

message as indicated in field 302 (FIG. 3). For example, the message may be identified as a data file 314 (FIG. 3), fax file 316 (FIG. 3), pre-recorded voice file 318 (FIG. 3), pager message file 320 (FIG. 3), or video file 322 (FIG. 3).

Task 706 determines if a message is to be provided immediately to a subscriber by task 708 or stored by task 714 in field 716. Task 706 determines providing and/or storing based on message status information preferably received from field 620 (FIG. 6).

If task 706 determines a message is to be provided immediately, task 708 provides the message immediately. Subscriber unit 26 (FIG. 2) preferably indicates a message provided immediately by a tonal or visual indicator. If task 706 determines a message is not to be provided to a destination party immediately, task 714 stores the message in field 716 preferably located in storage medium 55 (FIG. 2) of destination subscriber unit 26 (FIG. 1). Based on the type of message file provided from task 704, task 714 preferably stores the message in field 716 appropriately as a data file 718, fax file 720, voice file 722, pager message file 724, or video file 726.

If task 710 determines a message was not provided successfully (i.e., the destination party does not answer or accept the message), task 712 retries providing the message. Task 712 preferably uses pre-determined time intervals when retrying until a pre-determined time-out or number of retries is reached. In one preferred embodiment, a user chooses pre-determined time intervals and/or a pre-determined time out and/or pre-determined number of retries. In another embodiment, subscriber unit 26 (FIG. 1) defaults to pre-determined system retry time intervals and/or time outs and/or number of retries.

If task 712 determines retries are unsuccessful, received message file from field 602 (FIG. 6) is preferably stored by task 714 in field 716 appropriately as data file 718, fax file 720, voice file 722, pager message 724, or video file 726.

If task 710 determines a message was provided successfully (i.e., the destination party accepts or answers the message immediately), or if task 712 determines a retry was successful or if task 714 stores a message file in field 716, task 728 indicates an acknowledgment back to an originating party that a message was received should be transmitted. Task 730 transmits an indication of acknowledgment to the originating subscriber unit 26 (FIG. 1) provided by task 728. Preferably, the originating subscriber unit 26 (FIG. 1) stores this acknowledgment in field 312.

While the invention has been described in terms of specific examples and with specific preferred embodiment, it is evident that many alternatives and variations will be apparent to those skilled in the art based on the description herein, and is intended to include such variations and alternatives in the claims.

As described herein, the advantages of the present invention will be apparent to those of skill in the art and provide improved methods of operating various parts of a communication system. These advantages include an improved method for sending and receiving data messages. An advantage to the present invention is that a subscriber unit is provided which is capable of accomplishing several functions without reliance on other devices. Functions include the transmission and reception of data files, fax files, voice files, video files, and pager messages. Another advantage to the present invention is that information, such as data files, fax files, voice files, video files, or pager files, are sent and received automatically.

Another advantage to the present invention is that a user can save money by sending or receiving messages at low

traffic times. Another advantage to the present invention is that a user can save money by sending or receiving messages at most economical times. Another advantage to the present invention is that updates can be requested from the communication system for low traffic times and most economical times on demand. Another advantage to the present invention is that a user can choose when to send or receive messages based on cost of using communication system. Another advantage to the present invention is that time can be saved by automatically sending or receiving messages at pre-determined times.

Another advantage to the present invention is that outgoing data messages can be delayed until more convenient or cost effective times or transmitted immediately. Another advantage to the present invention is that incoming data messages can be stored immediately in the subscriber unit until a destination party desires to access the message(s) or received immediately.

Another advantage to the present invention is that a storage medium can be used in other subscriber units for storing, receiving, or retrieving data messages. Another advantage to the present invention is that data messages received by subscriber unit can be stored in a manipulated in an interfacing device such as a computer

Another advantage to the present invention is that bandwidths may be allocated according to message type, or the size of a message.

What is claimed is:

1. A method of sending a data message from a subscriber unit comprising the steps of:

receiving updates from a communication system at said subscriber unit, said updates including an optimum time for transmission of data messages;

reading said data message and a set of personal preferences from a memory in said subscriber unit, said set of personal preferences indicating whether to transmit said data message at a pre-scheduled time or at said optimum time; and

transmitting by said subscriber unit, said data message during said pre-scheduled time or said optimum time depending on said set of personal preferences.

2. A method as claimed in claim 1 wherein the receiving step includes the step of receiving said updates, wherein said updates include said optimum time for each of a plurality of geographic locations served by said communication system, and wherein the method further comprises the steps of:

storing said updates in a second memory of said subscriber unit;

determining a geographic location of said subscriber unit; and

evaluating said updates to determine said optimum time for said geographic location of said subscriber unit.

3. A method as claimed in claim 2 wherein the reading step further comprises the step of reading a destination location for said data message, and

wherein said method further comprises the step of evaluating said updates to determine one of said optimum times for receipt of said data message to said destination location,

and wherein the transmitting step comprises the step of transmitting said data message for receipt to said destination location at said one of said optimum times.

4. A method as claimed in claim 3 wherein said optimum times include most economical times for said plurality of geographic locations, said most economical times including cost information, and