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(54) **SYSTEM FOR PROVIDING CONTINUITY BETWEEN MESSAGING CLIENTS AND METHOD THEREFOR**

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(58) **Field of Classification Search** 713/182, 713/153, 161, 189, 193, 200, 201

See application file for complete search history.

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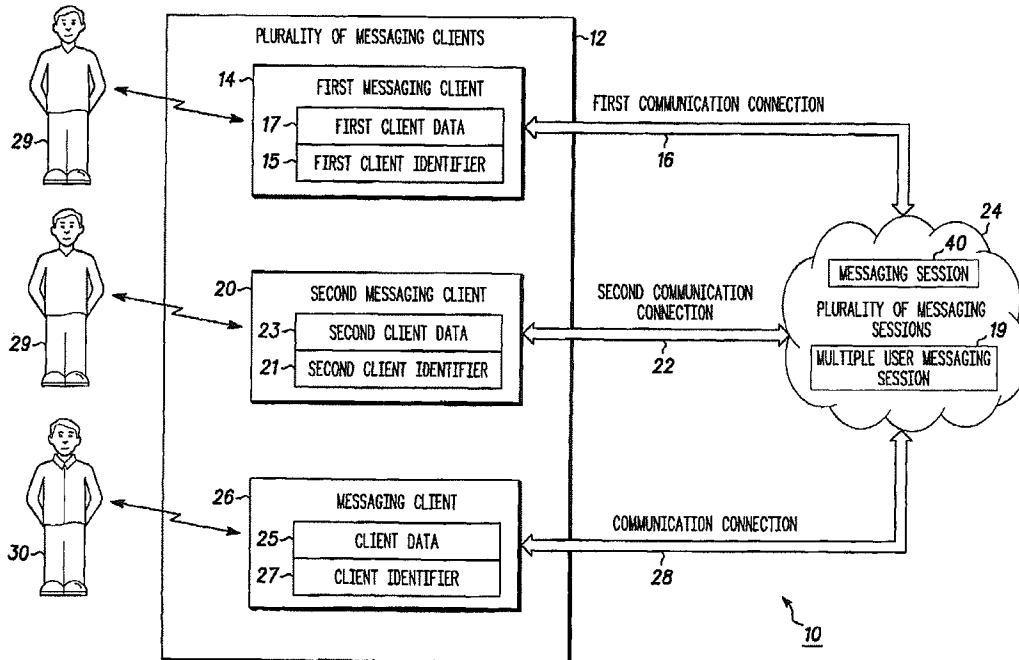
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(57) **ABSTRACT**

A messaging communication system (10) includes a plurality of messaging clients (12). A first messaging client (14) establishes a first communication connection (16) operating using a plurality of client data (25). The first messaging client (14) transfers the plurality of client data (25) to a second messaging client (20). The second messaging client (20) establishes a second communication connection (22) operating using the plurality of client data (25).

67 Claims, 24 Drawing Sheets



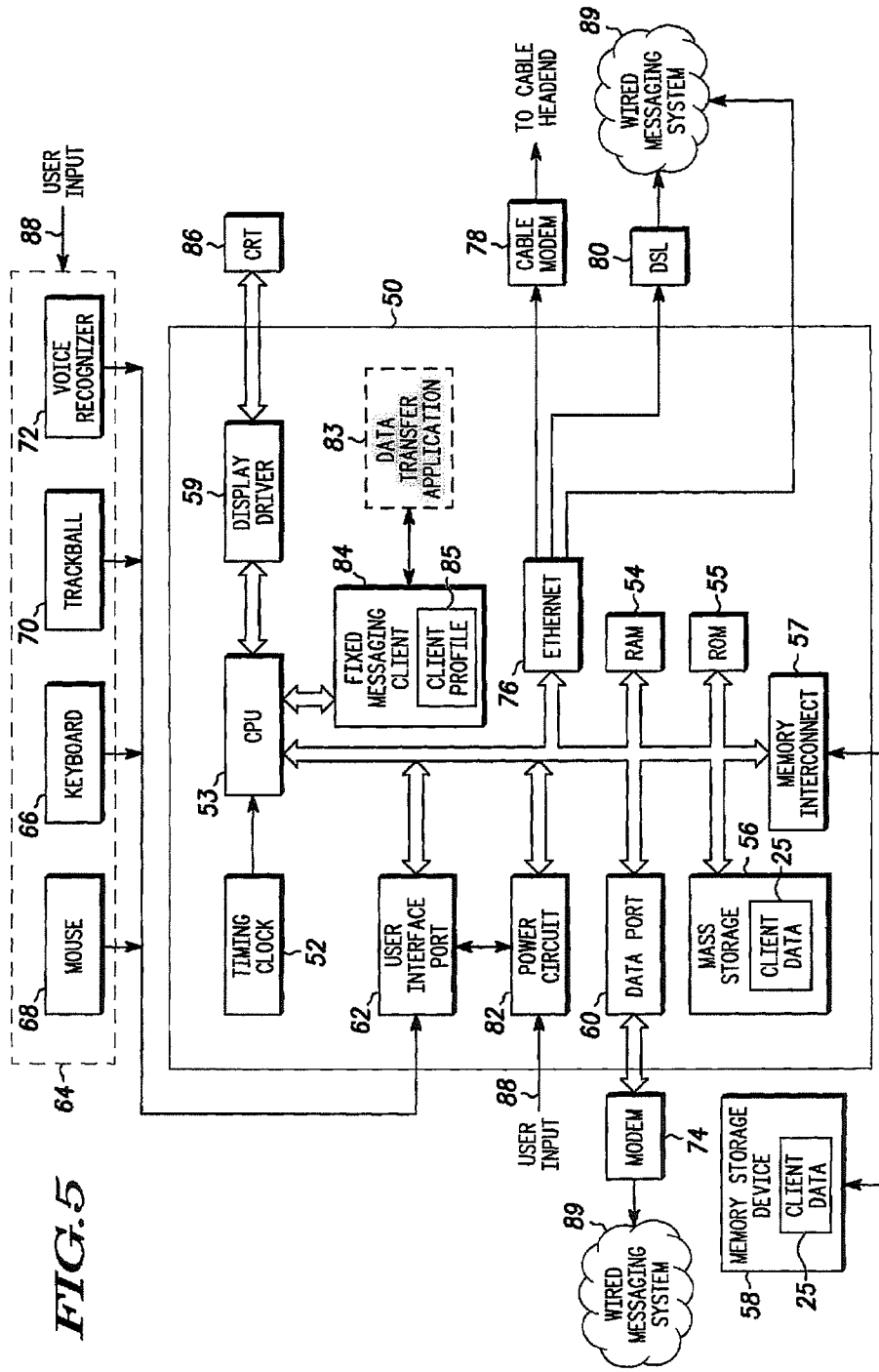


FIG. 5

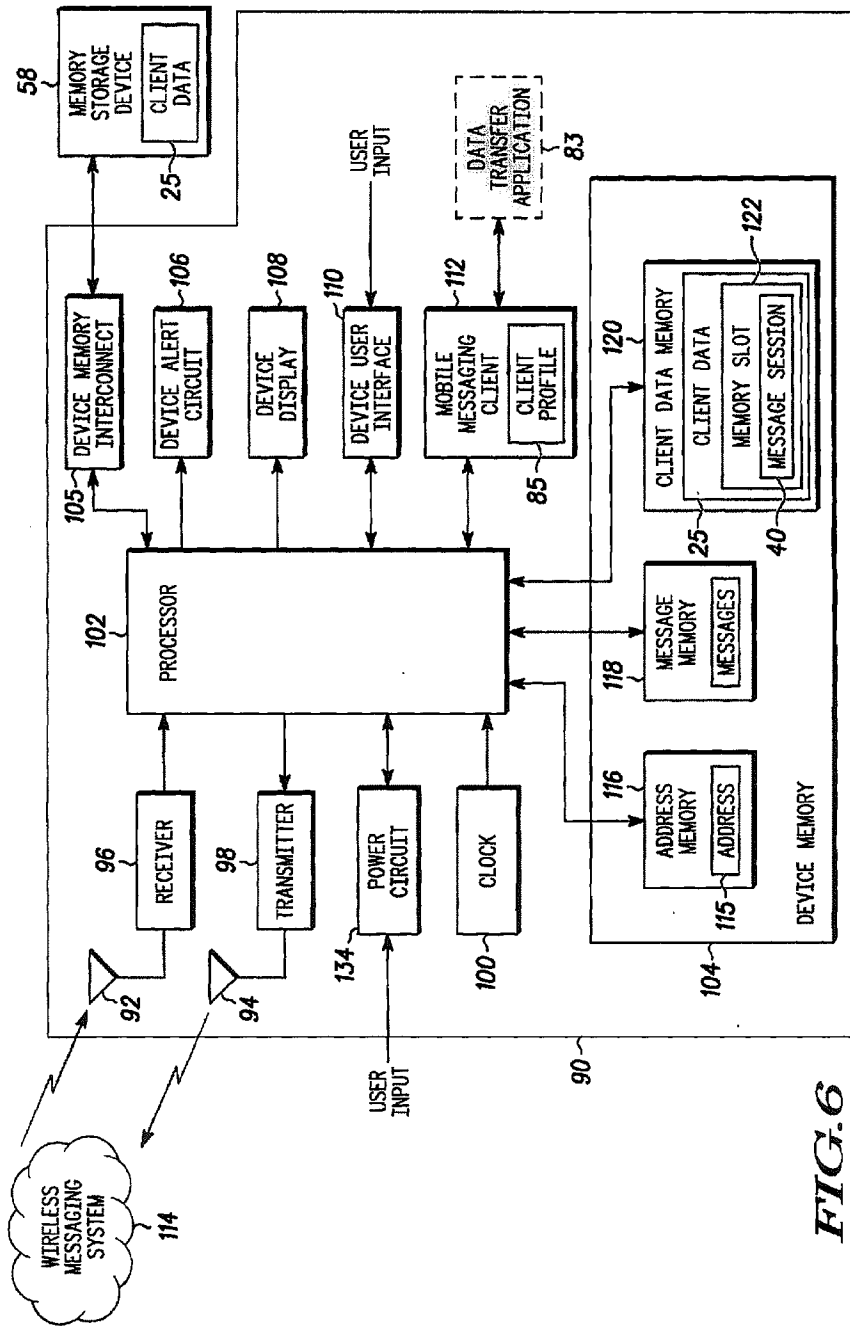


FIG. 6

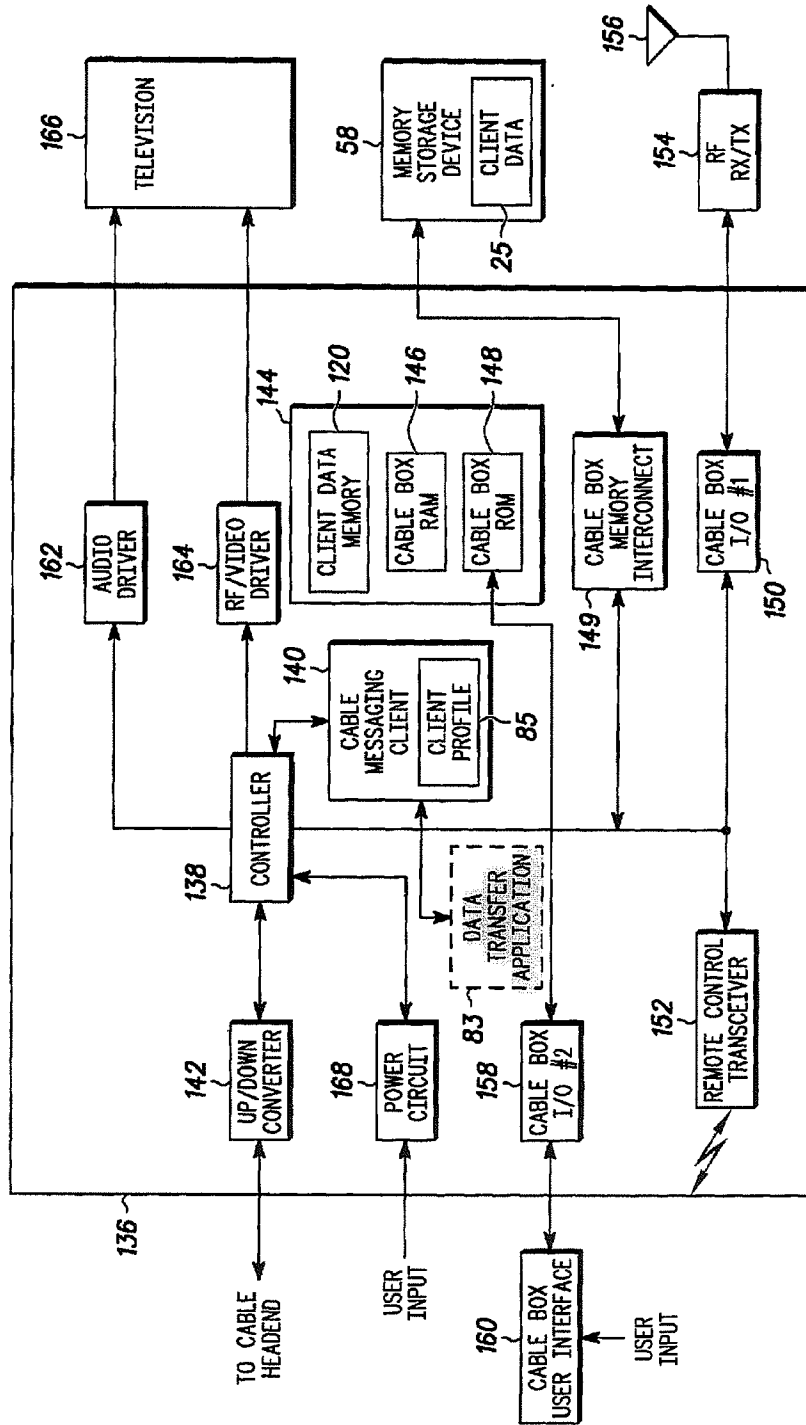


FIG. 7

same account. Still further, some messaging services utilize a resource extension to describe the device that is being utilized to communicate. For example an account user logging in with a mobile device can choose to use "mobile device" as their resource extension while logging into the same account from the home personal computer may utilize a resource extension of "home computer".

When using messaging services that allow access from multiple devices, an account user can log on with a first messaging device and engage in conversations with other account users and later log on with a second messaging device. For example, users of mobile devices would typically benefit if a messaging session in progress on a fixed network device could be continued on a mobile device. This would allow the account user to continue the messaging session when the account user is no longer in proximity to the fixed network device. In addition the account user would benefit if a messaging session that was in progress on a mobile device could be continued on a fixed network device that may have a superior user interface.

In order to switch to a different device with existing technology, the account user may have to cause the currently connected device to disconnect from the message server. The account user would then have to cause the second device to connect to the message server and login. Finally, the account user would have to re-initiate each messaging session (one-to-one, public chat, private chat, electronic game) that was in progress on the first device. The disadvantage of this method is the numerous manual operations required of the account user to change devices. A further disadvantage is the lack of messaging session continuity. For example, the second device will not have the session history that was available on the first device, and the second device may not be able to re-connect to chat rooms that restrict the number of active account users since another account user may have connected to the chat room after the account user's first device disconnected.

What is needed is a system and method for maintaining continuity between messaging clients.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be described by way of exemplary embodiments, but not limitations, illustrated in the accompanying drawings in which like references denote similar elements, and in which:

FIG. 1 is an electronic block diagram of a messaging communication system, in accordance with the preferred embodiment of the present invention;

FIG. 2 illustrates client data for use within the messaging communication system of FIG. 1, in accordance with the preferred embodiment of the present invention;

FIGS. 3 and 4 illustrate more detail of the client data of FIG. 2, in accordance with the preferred embodiment of the present invention;

FIGS. 5, 6, and 7 are electronic block diagrams of various embodiments of a messaging device in which a messaging client of FIG. 1 operates;

FIG. 8 is an electronic block diagram of an alternate embodiment of a messaging communication system, in accordance with the preferred embodiment of the present invention;

FIGS. 9 to 12 are electronic block diagrams of various embodiments of the messaging communication system of FIGS. 1 and 8, in accordance with the preferred embodiment of the present invention;

FIGS. 13 to 18 are flowcharts illustrating the operation of the messaging communication system of FIGS. 1 and 8, in accordance with the preferred embodiment of the present invention;

FIG. 19 illustrates a message for use within the messaging communication system of FIGS. 1 and 8, in accordance with the preferred embodiment of the present invention; and

FIGS. 20 to 24 are signaling flow diagrams illustrating the interaction between the elements of the messaging communication system of FIGS. 1 and 8, in accordance with the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

As required, detailed embodiments of the present invention are disclosed herein; however, it is to be understood that the disclosed embodiments are merely exemplary of the invention, which may be embodied in various forms. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention in virtually any appropriately detailed structure. Further, the terms and phrases used herein are not intended to be limiting; but rather, to provide an understandable description of the invention.

Referring to FIG. 1, an electronic block diagram of a messaging communication system 10 in accordance with the present invention is shown. As illustrated, the messaging communication system 10 preferably includes a plurality of messaging clients 12 for participation within a plurality of messaging sessions 24. As illustrated, the plurality of messaging sessions 24 can include a messaging session 40 and/or a multiple user messaging session 19. The plurality of messaging sessions 24, for example, can include the communication of a plurality of electronic messages such as chat sessions, instant message sessions, and electronic mail, facilitating substantially real time communication among the plurality of messaging clients 12. Similarly, the plurality of messaging sessions 24 can include communication of gaming messages for one or more gaming sessions (e.g. battleship, checkers, chess, tic tac toe and doom). It will be appreciated by one of ordinary skill in the art that the plurality of messaging sessions 24 can include any of the messaging sessions mentioned herein or an equivalent. Each of the plurality of messaging clients 12 such as a first messaging client 14 and a second messaging client 20 includes client software to interface within the messaging communication system 10. The client software, for example, can include a software application for communication through an Internet service provider. Further, the client software can include a software application for participation in one or more electronic games offered by a gaming software provider. It will be appreciated by one of ordinary skill in the art that the client software can be any of those mentioned herein or an equivalent. Further, it will be appreciated by one of ordinary skill in the art that in accordance with the present invention, the interface capabilities of the client software can also be designed into client hardware of a messaging client. Each messaging client 26 of the plurality of messaging clients 12 further includes a client identifier 27. For example, the first messaging client 14 includes a first client identifier 15 and the second messaging client 20 includes a second client identifier 21. The client identifier 27 of the messaging client 26 is a unique identification within the messaging communication system 10 for directing mes-

sages to a particular messaging client. For example, the client identifier 27 can be an address of a mobile device or an IP address and number of the port of a fixed network device. To communicate within at least one of the plurality of messaging sessions 24 the messaging client 26 establishes a communication connection 28. For example, the first messaging client 14 establishes a first communication connection 16 for communication within at least one of the plurality of messaging sessions 24. Similarly, the second messaging client 20 establishes a second communication connection 22 for communication within at least one of the plurality of messaging sessions 24. It will be appreciated by one of ordinary skill in the art that the communication connection 28, the first communication connection 16, and the second communication connection 22 can be a physical connection, or alternatively can be a logical connection where the act of connecting and disconnecting is a logical one. Each messaging client 26 of the plurality of messaging clients 12 is operated by at least one account user 30. The account user 30 is an individual who uses one or more messaging clients to communicate with other account users within the plurality of messaging sessions 24. It will be appreciated by one of ordinary skill in the art that the account user 30 can communicate using one or more messaging clients. For example, a first account user 29 can establish communication within the plurality of messaging sessions 24 using the first messaging client 14, and, in accordance with the present invention, also using the second messaging client 20.

Each messaging client 26 preferably includes a plurality of client data 25. The plurality of client data 25 includes data associated with the messaging client 26 and data associated with each messaging session for which the messaging client 26 is currently participating, has participated in, or plans to participate in. The plurality of client data 25 can be divided up into one or more client data portions 18 as illustrated in FIG. 2. The first messaging client 14 includes a first client data 17 and the second messaging client 20 includes a second client data 23. FIG. 2 illustrates the plurality of client data 25 included within the messaging client 26 of FIG. 1. It will be appreciated by one of ordinary skill in the art that the plurality of client data 25 as illustrated in FIG. 2 can be the first client data 17 or the second client data 23. As illustrated, the plurality of client data 25 preferably includes a client version identifier (not shown), an account identifier 31, a server identifier 32, an authentication key 33, a plurality of contact data 34, a plurality of user preferences 35, and a plurality of session data 36. It will be appreciated by one of ordinary skill in the art that the plurality of client data 25 can include any of the client data mentioned herein or an equivalent.

The client version identifier is preferably the name and version or other similar indication of the messaging client being used. The account identifier 31 is preferably a user name or other identification of the account user 30 currently using the messaging client 26. In an embodiment of the present invention in which a message server is utilized to manage the plurality of messaging sessions 24, the server identifier 32 identifies the message server. For example, the server identifier 32 can be a wireless address, an IP (internet protocol) address, or an IP address accompanied by a number of the port assigned to the message server. The authentication key 33 preferably includes a code that is used to authenticate the account user 30 to the messaging communication system 10. For example, the authentication key 33 could be derived from a password known only to the account user 30 and the messaging communication system

10. The plurality of contact data 34 is a listing of information relating to the various account users in which the account user 30 currently using the messaging client 26 communicates, plans to communicate, or has communicated with in the past. For example, the plurality of contact data 34 can be a "buddy list" for the account user 30. The plurality of contact data 34 preferably includes a plurality of account information 37 for each of a plurality of accounts. For example, the plurality of account information 37 for an Nth account can include an Nth account identifier 38 and further can include an Nth account contact information 39 associated with the Nth account identifier 38. The Nth account contact information 39, for example, can include Nth account user presence, Nth account user availability, Nth account phone number, Nth account mailing address, or Nth account user preferred communication means. It will be appreciated by one of ordinary skill in the art that the Nth account contact information can be any of the contact information mentioned herein or an equivalent. The plurality of account information 37 can further include, for example, billing information, favorite topics, associates, group lists, age, obscenity rating, and optional services. It will be appreciated by one of ordinary skill in the art that the plurality of account information 37 can include any of the information mentioned herein or an equivalent. In one embodiment of the present invention, each of the plurality of messaging clients 12 of FIG. 1 operates using at least one account. Further, each account user can have one or more accounts. For example, the account user 30 can have a business account and a personal account both operated using the messaging client 26.

The plurality of user preferences 35 defines certain attributes settable by the account user 30 for communicating within the plurality of messaging sessions 24 using the messaging client 26. The plurality of user preferences 35, for example, can include text font attributes, filter settings, blocking settings, screen names per account identifier, alert settings per screen name, buddy list groups, electronic mailboxes, electronic voice mail, and parental control settings. It will be appreciated by one of ordinary skill in the art that the plurality of user preferences 35, in accordance with the present invention, can include any of those preferences mentioned herein or an equivalent.

The plurality of session data 36 included within the plurality of client data 25 contains information relating to each of the plurality of messaging sessions 24 for which the account user 30 is currently participating, has previously participated, or plans to participate in, using the messaging client 26. FIG. 3 illustrates a preferred embodiment of the plurality of session data 36 in accordance with the present invention. As illustrated in FIG. 3, for each messaging session 40, the plurality of session data 36 includes a session identifier 41, a session priority 42, a plurality of session preferences 43, a plurality of session participants 44, and a session history 45. It will be appreciated by one of ordinary skill in the art that the plurality of session data 36, in accordance with the present invention, can include any of the session data mentioned herein or an equivalent.

Preferably, the session identifier 41 identifies the messaging session 40 of the plurality of messaging sessions 24. In one embodiment, the messaging session 40 is assigned the session priority 42. The session priority 42 determines or identifies the priority of the messaging session 40 within the plurality of messaging sessions 24 for which the account user 30 is currently participating. The session priority 42 can be set manually by the account user 30 or through a predetermined algorithm in the messaging client 26 taking

directly to the power circuit 82, the user input 88 to the user interface 64, or alternatively automatically via the programming of the CPU 53.

In a preferred embodiment of the present invention, the fixed network device 50 of FIG. 5 includes a fixed messaging client 84. It will be appreciated by one of ordinary skill in the art that the fixed messaging client 84 can be the first messaging client 14, the second messaging client 20, or any other of the plurality of messaging clients 12 of FIG. 1. The fixed network device 50 performs messaging functions within the fixed messaging client 84 using a plurality of messages stored in the electronic memory of the fixed network device 50. The fixed messaging client 84 may be hard coded or programmed into the fixed network device 50 during manufacturing, may be programmed over-the-air upon customer subscription, or may be a downloadable application. It will be appreciated that other programming methods can be utilized for programming the fixed messaging client 84 into the fixed network device 50. It will be further appreciated by one of ordinary skill in the art that the fixed messaging client 84 can be hardware circuitry within the fixed network device 50.

Preferably the fixed messaging client 84 automatically updates a CRT 86 when a new message has been sent or received by sending a command to the display driver 59. This allows the message to be updated while the device user is reading it without disturbing the CRT 86. The fixed messaging client 84 uses the plurality of client data 25 stored in the electronic memory or stored in the memory storage device 58 to perform functions relating to various received and/or sent messages. It will be appreciated by one of ordinary skill in the art that fixed networked devices having software-programming capabilities may include client data that is specialized and personalized such as the plurality of user preferences 35 including display options and screens for each account user, or similarly may include the plurality of session preferences 43 for each messaging session 24. Alternatively, fixed networked devices that do not include software-programming capabilities may include the plurality of client data 25 including the plurality of user preferences 35 that are standard, pre-defined display options and screens for the plurality of messaging sessions 24.

The plurality of user preferences 35 of the plurality of client data 25 used by the fixed messaging client 84 further includes various alert options. In one embodiment, the fixed messaging client 84 notifies the CPU 53 to send a command to an alert circuit (not shown) when a new message is received. In another embodiment, the fixed messaging client 84 notifies the CPU 53 to send a command to the alert circuit when an unread message is to be deleted from the memory. Alternatively, no alert may be sent when a new message is received and stored in the memory. It will be appreciated by one of ordinary skill in the art that other alerting schemes are within the scope of the present invention. Further, the CPU 53, in response to the user input 88 to the user interface 64 through to the user interface port 62, such as a device user depressing a button or series of buttons, or in response to receipt of a message initiates an input signal to the fixed messaging client 84. The fixed messaging client 84, in response to the input signal, accesses a plurality of messages stored in the electronic memory for use in operation of the fixed messaging client 84.

Preferably, the fixed messaging client 84 includes a client profile 85. The client profile 85 includes information regarding the capabilities and limitations of the fixed messaging client 84 and also of the fixed network device 50. For example, the client profile 85 can include indication of the

media supported by the fixed messaging client 84 (e.g. audio, video), indication of which features are supported by the fixed messaging client 84, device type, device display, device battery life, device battery capacity, device processing power, and access to alternate networks. It will be appreciated by one of ordinary skill in the art that the client profile 85 can include any of those mentioned above in any combination or an equivalent.

In accordance with the present invention, the fixed messaging client 84 includes software capability for transferring all or a portion of the plurality of client data 25 to one or more other messaging clients for use by the other messaging client to participate within one or more of the plurality of messaging sessions 24. The fixed messaging client 84, in accordance with the present invention, further includes software capability for receiving all or a portion of the plurality of client data 25 from at least one other messaging client to participate within one or more of the plurality of messaging sessions 24. As illustrated in FIG. 5, the software capability for transferring and/or the capability for receiving the plurality of client data 25 can be incorporated into the fixed messaging client 84, or alternatively can be contained within a separate data transfer application 83. The data transfer application 83, for example can be a third party software add-on that is compatible with existing messaging software applications (e.g. the fixed messaging client 84) already programmed into the fixed network device 50. Maintaining the data transfer software on a separate data transfer application 83 minimizes incorporation timeframes and also the cost of upgrading the fixed network device 50 to include this feature.

FIG. 6 is an electronic block diagram of one embodiment of a messaging device in which a messaging client of FIG. 1 operates. Specifically, FIG. 6 illustrates a mobile device 90. It will be appreciated by one of ordinary skill in the art that the mobile device 90 in accordance with the present invention, can be a mobile cellular telephone, a mobile radio data terminal, a mobile cellular telephone having an attached data terminal, or a two way pager, such as the "Pagewriter 2000X" manufactured by Motorola Inc. of Schaumburg, Ill. In the following description, the term "mobile device" refers to any of the messaging devices mentioned above or an equivalent.

As illustrated in FIG. 6, the mobile device 90 includes a first antenna 92, a second antenna 94, a receiver 96, a transmitter 98, a clock 100, a processor 102, a device memory 104, a device memory interconnect 105, a device alert circuit 106, a device display 108, a device user interface 110 and a mobile messaging client 112.

The first antenna 92 intercepts transmitted signals from a wireless messaging system 114. It will be appreciated by one of ordinary skill in the art that the wireless messaging system 114, in accordance with the present invention, can function utilizing any wireless RF channel, for example, a one or two-way pager channel, a mobile cellular telephone channel, or a mobile radio channel. Similarly, it will be appreciated by one of ordinary skill in the art that the wireless messaging system 114 can function utilizing other types of communication channels such as infrared channels. In the following description, the term "wireless messaging system" refers to any of the wireless messaging systems mentioned above or an equivalent.

The first antenna 92 is coupled to the receiver 96, which employs conventional demodulation techniques for receiving the communication signals transmitted by the wireless messaging system 114. Coupled to the receiver 96, is the processor 102 utilizing conventional signal-processing tech-

by one of ordinary skill in the art that mobile devices having software-programming capabilities may include specialized and personalized display options and screens for each messaging session 40. Alternatively, mobile devices that do not include software-programming capabilities may include standard, pre-defined display options and screens for the plurality of messaging sessions 24. In accordance with the present invention, the display options for the plurality of messaging sessions 24 in which the messaging client 26 within the mobile device 90 is participating can be included in the plurality of session preferences 43 for each messaging session 40 or alternately, the display options can be stored independently within the plurality of user preferences 35 of the plurality of client data 25

The mobile messaging client 112 further operates using various alert options. In one embodiment, the mobile messaging client 112 notifies the processor 102 to send a command to the device alert circuit 106 when a new session message is added to the memory slot 122 of the client data memory 120 for the messaging session 40. In another embodiment, the mobile messaging client 112 notifies the processor 102 to send a command to the device alert circuit 106 when an unread session message is to be deleted from the memory slot 122. Alternatively, no alert may be sent when a new session message is received and stored in the client data memory 120. It will be appreciated by one of ordinary skill in the art that other alerting schemes are within the scope of the present invention. In accordance with the present invention, the alert options for the plurality of messaging sessions 24 in which the messaging client 26 within the mobile device 90 is participating can be included in the plurality of session preferences 43 for each messaging session 40 or alternately, the alert options can be stored independently within the plurality of user preferences 35 of the plurality of client data 25.

In accordance with the present invention, the mobile messaging client 112 includes software capability for transferring all or a portion of the plurality of client data 25 to at least one other messaging client for use by the other messaging client to participate within one or more of the plurality of messaging sessions 24. The mobile messaging client 112, in accordance with the present invention, further includes software capability for receiving all or a portion of the plurality of client data 25 from another messaging client to participate within one or more of the plurality of messaging sessions 24. As illustrated in FIG. 6, the software capability for transferring and receiving client data can be incorporated into the mobile messaging client 112 or alternatively contained within a separate data transfer application 83. The data transfer application 83, for example can be a third-party software add-on that is compatible with existing messaging software applications (e.g. the mobile messaging client 112) already programmed into the mobile device 90. Maintaining the data transfer software on a separate data transfer application 83 minimizes incorporation timeframes and also the cost of upgrading a messaging device to include this feature.

Preferably, the device user interface 110 is coupled to the processor 102. The device user interface 110 can be one or more buttons used to generate a button press, a series of button presses, a voice response from the device user, or some other similar method of manual response initiated by the device user (such as the account user 30) of the mobile device 90. The processor 102, in response to the device user interface 110, such as a device user depressing a button or series of buttons, or in response to receipt of a session message, initiates an input signal to the mobile messaging

client 112. The mobile messaging client 112, in response to the user input signal, accesses the plurality of session messages 61 stored in the client data memory 120 for use in operation of the mobile messaging client 112.

Preferably, the mobile messaging client 112 includes the client profile 85. The client profile 85 includes information regarding the capabilities and limitations of the mobile messaging client 112 and also of the mobile device 90. For example, the client profile 85 can include indication of the media supported by the mobile messaging client 112 (e.g. audio, video), indication of which features are supported by the mobile messaging client 112, device type, device protocol usage, device display, device battery life, device battery capacity, device processing power, and access to alternate networks. It will be appreciated by one of ordinary skill in the art that the client profile 85 can include any of those mentioned above in any combination or an equivalent.

The transmitter 98 is coupled to the processor 102 and is responsive to commands from the processor 102. When the transmitter 98 receives a command from the processor 102, the transmitter 98 sends a signal via the second antenna 94 to the wireless messaging system 114.

In an alternative embodiment (not shown), the mobile device 90 includes one antenna performing the functionality of the first antenna 92 and the second antenna 94. Further, the mobile device 90 alternatively includes a transceiver circuit performing the functionality of the receiver 96 and the transmitter 98. It will be appreciated by one of ordinary skill in the art that other similar electronic block diagrams of the same or alternate type can be utilized for the mobile device 90 to handle the requirements of the mobile device 90.

The mobile device 90 can be changed from an active state to an inactive state or from an inactive state to an active state through a user input to the power circuit 134. The power circuit 134 can be operated manually via the user input to the power circuit 134, the user input to the user interface 110, or alternatively automatically via the programming of the processor 102.

FIG. 7 is an electronic block diagram of one embodiment of a messaging device in which a messaging client of FIG. 1 operates. Specifically, FIG. 7 illustrates an interactive broadcast receiver such as the cable box 136. The cable box 136 preferably allows network operators to deploy a wide range of interactive television broadcast services and applications on their networks. Further the cable box 136 preferably offers cable operators a combined, all-in-one, hardware and software solution for deploying interactive television services on their networks, thereby creating the ability for real time electronic message communication using television sets and networks.

As illustrated in FIG. 7, the cable box 136 preferably includes a controller 138 for controlling the operation of the cable box 136. Preferably, the controller 138 is similar to the MC68328 micro-controller manufactured by Motorola, Inc. of Schaumburg, Ill. It will be appreciated by one of ordinary skill in the art that other similar processors can be utilized for the controller 138, and that additional processors of the same or alternative type can be utilized as required to handle the processing requirements of the controller 138. Preferably, the controller 138 is programmed to function with the cable messaging client 140. The cable messaging client 140, in accordance with the present invention, operates similarly to the fixed messaging client 84 of FIG. 5 and the mobile messaging client 112 of FIG. 6 as described above. It will be appreciated by one of ordinary skill in the art that the cable messaging client 140 illustrated in FIG. 7 can be the first

messaging client 14, the second messaging client 20, or any other of the plurality of messaging clients 12 of FIG. 1.

In accordance with the present invention, the cable messaging client 140 includes software capability for transferring all or a portion of the plurality of client data 25 to at least one other messaging client for use by the other messaging client to participate within one or more of the plurality of messaging sessions 24. The cable messaging client 140 further includes software capability for receiving all or a portion of the plurality of client data 25 from another messaging client to participate within one or more of the plurality of messaging sessions 24. As illustrated in FIG. 7, the software capability for transferring and receiving client data can be incorporated into the cable messaging client 140 or alternatively contained within a separate data transfer application 83. The data transfer application 83, for example can be a third party software add-on that is compatible with existing messaging software applications (e.g. the cable messaging client 140) already programmed into the cable box 136. Maintaining the data transfer software on a separate data transfer application 83 minimizes incorporation timeframes and also the cost of upgrading a device to include this feature.

Preferably, the cable messaging client 140 includes the client profile 85. The client profile 85 includes information regarding the capabilities and limitations of the cable messaging client 140 and of the cable box 136. For example, the client profile 85 can include indication of the media supported by the cable messaging client 140 (e.g. audio, video), indication of which features are supported by the cable messaging client 140, device type, device protocol usage, device display, device battery life, device battery capacity, device processing power, and access to alternate networks. It will be appreciated by one of ordinary skill in the art that the client profile 85 can include any of those mentioned above in any combination or an equivalent.

The cable box 136 further includes an up/down converter 142 coupled to the controller 138 for communicating with a cable headend. To perform the necessary functions of the cable box 136, the controller 138 is further coupled to a cable box memory 144, which preferably includes a cable box random access memory (RAM) 146, a cable box read-only memory (ROM) 148, and an electrically erasable programmable read-only memory (EEPROM) (not shown). The cable box memory 144 of the cable box 136 preferably includes the client data memory 120 as previously described and illustrated in FIG. 6.

In one embodiment, the cable box 136 includes a cable box memory interconnect 149 for operatively connecting the memory storage device 58 to the cable box 136. The cable box memory interconnect 149 can, for example, comprise a structure for physically engaging external contacts on the memory storage device 58 so that the memory storage device 58 is directly connected to the cable box 136. It will be appreciated by one of ordinary skill in the art that the cable box memory interconnect 149 can also be a wireless connection such as an infrared, Bluetooth or radio frequency interface. When cable box memory interconnect 149 is connected to the memory storage device 58, the cable box 136 can access a plurality of memory information such as the plurality of client data 25 from the memory storage device 58.

Further coupled to the controller 138 is a first cable box I/O 150 for driving a remote control transceiver 152 and further for driving a radio frequency transceiver 154 connected to a cable box antenna 156. A second cable box I/O 158 for inputs from a user input via a cable box user

interface 160 is further coupled to the controller 138. Also coupled to the controller 138 are an audio driver 162 and a radio frequency/video driver 164 for communicating with a television 166.

The cable box 136 can be changed from an active state to an inactive state or from an inactive state to an active state through a user input to the cable box power circuit 168. The cable box power circuit 168 can be operated manually via the user input to the cable box power circuit 168, the user input to the cable box user interface 160 or alternatively automatically via the programming of the controller 138.

FIG. 8 is an electronic block diagram of an alternate embodiment of a messaging communication system 170 in accordance with the present invention. The messaging communication system 170 includes the plurality of messaging clients 12 and a message server 172.

The message server 172 manages the communication of a plurality of electronic messages among the plurality of messaging clients 12, facilitating substantially real time communication among the plurality of messaging clients 12 within the messaging communication system 170. The message server 172 provides numerous services to manage the plurality of messaging sessions 24. The message server 172 also offers various options to the plurality of session participants 44 to reduce cost or enhance the features of the plurality of messaging sessions 24.

Each messaging client 26 of the plurality of messaging clients 12 such as the first messaging client 14 and the second messaging client 20 includes client software to interface within the messaging communication system 10. It will be appreciated by one of ordinary skill in the art that in accordance with the present invention, the interface capabilities of the client software can also be designed into client hardware of a messaging client. Each messaging client 26 of the plurality of messaging clients 12 further includes the client identifier 27. For example, the first messaging client 14 includes the first client identifier 15 and the second messaging client 20 includes the second client identifier 21. The client identifier 27 of the messaging client 26 is a unique identification within the messaging communication system 170 for providing individualized messages to be directed to a particular messaging client. For example, the client identifier 27 can be an address of the mobile device 90 or an IP address and number of the port of the fixed network device 50. To communicate within the messaging communication system 170, the messaging client 26 establishes the communication connection 28 via the message server 172. For example, the first messaging client 14 establishes the first communication connection 16 via the message server 172 for communication within at least one of the plurality of messaging sessions 24. Similarly, the second messaging client 20 establishes the second communication connection 22 via the message server 172 for communication within at least one of the plurality of messaging sessions 24. It will be appreciated by one of ordinary skill in the art that the communication connection 28, the first communication connection 16, and the second communication connection 22 can be a physical connection, or alternatively can be a logical connection where the act of connecting and disconnecting is a logical one. Each of the plurality of messaging clients 12 belongs to the account user 30. The account user 30 is an individual who uses one or more of the plurality of messaging clients 12 to communicate with other account users within the plurality of messaging sessions 24. It will be appreciated by one of ordinary skill in the art that the account user 30 can communicate using one or more of the plurality of messaging clients 12. For example, the first

data transfer application 83 or alternatively the transfer software within the second messaging client 20, the second messaging client 20 sends a notification of availability signal 452 to the message server 172. In response, the message server 172 sends an availability signal 454 to the first messaging client 14 and an availability signal 456 to the messaging client 26. Preferably the signals 452 and 454 include identification information for the second messaging client 20 such as the second messaging client identification 382. As illustrated, after receiving the availability signal 454, the first messaging client 14 sends a data signal 460 to the message server 172. In response, the message server 172 sends a data signal 462 to the second messaging client 20. The second messaging client 20 stores the received portion of the first client data 17 including the plurality of session data 36 for the messaging session 40 in memory and causes the session history 45 to be displayed on the display of the messaging device in which the second messaging client 20 operates for access and use by the first account user 29 on the second messaging client 20. It will be appreciated by one of ordinary skill in the art that the data signals 460 and 462 can include session data for one messaging session or for a plurality of messaging sessions, the first client data 17, or a portion of the first client data 17; and similarly that the second messaging client 20 can store one messaging session or a plurality of messaging sessions, the first client data 17, or a portion of the first client data 17 in memory in response to receiving the data signals 460 and 462.

The messaging session 40 continues between the first account user 29 and the second account user through the second messaging client 20 and the messaging client 26 as illustrated by the plurality of session messages 412 to 422. It will be appreciated by one of ordinary skill in the art that although only the first account user 29 and a second account user are shown in FIG. 23 by way of example, the messaging session 40 can continue seamlessly between a plurality of account users and associated plurality of messaging clients.

Preferably, the first messaging client 14 is disconnected from the messaging session 40 upon completion of the data transfer. (not shown) It will be appreciated by one of ordinary skill in the art that the first messaging client 14 can be automatically disconnected from the messaging session 40 or alternatively the first messaging client 14 can be disconnected manually by the first account user 29. Similarly, it will be appreciated by one of ordinary skill in the art the first messaging client 14 can continue to be active in the messaging session 40 along with the second messaging client 20. (not shown)

Although the invention has been described in terms of preferred embodiments, it will be obvious to those skilled in the art that various alterations and modifications may be made without departing from the invention. Accordingly, it is intended that all such alterations and modifications be considered as within the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. Within a messaging communication system having a message server for managing the communication of a plurality of messages among a plurality of messaging clients, a method for providing continuity between the plurality of messaging clients comprising:

establishing a first communication connection including a plurality of client data between a first messaging client and the message server;

transferring the plurality of client data from the first messaging client to a second messaging client; and

establishing a second communication connection including the plurality of client data between the second messaging client and the message server.

2. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein the first messaging client further includes at least one user preference, the method further comprising:

transferring the at least one user preference from the first messaging client to the second messaging client; and operating within the second communication connection by the second messaging client using the at least one user preference.

3. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein the first messaging client operates within a first messaging device, and further wherein the first messaging device includes a user interface, the method further comprising prior to the transferring step:

requesting the transfer of the plurality of client data by a user input to the user interface of the first messaging device.

4. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein the second messaging client operates within a second messaging device, and further wherein the second messaging device includes a user interface, the method further comprising prior to the transferring step:

requesting the transfer of the plurality of client data by a user input to the user interface of the second messaging device.

5. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein the second messaging client operates within a mobile device, wherein in the transferring step the transfer of the plurality of client data is in response to a movement of the mobile device.

6. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein in the transferring step the transfer of the plurality of client data is in response to an activation of the second messaging client.

7. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein the second messaging client operates within a second messaging device, wherein the second messaging device includes a data transfer application, and further wherein in the transferring step the transfer of the plurality of client data is in response to an activation of the data transfer application.

8. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein the first messaging client operates within a first messaging device, wherein the first messaging device includes a data transfer application, and further wherein in the transferring step the transfer of the plurality of client data is in response to an activation of the data transfer application.

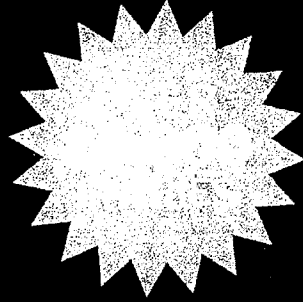
9. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein in the transferring step the transfer of the plurality of client data is in response to the second messaging client establishing the second communication connection.

10. A method for providing continuity between a plurality of messaging clients as recited in claim 1 wherein the second messaging client operates within a second messaging device, and further wherein in the transferring step the transfer of the plurality of client data is in response to activating the second messaging device.

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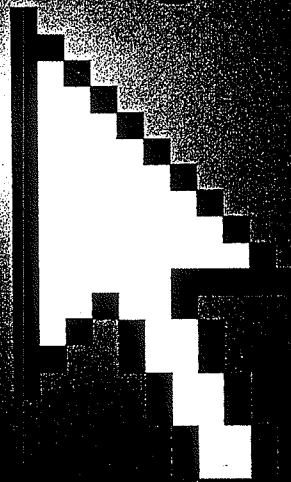


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message transfer agent *n.* See MTA.

messaging *n.* The use of computers and data communication equipment to convey messages from one person to another, as by e-mail, voice mail, or fax.

messaging application *n.* An application that enables users to send messages (such as e-mail or fax) to each other.

Messaging Application Programming Interface *n.* See MAPI.

messaging client *n.* An application program that enables its user to send or receive messages (such as e-mail or fax) to and from other users with the help of a remote server.

messaging-oriented middleware *n.* See MOM.

meta- *prefix* Literally, a prefix that describes a process or characteristic beyond the normal meaning of the word without the prefix. For example, metaphysics is "beyond physics." In computing, meta- is usually attached to a word to indicate that the "metaterm" describes, defines, or acts upon objects or concepts of the same type as itself. So, for example, metadata is data about data and a meta-tool is a tool for working on tools.

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metacharacter *n.* A character embedded in a program source or a data stream that conveys information about other characters, rather than itself representing a character. A simple example is the backslash (\) character, which, when used in strings in the C programming language, indicates that the letter following the backslash is part of an escape sequence that enables C to display a nongraphic character. See also escape character.

metacompiler *n.* A compiler that produces compilers. The UNIX utility *yacc* (Yet Another Compiler-Compiler) is a metacompiler. If it is given a language specification, *yacc* produces a compiler for that language. See also compiler (definition 2).

Meta-Content Format *n.* An open format for describing information about content of a structured body of data such as a Web page, a set of files on a Windows desktop, or a relational database. Meta-Content Format might be used for indexes, data dictionaries, or price lists. *Acronym:* MCF.

metadata or **meta data** *n.* 1. Data about data. For example, the title, subject, author, and size of a file constitute metadata about the file. See also data dictionary, repository. 2. In the Microsoft .NET Framework, information that describes every element managed by the runtime: an

assembly, loadable file, type, method, and so on. This can include information required for debugging and garbage collection, as well as security attributes, marshaling data, extended class and member definitions, version binding, and other information required by the runtime.

Metadata Interchange Specification *n.* A set of specifications dealing with the exchanging, sharing, and managing of metadata. *Acronym:* MDIS. See also metadata (definition 1).

metafile *n.* A file that contains or defines other files. Many operating systems use metafiles to contain directory information about other files on a given storage device.

metaflow *n.* One of the four stages of the data warehousing process, during which metadata (data about data) is tracked and managed; the business modeling stage. During metaflow, the operational environment is mapped to the data warehouse environment. See also data warehouse (definition 2), downflow, inflow, metadata (definition 1), upflow.

metalanguage *n.* A language used to describe other languages. Backus-Naur form (BNF) is a metalanguage commonly used to define programming languages. Also called: language-description language. See also Backus-Naur form.

metal-oxide semiconductor *n.* See MOS.

metal-oxide semiconductor field-effect transistor *n.* See MOSFET.

metaoperating system *n.* An operating system under which several other operating systems are active. Also called: supervisor.

metatag or **meta tag** *n.* A tag in an HTML or XML document that allows a Web-page creator to include such information as the author's name, keywords identifying content, and descriptive details (for example, non-text objects on the page). The information that is marked with metatags does not appear on the Web page when a user views it in a browser, but it can be viewed in the HTML or XML source. Metatags are included in the head of a document and are often used to assist search engines in indexing the page. See also HTML, source, tag, XML.

method *n.* In object-oriented programming, a process performed by an object when it receives a message. See also object (definition 2), object-oriented programming.

Metropolitan Area Exchange *n.* See MAE (definition 2).

metropolitan area network *n.* See MAN.