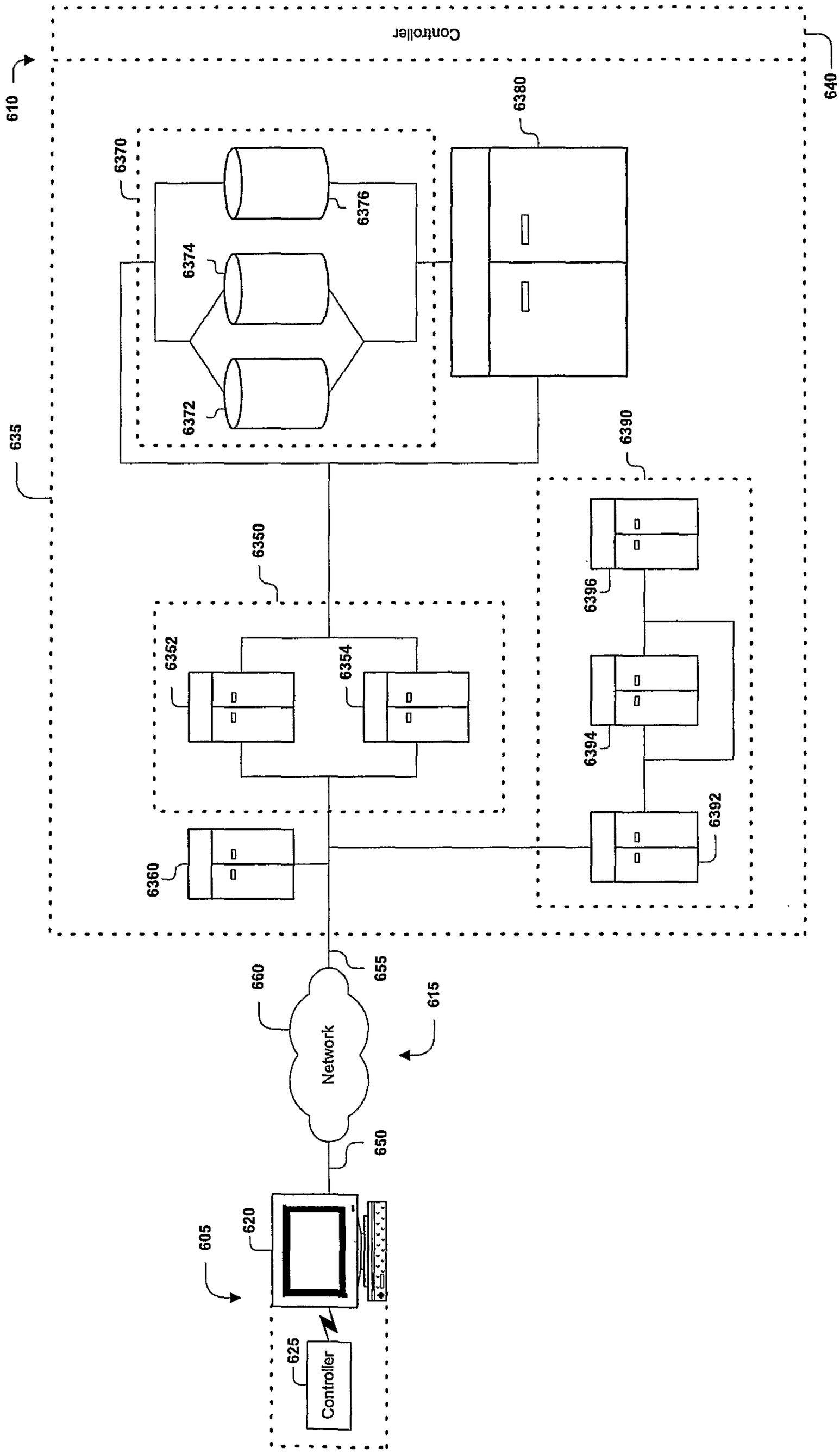
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Fig. 6

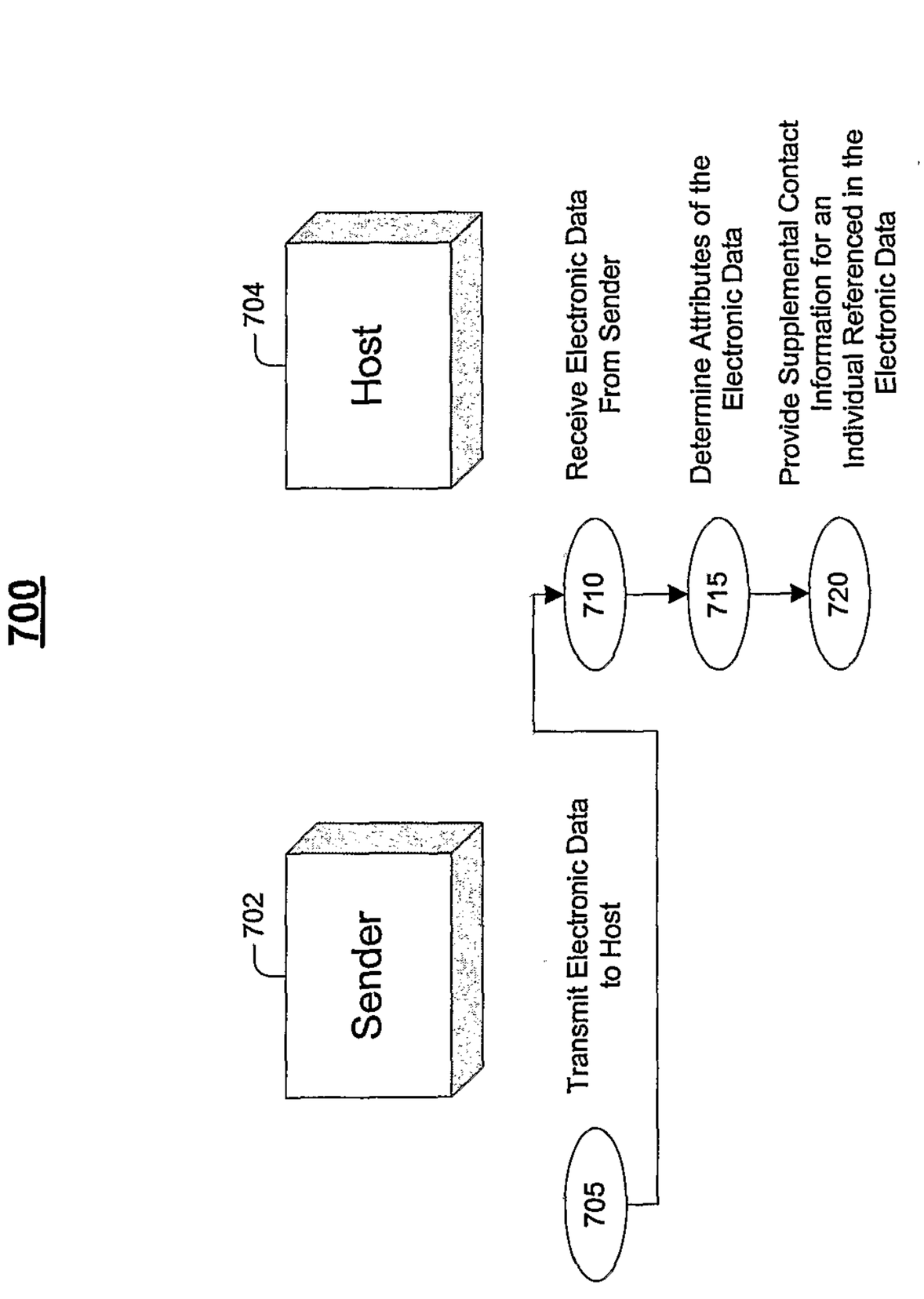
700
Host
704
Receive Electronic Data From Sender
710
Determine Attributes of the Electronic Data
715
Provide Supplemental Contact Information for an Individual Referenced in the Electronic Data
720
Transmit Electronic Data to Host
705
Sender
702

Fig. 7

720

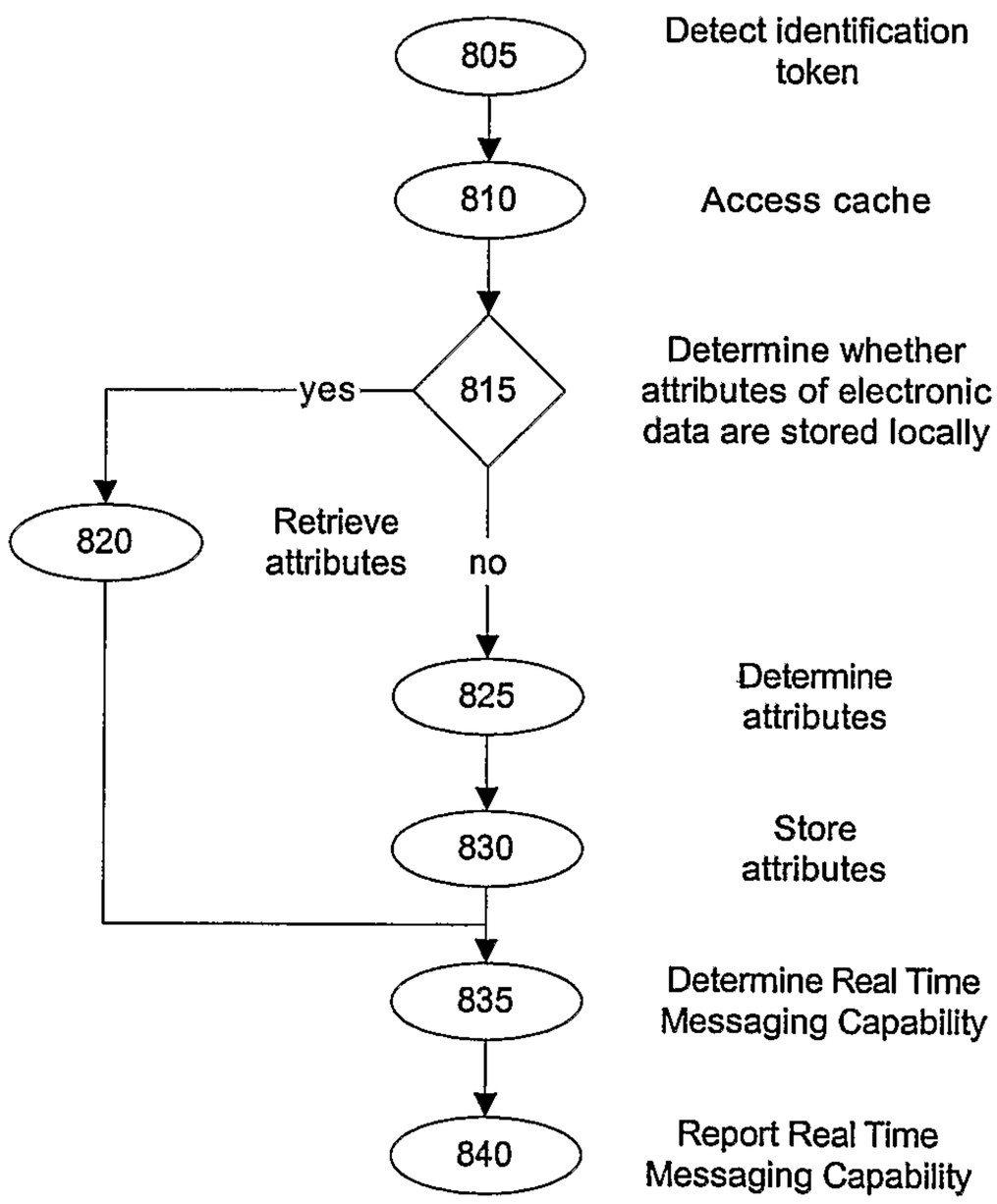
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Fig. 8

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Family
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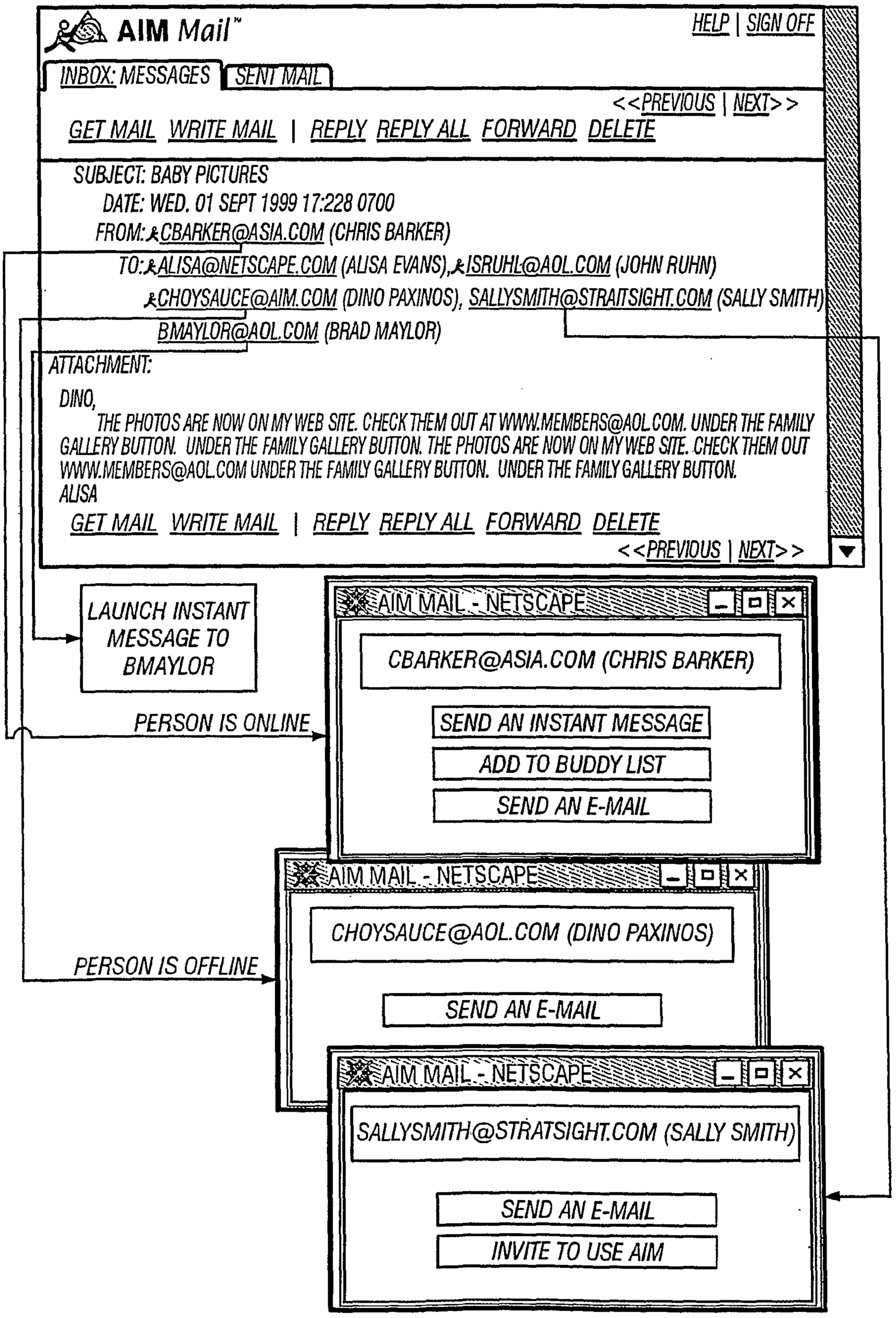
Fig. 9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DATE: WED. 01 SEPT 1999 17:228 0700
FROM: CBARKER@ASIA.COM (CHRIS BARKER)
TO: ALISA@NETSCAPE.COM (ALISA EVANS), ISRUHL@AOL.COM (JOHN RUHN)
CHOYSAUCE@AIM.COM (DINO PAXINOS), SALLYSMITH@STRAITSIGHT.COM (SALLY SMITH)
BMAYLOR@AOL.COM (BRAD MAYLOR)
ATTACHMENT:
DINO,
THE PHOTOS ARE NOW ON MY WEB SITE. CHECK THEM OUT AT WWW.MEMBERS@AOL.COM. UNDER THE FAMILY GALLERY BUTTON. UNDER THE FAMILY GALLERY BUTTON. THE PHOTOS ARE NOW ON MY WEB SITE. CHECK THEM OUT WWW.MEMBERS@AOL.COM UNDER THE FAMILY GALLERY BUTTON. UNDER THE FAMILY GALLERY BUTTON.
ALISA
GET MAIL WRITE MAIL | REPLY REPLY ALL FORWARD DELETE
<<PREVIOUS | NEXT>>
LAUNCH INSTANT MESSAGE TO BMAYLOR
PERSON IS ONLINE
PERSON IS OFFLINE
AIM MAIL - NETSCAPE
CBARKER@ASIA.COM (CHRIS BARKER)
SEND AN INSTANT MESSAGE
ADD TO BUDDY LIST
SEND AN E-MAIL
AIM MAIL - NETSCAPE
CHOYSAUCE@AOL.COM (DINO PAXINOS)
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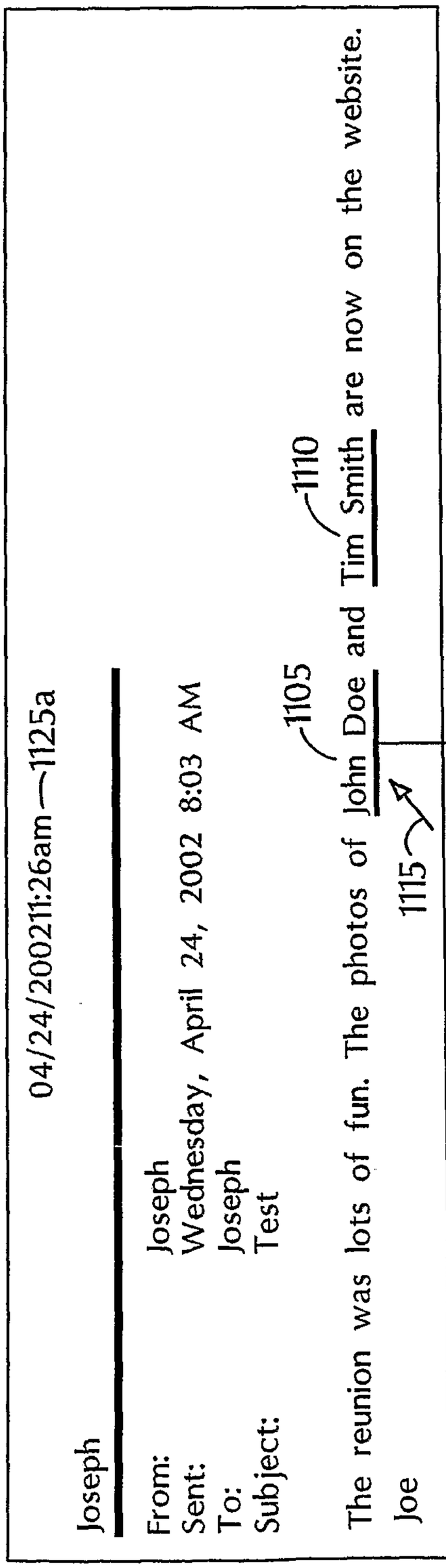
SEND AN E-MAIL
INVITE TO USE AIM

FIG. 10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Sent:
To:
Subject:
The reunion was lots of fun. The photos of John Doe and Tim Smith are now on the website.
Joe

FIG. 11a

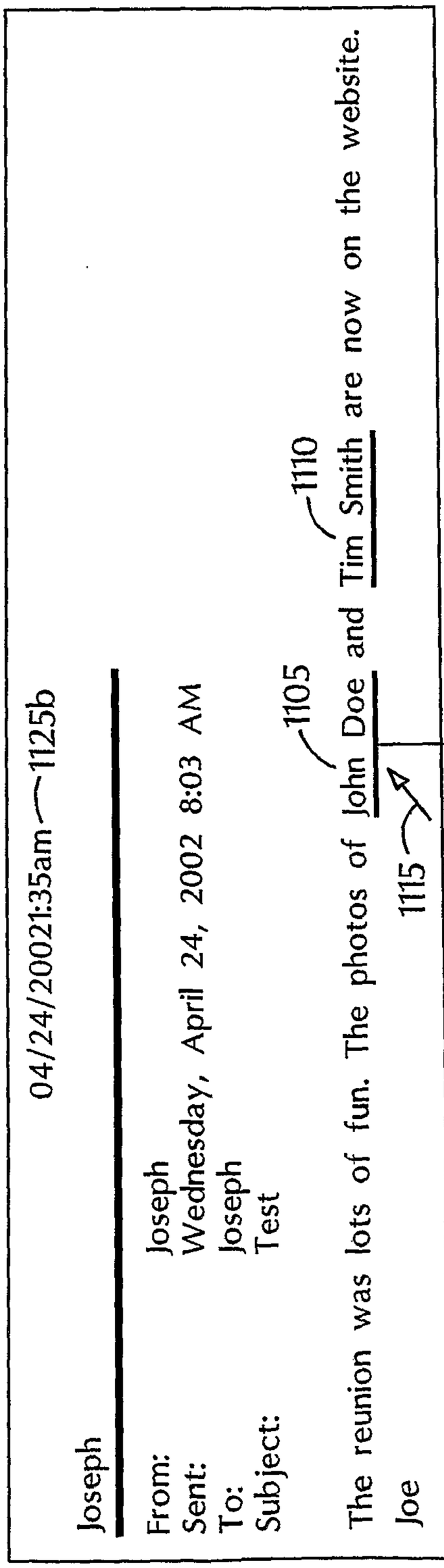
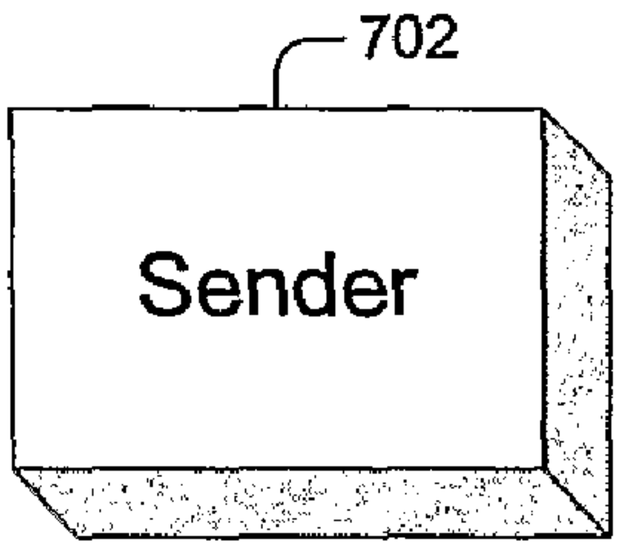
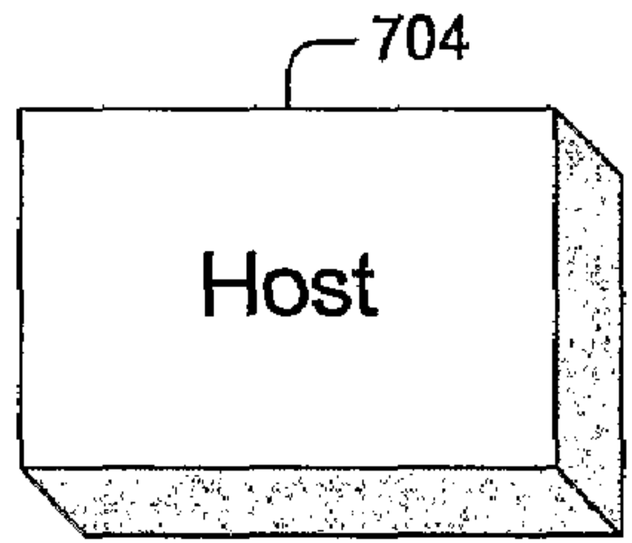
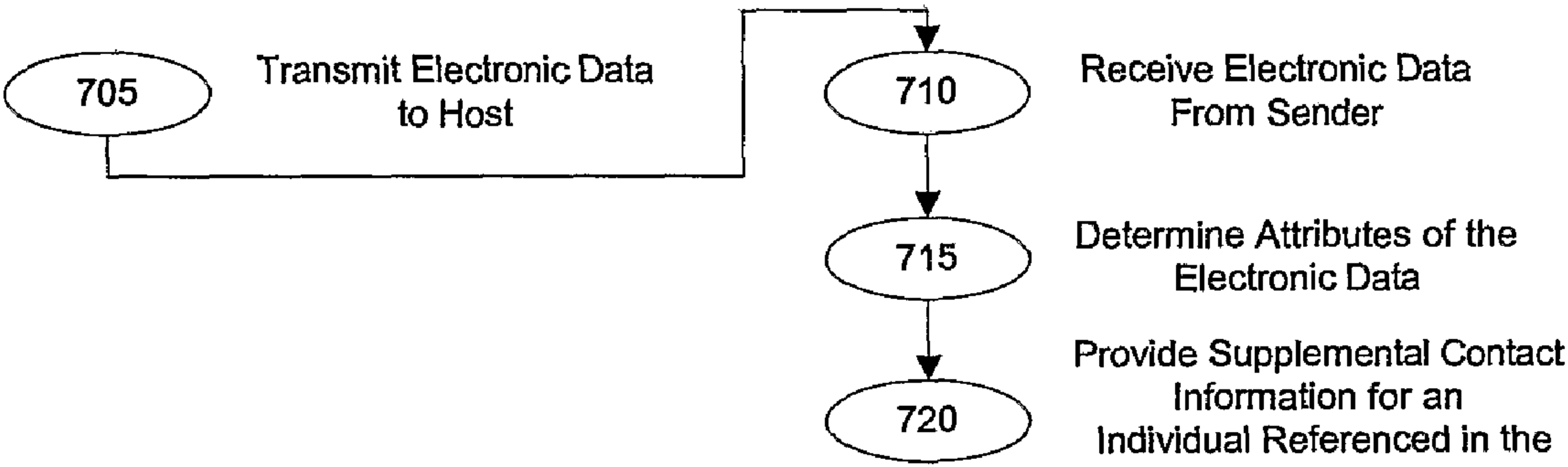

Joseph
From:
Sent:
To:
Subject:
The reunion was lots of fun. The photos of John Doe and Tim Smith are now on the website.
Joe
Joseph
Wednesday, April 24, 2002 8:03 AM
Joseph
Test
04/24/20021:35am
1100
1125b
1105
1110
1115
1120
1130b
JDOE@AIM.COM
SEND AN E-MAIL

FIG. 11b


702
Sender


704
Host


705
Transmit Electronic Data to Host
710
Receive Electronic Data From Sender
715
Determine Attributes of the Electronic Data
720
Provide Supplemental Contact Information for an Individual Referenced in the Electronic Data