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(54) Title: DATA MESSAGE MANAGEMENT SYSTEM

(57) **Abstract:** This invention relates to a data message management system 10 and to methods of operating such a system. Data messages, such as e-mail and short message system (SMS) messages have become ubiquitous, but are difficult to manage and the currently un-administered nature of such messages has the effect of swamping instead of facilitating communication. The system 10 of this invention manages data messages 12 exchanged between normally un-connected message clients 14, 16 and includes a plurality of message originating clients 14 and at least one message handling server 26 that have been programmed for participation in the system. The addressee clients 16 need not necessarily be participants in the system. Each message originating client 14 is programmed with an outgoing message management program including a message routing program and user-selectable message handling rules to be attached to the outgoing data message 12. The message handling server 26 is programmed with a message management program including the message routing program and a rules management program, which interprets the message handling rule associated with data messages routed to the server in use and routes the data messages, using the message routing program, in accordance with the message handling rules associated with each data message. The message routing program is adapted to remain associated with the outgoing data message 12 and all data messages linked thereto (whether as a reply, a copy or a forwarded copy of such an outgoing data message) and to direct all such linked data messages to a participating message handling server 26 so that outgoing data messages 14 and all linked messages are routed through a participating message handling server where the rules management program is programmed to control the transmission of reply data messages to the originating message client in accordance with the message handling rules associated with the outgoing data message 14.

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1 **DATA MESSAGE MANAGEMENT SYSTEM**

2 **Background to the invention**

3 This invention relates to a data message management system.

4 Data messages, such as e-mail and short message system (SMS) messages have
5 become ubiquitous, but are difficult to manage. Often the amount of messages sent and
6 received and the currently un-administered nature of such messages have the effect of
7 swamping instead of facilitating communication.

8 It is an object of this invention to address this shortcoming.

9 **Summary of the invention**

10 According to this invention, a system is provided to manage data messages exchanged
11 between normally un-connected message clients, the data message management system
12 including at least one participating message handling server and one or more participating
13 message originating clients, which, in use, require to transmit one or more data messages
14 to addressee clients, which need not necessarily be participants in the system:

15 each participating message originating client being programmed with:

16 an outgoing message management program including a message routing
17 program; and

18 one or more user-selectable message handling rules to be associated with
19 outgoing data messages; and

- 1 each participating message handling server being programmed with:
- 2 a server message management program including the message routing
3 program; and
- 4 a rules management program, which is adapted to interpret the user-
5 selected message handling rule or rules associated with data messages
6 routed to the server in use and to route the data messages, using the
7 message routing program, in accordance with the user-selected message
8 handling rule or rules associated with each data message;
- 9 the outgoing message management program being adapted:
- 10 to operate in conjunction with the data messaging system in use on the
11 message originating client;
- 12 to permit the selection, in use by a user of the message originating client
13 prior to transmission of an outgoing data message, of one or more user-
14 selectable message handling rules to be associated with that outgoing data
15 message;
- 16 to associate the user-selected message handling rule or rules with the
17 outgoing data message on transmission thereof to one or more addressee
18 message clients; and
- 19 to associate the message routing program with each outgoing data
20 message that has a message handling rule associated therewith, on
21 transmission of that outgoing data message to one or more addressee
22 message clients; and

1 the message routing program being adapted to remain associated with the
2 outgoing data message and all data messages linked thereto and to direct all such
3 data messages to a participating message handling server;

4 such that outgoing data messages with their associated message handling rules
5 and all data messages transmitted by addressee clients in response to the
6 outgoing data message are routed through a participating message handling
7 server; and

8 the message handling server being programmed to control the transmission of
9 reply data messages to the originating message client in accordance with the
10 message handling rules associated with the outgoing data message.

11 It will be understood that the message originating clients and the message handling
12 servers will have to be programmed with the outgoing message management program and
13 the server message management program respectively to enable their participation in the
14 system of the invention.

15 The message routing program in the server message management program may be
16 similar to the message routing program in the outgoing message management program,
17 but in view of the additional complexity of the tasks manage by the server, the message
18 routing program used in the server will probably have added functionality in most
19 applications.

20 The message handling rules associated or attached to data message outgoing from the
21 message handling server to addressee clients are preferably attached in background such
22 that neither the message originating client nor the addressee clients display the message
23 handling rules, but merely implement the message handling rules (the message originating
24 client when sending and the addressee clients when responding).

25 In addition, the message handling rules are preferably not variable by the message clients,

1 with protection against unauthorised modification of the rules (hacking) being built in.

2 The message handling server may conveniently be programmed to prevent the
3 transmission of linked data messages to the originating message client, pending
4 compliance with all the message handling rules associated with the outgoing data
5 message.

6 In a simplified embodiment of the invention, a system is provided to manage data
7 messages exchanged between message clients, the data message management system
8 including a plurality of participating message clients each adapted to receive incoming data
9 messages only from a participating message handling server which is programmed with a
10 database containing information pertaining to the identities of authorised senders of data
11 messages to participating message clients, the participating message handling server
12 being programmed to compare the identity information pertaining to the sender of each
13 data message incoming to each participating message client, which is contained in each
14 such data message, to the database of authorised senders recorded in the database and,
15 if the identity information is not recorded in the database, to recognise such a sender as an
16 unauthorised sender and to implement a pre-programmed registration process by means
17 of which the unauthorised sender may be registered in the database as an authorised
18 sender.

19 In the reverse of this embodiment of the invention, a system is provided to manage data
20 messages exchanged between message clients, the data message management system
21 including a plurality of participating message clients each adapted to transmit outgoing
22 data messages only by way of a participating message handling server which is
23 programmed with a database containing information pertaining to the identities of
24 authorised recipients of data messages from participating message clients, the
25 participating message handling server being programmed to compare the identity
26 information pertaining to the recipient of each data message outgoing from each
27 participating message client, which is contained in each such data message, to the
28 database of authorised recipients recorded in the database and, if the identity information
29 is not recorded in the database, to recognise such a recipient as an unauthorised recipient

1 and to implement a pre-programmed registration process by means of which the
2 participating message client sender may register the unauthorised recipient, in the
3 database, as an authorised recipient.

4 The above mentioned embodiments of the invention are preferably combined into a single
5 system to manage data messages incoming to and outgoing from participating message
6 clients.

7 The data message management system of the above mentioned embodiments of the
8 invention of the invention is ideally suited to the management of data messages
9 exchanged between message clients connected in a network and normally un-connected
10 message clients (not connected into the network) and, in which event the or one of the
11 message handling servers will conveniently be included in the network, the message
12 routing program being adapted to route data messages outgoing from and incoming to
13 networked message clients through the networked message handling server, the
14 networked server including the database of authorised sender and recipient information
15 and being programmed to implement the pre-programmed registration processes by
16 means of which the senders and recipient may, in use, be registered in the database as
17 authorised senders and recipients respectively.

18 The registration process may conveniently involve the automatic transmission of one or
19 more on-line registration forms to either or both the networked message client on the one
20 hand and the un-connected recipient (in respect of data messages outgoing from message
21 clients on the network) or the un-connected sender (in respect of data messages incoming
22 to message clients on the network) which must be completed and retransmitted to the
23 either or both the database and the message handling server to register the recipient or
24 sender in the database as a recognised recipient or sender respectively.

25 In one form of the invention, the data messages are constituted by e-mail, in which case
26 the messaging system in use on the message client and addressee clients will comprise e-
27 mail handling software, such as Microsoft Outlook™, as their data messaging system.

1 The management system of the invention can also be used to manage cellular
2 communications, including voice data (analog or digital), message protocol data (such as
3 short Message Service (SMS point-to-point or SMS PP and SMS one-to-many or SMS Cell
4 Broadcast), Multimedia Messaging Service (MMS), Instant Messaging (IM), Mobile Instant
5 Messaging (MIM) or the like), General Packet Radio Service (GPRS) data, Wireless
6 Application Protocol (WAP) or any cellular communication data addressable to a cell
7 phone. In this case the message clients will be constituted largely by cell phones and the
8 data messaging system will be constituted by an cellular phone network.

9 In each case, the data messages sent as outgoing and reply data messages will be routed
10 through the message handling server.

11 The message handling server may be a remote server computer located at the premises of
12 an application or cellular service provider, to which the outgoing data message is sent by
13 way of the internet or cellular transmission networks.

14 Alternatively the message handling server may be a local mail server computer located at
15 the premises where the data message originating message client is located, to which the
16 outgoing data message is sent by way of the intranet to which the server and client are
17 connected.

18 As a further alternative, the message handling server may be constituted by message
19 server software loaded onto the message originating client.

20 The message handling rules may include rules adapted to format, control and consolidate
21 the data messages.

22 **Brief description of the drawings**

23 The invention will be further described with reference to the accompanying drawings in
24 which:

1 Figure 1 is a block diagram of one implementation of the invention as an e-mail
2 management system; and

3 Figure 2 is a block diagram of a second implementation of the invention as a SMS
4 or cellular communications message management system.

5 **Description of embodiments of the invention**

6 The data message management system 10 illustrated in Figure 1 is intended to manage
7 the transmission of data messages (in the form of e-mail messages) between a plurality of
8 message clients in the form of personal computers.

9 The invention will be described with reference to the example of a single outgoing data
10 message and the response thereto by a plurality of message clients.

11 The message clients can all be part of a single computer network or a wide area network,
12 but for data messaging purposes they need not necessarily be connected. The
13 management system of the invention will, however, find application with connected
14 message client systems such as chat networks.

15 The block diagram of Figure 1 illustrates an exchange of e-mail correspondence between a
16 number of message clients, commencing with an outgoing data message 12 transmitted
17 from a message originating client 14 to a plurality of addressee clients 16.

18 Each of the message clients 14, 16 is programmed with a data message management
19 program that displays a data message management program input screen 20 on its
20 computer display when the user attempts to send an e-mail message (the data message
21 12) using a conventional messaging system, such as MICROSOFT OUTLOOK™.

22 Should the user wish to make use of the management system 10 to manage the outgoing

1 data message 12 and the responses thereto, the user will then fill in the data message
2 management program input screen 20 displayed on the computer display, the data
3 message management program 18 being programmed to present the user with a number
4 of message handling rules 22 from which the user makes a selection. The selected
5 message handling rules 22 are then attached to the outgoing data message 12.

6 The data message management program 18 also attaches a routing program 24 to the
7 outgoing data message 12 and the outgoing data message 12 is then sent to the
8 addressee clients 16 via the internet.

9 The routing program 24 automatically routes the outgoing data message 12 to the
10 addressee clients 16 by way of a message handling server 26 which is programmed to
11 implement the message handling rules 22 attached to the outgoing data message 12.

12 From the message handling server 26, the outgoing data message 12 is sent to the
13 addressee clients 16. Should any one or more of the addressee clients 16 wish to respond
14 to the outgoing data message 12, they will do so in the form of a reply data message 28.

15 In situations where an addressee client 16 is not a participating message client on the data
16 message management system 10, it will not be programmed with the message
17 management program. However, the message handling rules associated or attached to
18 data messages 12 outgoing from the message handling server 26 to addressee clients 16
19 are attached in background to any data message incoming to an addressee client 16 and
20 to any response thereto by the addressee client 16 (that is to the outgoing data message
21 constituting that response). In this manner, the reply data message 28 is automatically
22 directed and governed by the message handling rules 22.

23 The message handling rules 22 associated or attached to data messages outgoing from
24 message originating clients 14 and the message handling server 26 to addressee clients
25 16 are attached in background such that neither the message originating client 14 nor the
26 addressee clients 16 display the message handling rules, but merely implement the

1 message handling rules (the message originating client 14 when sending and the
2 addressee clients 16 when responding).

3 In addition, the message handling rules are preferably not variable by the message clients,
4 with protection against unauthorised modification of the rules (hacking) being built in.

5 The message handling rules 22 are automatically attached to the reply data message 28
6 to ensure that each reply data message 28 is routed back to the originating client 14 by
7 way of the message handling server 26.

8 Apart from unsolicited e-mail (so-called "spam" mail), one of the most frequently
9 complained-of failures of e-mail messaging systems is the inability of existing systems to
10 aggregate replies in a logically consistent fashion and to associate such replies with the
11 original outgoing e-mail message.

12 This failure is overcome in the management system 10 by the inclusion of a message
13 handling rule 22 that serves to consolidate all the reply data messages 28 pending
14 fulfillment of conditions contained in the rule.

15 So, for instance, the message handling rules 22 may contain a rule to the effect that all
16 replies are to be retransmitted to the originating client 14 in a particular format and only
17 when all responses have been received. To overcome delays, the message handling
18 server 26 may conveniently be programmed to prompt the addressee clients automatically
19 if a reply data message 28 has not been received from a particular addressee client by a
20 predetermined date. As an adjunct to this rule, the message handling server 26 could be
21 programmed to transmit the reply data messages 28 to the originating client 14 when the
22 majority of addressee clients 16 have replied to the outgoing data message 12, reporting at
23 the same time which addressee clients 16 have not replied.

24 This is but a small example of the management capacity of the management system 10
25 and of the message handling rules that can be supported by the system.

1 Referring generally to Figure 1, in PC networks, each networked PC is programmed to
2 include a message or mail management program that is adapted to operate in conjunction
3 with the e-mail system in use on the client PC, such as MICROSOFT OUTLOOK™. In
4 such a networked environment, the mail management program of this invention associates
5 a message or mail routing program and at least one predetermined mail handling rule to
6 each outgoing e-mail sent by a networked, mail originating PC 14 prior to transmission of
7 the outgoing data message 12.

8 In addition, such PC networks typically include a mail handling server which can but need
9 not necessarily be the message handling server 26 of Figure 1 and which is normally
10 constituted by a mail server PC forming part of the network. In such a network, the mail
11 routing program is preferably adapted to route e-mail outgoing from and incoming to the
12 networked PCs through the mail handling server solely or in addition to being routed
13 through the message handling server 26.

14 The system includes a database, which can but need not be installed in the mail server.
15 The database is used to record and store information pertaining to recognised recipients of
16 mail outgoing from networked PCs as well as recognised senders of mail to PCs on the
17 network.

18 In respect of outgoing mail, the mail server is programmed to compare at least the address
19 of the intended recipient of each e-mail outgoing from networked PCs to recognised mail
20 recipients recorded in the database. If the intended recipient's address is not recorded in
21 the database, the mail server implements a pre-programmed registration process by
22 means of which the intended recipient may, in use, be registered in the database as a
23 recognised recipient.

24 The registration process will typically be implemented to invite the networked PC message
25 originating client 14 to register the intended recipient by sending the message originating
26 client 14 a registration form to complete. However, the invitation could, alternatively or in
27 addition, be extended to the intended recipient.

1 In respect of incoming mail, the system simply operates in reverse, the database
2 containing at least the address information of recognised senders of data messages to
3 PCs on the network and the mail server being programmed to compare the address of the
4 sender of each incoming e-mail to the network to the record of recognised senders
5 recorded in the database. If the address is not recorded in the database, the mail server
6 implements the pre-programmed registration process to assist in registering the sender in
7 the database as a recognised sender.

8 Once again, the registration process will typically be implemented to invite the networked
9 PC message originating client 14 to register the unauthorised sender by sending the
10 message originating client 14 a registration form to complete. However, the invitation to
11 register could, alternatively or in addition, be extended to the unauthorised sender.

12 In both cases, the registration process involves the automatic generation and transmission
13 of one or more on-line registration forms to either or both the networked PC on the one
14 hand and the un-connected recipient or sender (in respect of mail outgoing or incoming to
15 the network respectively). The mail will only be cleared for transmission or receipt once the
16 registration forms have been completed and retransmitted to the either or both the
17 database and the mail server and the sender or recipient is correctly registered in the
18 database as a recognised sender or recipient respectively.

19 In this way, network management is facilitated in that the network administrator is able to
20 control, by means of automated rules and administrative procedures, which e-mail may be
21 received by and sent to PCs on the network. This will serve to avoid and circumvent a
22 large number of the problems, such as spam mail and identity theft, currently experienced
23 as a result of essentially un-controllable e-mail usage, particularly if the database is
24 supplemented with information about undesirable e-mail senders that is presently available
25 in on-line databases.

26 Figure 2 illustrates, in block diagram form, the implementation of the data message
27 management system 110 of the invention in a cellular communication environment. In

1 Figure 2, like numbers (numbered in hundreds) illustrate like components or functions to
2 those illustrated with reference to Figure 1.

3 This implementation contains a developed version of the registration process referred to
4 above.

5 In Figure 2, an originating client phone device 114 (which could be a cell phone, a personal
6 digital assistant (PDA) or even a computer) sends a outgoing phone data message 112 to
7 an addressee client phone 116. The outgoing phone data message 112 can be voice data
8 (analog or digital), message protocol data (such as short Message Service (point-to-point
9 or SMS PP and SMS one-to-many or SMS Cell Broadcast), Multimedia Messaging Service
10 (MMS), Instant Messaging (IM), Mobile Instant Messaging (MIM) or the like), General
11 Packet Radio Service (GPRS) data, Wireless Application Protocol (WAP) or any cellular
12 communication data addressable to a cell phone.

13 Since all cellular phone data transmissions (calls and messages such as the outgoing
14 phone data message 112) are first routed through a cellular service provider, the outgoing
15 phone data message 112 is first sent to the cellular service provider 126 in respect of the
16 addressee client phone 116 (arrow numbered 1).

17 At the cellular service provider 126, implemented on the computers of the cellular service
18 provider 126, the outgoing phone data message 112 is subjected to a decision making
19 process 126.1 in which the sender information in respect of the outgoing phone data
20 message 112 is compared to a database of permitted callers in respect of the addressee
21 client phone 116. Unless the context clearly does not permit such an interpretation, a
22 reference to the cellular service provider 126 in this specification, will be reference to the
23 cellular service provider's computers on which the process is implemented.

24 The content of the permitted callers database is open to management by the user of the
25 addressee client phone 116 using the facilities of the cellular service provider 126, such as
26 online interactive internet applications.

1 If the decision making process 126.1 yields a positive match, the outgoing phone data
2 message 112 is routed directly to the addressee client phone 116 (arrow numbered 1.1).

3 If the decision making process 126.1 is negative in that the sender information in respect of
4 the outgoing phone data message 112 does not match any entry in the database of
5 permitted callers kept by the cellular service provider 126 in respect of the addressee client
6 phone 116, the cellular service provider 126 (the computers of the cellular service provider
7 126) automatically cycles into a registration process by means of which the originating
8 client phone 114 (or its user) will be registered on the database of permitted callers kept by
9 the cellular service provider 126 in respect of the addressee client phone 116.

10 To initiate the registration process the cellular service provider 126 generates a form
11 request message 126.2 that is sent (arrow numbered 2) to the originating client phone 114.
12 The form request message 126.2 requires the originating client phone 114 to respond with
13 a form request response. Where the originating client phone 114 is manually operated, the
14 response will require manual input 114.1 but with a computer generated outgoing phone
15 data message 112, the response can be automated. The form request message 126.2 is
16 seeded with a short program that drives the originating client phone 114 to send a form
17 request response back to the cellular service provider 126 (arrow numbered 3).

18 If a positive form request response is sent, the cellular service provider 126 automatically
19 generates a form 126.3 which is sent back to the originating client phone 114 (arrow
20 numbered 4) which must be completed in a manual input step 114.2.

21 To avoid the computer-generated responses so commonplace in the spam mail industry,
22 the form demand 126.3 contains a forced manual input mechanism that compels a
23 considered, manual response 114.2. An example of such a mechanism is a humanly
24 intelligible code that in no way resembles the digital equivalent of that code, for instance a
25 graphic or image (normally a small *.jpg file) visually representing a short alphanumeric
26 code (typically 5 or 6 digits) the digital code of which bears no relationship to the humanly
27 intelligible code visible in the image. The user of the originating client phone 114 must

1 then input the visible code into a space provided on the form 126.3.

2 The form 126.3 is seeded with a short program that drives the originating client phone 114
3 to send the completed form back to the cellular service provider 126 on completion of the
4 manual input process 114.2 (arrow numbered 5). The originating client phone 114
5 transmits the form with the code input therein to the cellular service provider 126 where it is
6 converted into an authorisation request which is subjected to a decision making process to
7 verify the correctness of the code input in the manual input process 114.2. If the input
8 code is verified, an authorisation request is forwarded to the addressee client phone 116
9 where it is displayed as a form for a manual input process 116.1 in which the user of the
10 addressee client phone 116 is required to either decline or allow the authorisation request.
11 As an example of the control given to the user of the addressee client phone 116, the user
12 may be given the choice of allowing one-time access, unlimited access or access limited
13 as to duration, time of access, frequency of access or numbers of individual access events
14 permitted.

15 Should the user enter a decision allowing access, the authorisation request is seeded with
16 a short program that drives the addressee client phone 116 to send a database
17 modification authorisation (arrow numbered 6) to the cellular service provider 126 where a
18 database modification process 126.5 is implemented to record the authorisation granted
19 with the use of the addressee client phone 116.

20 At the same time, a retransmission advice (arrow numbered 7) is sent to the originating
21 client phone 114. The retransmission advice is seeded with a program that drives the
22 originating client phone 114 to retransmit the outgoing phone data message 112 to the
23 addressee client phone 116 by way of the cellular service provider 126. Since the
24 originating client phone 114 is now recorded on the database of permitted callers, the
25 decision 126.1 will be positive and the outgoing phone data message 112 will be
26 transmitted to the addressee client phone 116 (arrow numbered 8).

27 The registration process outlined above uses push and pull data transmissions between

1 the cellular service provider 126, the originating client phone 114 and the addressee client
2 phone 116 and in most cellular phone services, the user of the addressee client phone 116
3 will be required to bear the cost thereof, but most cell phone users will probably be
4 prepared to pay the relatively low data transmission cost involved for the convenience of
5 controlling access to their cell phones.

1 **Claims**

2 1. A system to manage data messages exchanged between normally un-connected
3 message clients, the data message management system including at least one
4 participating message handling server and one or more participating message
5 originating clients, which, in use, require to transmit one or more data messages to
6 addressee clients, which need not necessarily be participants in the system:

7 each participating message originating client being programmed with:

8 an outgoing message management program including a message routing
9 program; and

10 one or more user-selectable message handling rules to be associated with
11 outgoing data messages; and

12 each participating message handling server being programmed with:

13 a server message management program including the message routing
14 program; and

15 a rules management program, which is adapted to interpret the user-
16 selected message handling rule or rules associated with data messages
17 routed to the server in use and to route the data messages, using the
18 message routing program, in accordance with the user-selected message
19 handling rule or rules associated with each data message;

20 the outgoing message management program being adapted:

1 to operate in conjunction with the data messaging system in use on the
2 message originating client;

3 to permit the selection, in use by a user of the message originating client
4 prior to transmission of an outgoing data message, of one or more user-
5 selectable message handling rules to be associated with that outgoing data
6 message;

7 to associate the user-selected message handling rule or rules with the
8 outgoing data message on transmission thereof to one or more addressee
9 message clients; and

10 to associate the message routing program with each outgoing data
11 message that has a message handling rule associated therewith, on
12 transmission of that outgoing data message to one or more addressee
13 message clients; and

14 the message routing program being adapted to remain associated with the
15 outgoing data message and all data messages linked thereto and to direct all such
16 data messages to a participating message handling server;

17 such that outgoing data messages with their associated message handling rules
18 and all data messages transmitted by addressee clients in response to the
19 outgoing data message are routed through a participating message handling
20 server; and

21 the message handling server being programmed to control the transmission of
22 reply data messages to the originating message client in accordance with the
23 message handling rules associated with the outgoing data message.

24 2. A data message management system according to claim 1 in which the message

1 handling server is programmed to prevent the transmission of linked data messages
2 to the originating message client, pending compliance with all the message handling
3 rules associated with the outgoing data message.

4 3. A data message management system including a plurality of participating message
5 clients each adapted to receive incoming data messages only from a participating
6 message handling server, which is programmed with a database containing
7 information pertaining to the identities of authorised senders of data messages to
8 participating message clients, the participating message handling server being
9 programmed to compare the identity information pertaining to the sender of each
10 data message incoming to each participating message client, which is contained in
11 each such data message, to the database of authorised senders recorded in the
12 database and, if the identity information is not recorded in the database, to recognise
13 such a sender as an unauthorised sender and to implement a pre-programmed
14 registration process by means of which the unauthorised sender may be registered in
15 the database as an authorised sender.

16 4. A data message management system including a plurality of participating message
17 clients each adapted to transmit outgoing data messages only by way of a
18 participating message handling server which is programmed with a database
19 containing information pertaining to the identities of authorised recipients of data
20 messages from participating message clients, the participating message handling
21 server being programmed to compare the identity information pertaining to the
22 recipient of each data message outgoing from each participating message client,
23 which is contained in each such data message, to the database of authorised
24 recipients recorded in the database and, if the identity information is not recorded in
25 the database, to recognise such a recipient as an unauthorised recipient and to
26 implement a pre-programmed registration process by means of which the
27 participating message client sender may register the unauthorised recipient, in the
28 database, as an authorised recipient.

29 5. A data message management system according to claims 3 and 4.

- 1 6. A data message management system according to any one of the preceding claims
2 for data messages exchanged between message clients connected in a network and
3 normally un-connected message clients in which the or one of the message handling
4 servers is included in the network, the message routing program being adapted to
5 route data messages outgoing from and incoming to networked message clients
6 through the networked message handling server, the networked server including a
7 database of authorised sender and recipient information and being programmed to
8 implement the pre-programmed registration processes by means of which the
9 senders and recipient may, in use, be registered in the database as authorised
10 senders and recipients respectively.
- 11 7. A data message management system according to any one of claims 3 to 6 in which
12 the registration process involves the automatic transmission of one or more on-line
13 registration forms to either or both the networked message client on the one hand
14 and the un-connected recipient (in respect of data messages outgoing from message
15 clients on the network) or the un-connected sender (in respect of data messages
16 incoming to message clients on the network) which must be completed and
17 retransmitted to the either or both the database and the message handling server to
18 register the recipient or sender in the database as a recognised recipient or sender
19 respectively.
- 20 8. A data message management system according to any one of the preceding claims
21 in which the data messages are constituted by e-mail, the messaging system in use
22 on the message client and addressee clients comprising e-mail handling software.
- 23 9. A data message management system according to any one of claims 1 to 7 in which
24 the data messages are constituted by cellular communications.
- 25 10. A data message management system according to claim 9 in which the data
26 messages are constituted by voice data.

- 1 11. A data message management system according to either of claims 9 or 10 in which
2 the data messages are constituted by message protocol data.
- 3 12. A data message management system according to any one of claims 9 to 11 in
4 which the data messages are constituted by General Packet Radio Service (GPRS)
5 data, Wireless Application Protocol (WAP) or any cellular communication data
6 addressable to a cell phone.
- 7 13. A data message management system according to any one of claims 9 to 12 in
8 which:
- 9 the message originating client is a phone device, such as a cell phone, a
10 personal digital assistant (PDA) or a computer;
- 11 the addressee client is an addressee client phone;
- 12 the outgoing data message 12 is an outgoing phone data message;
- 13 the message handling server is constituted by a cellular service provider;
- 14 the cellular service provider being adapted to:
- 15 intercept an outgoing phone data message sent to an addressee
16 client phone associated with that cellular service provider;
- 17 compare the sender information in respect of the outgoing phone
18 data message to a database of permitted callers in respect of the
19 addressee client phone kept by the cellular service provider;
- 20 if the comparison is positive, to route the outgoing phone data

1 message directly to the addressee client phone; and

2 If the comparison is negative, to automatically cycle into a
3 registration process by means of which originating client phone data
4 may be registered on the database of permitted callers;

5 the cellular service provider being adapted, in the registration process, to:

6 generate a form request message;

7 to send the form request message to the originating client phone;

8 the form request message being adapted to require the originating
9 client phone to respond with a form request response;

10 the form request message being seeded with a program that drives
11 the originating client phone to send a form request response back
12 to the cellular service provider;

13 the cellular service provider being adapted, if a positive form
14 request response is received, to automatically generate a form and
15 to send the form back to the originating client phone for completion
16 in a manual input step, the form containing a forced manual input
17 mechanism that compels a manual response;

18 the form being seeded with a program that drives the originating
19 client phone to send the completed form back to the cellular service
20 provider on completion of the manual input process;

21 the cellular service provider being adapted to validate the input

1 code and if valid, to generate and send an authorisation request to
2 the addressee client phone;

3 the addressee client phone being adapted to display the
4 authorisation request as a form for a manual input process, the
5 authorisation request being seeded with a program that drives the
6 addressee client phone to send a database modification
7 authorisation to the cellular service provider if access is to be
8 granted to register the originating client phone on the permitted
9 caller database;

10 the cellular service provider being adapted to send a retransmission advice
11 to the originating client phone, the retransmission advice being seeded with
12 a program that drives the originating client phone to retransmit the outgoing
13 phone data message to the addressee client phone.

14 14. A method of managing the transmission of data messages between normally un-
15 connected message clients in a data messaging system including at least one
16 participating message handling server and one or more participating message
17 originating clients, which, in use, require to transmit one or more data messages to
18 addressee clients, which need not necessarily be participants in the system, the
19 method comprising the steps of:

20 programming each participating message originating client with an outgoing
21 message management program including a message routing program and
22 one or more user-selectable message handling rules to be associated with
23 outgoing data messages; and

24 programming each participating message handling server being
25 programmed with a server message management program including the
26 message routing program and a rules management program, which is

1 adapted to interpret the user-selected message handling rule or rules
2 associated with data messages routed to the server in use and to route the
3 data messages, using the message routing program, in accordance with
4 the user-selected message handling rule or rules associated with each data
5 message, the outgoing message management program being adapted to
6 operate in conjunction with the data messaging system in use on the
7 message originating client to permit the selection, in use by a user of the
8 message originating client prior to transmission of an outgoing data
9 message, of one or more user-selectable message handling rules to be
10 associated with that outgoing data message;

11 associating the user-selected message handling rule or rules with the
12 outgoing data message on transmission thereof to one or more addressee
13 message clients;

14 associating the message routing program with each outgoing data
15 message that has a message handling rule associated therewith, on
16 transmission of that outgoing data message to one or more addressee
17 message clients, the message routing program being adapted to remain
18 associated with the outgoing data message and all data messages linked
19 thereto and to direct all such data messages to a participating message
20 handling server such that outgoing data messages with their associated
21 message handling rules and all data messages transmitted by addressee
22 clients in response to the outgoing data message are routed through a
23 participating message handling server; and

24 programming the message handling server to control the transmission of
25 reply data messages to the originating message client in accordance with
26 the message handling rules associated with the outgoing data message.

27 15. A method of managing the transmission of data messages in a data messaging

1 system including a plurality of participating message clients each adapted to receive
2 incoming data messages only from a participating message handling server,
3 including the steps of programming the message handling server:

4 with a database containing information pertaining to the identities of
5 authorised senders of data messages to participating message clients;

6 to compare the identity information pertaining to the sender of each data
7 message incoming to each participating message client, which is contained
8 in each such data message, to the database of authorised senders
9 recorded in the database; and

10 if the identity information is not recorded in the database, to recognise such
11 a sender as an unauthorised sender and to implement a pre-programmed
12 registration process by means of which the unauthorised sender may be
13 registered in the database as an authorised sender.

14 16. A method of managing the transmission of data messages in a data messaging
15 system including a plurality of participating message clients each adapted to transmit
16 outgoing data messages only by way of a participating message handling server,
17 including the steps of programming the message handling server:

18 with a database containing information pertaining to the identities of
19 authorised recipients of data messages from participating message clients;

20 to compare the identity information pertaining to the recipient of each data
21 message outgoing from each participating message client, which is
22 contained in each such data message, to the database of authorised
23 recipients recorded in the database; and

24 if the identity information is not recorded in the database, to recognise such

1 a recipient as an unauthorised recipient and to implement a pre-
2 programmed registration process by means of which the participating
3 message client sender may register the unauthorised recipient, in the
4 database, as an authorised recipient.

5 17. A method of managing the transmission of data messages in a data messaging
6 system according to claims 15 and 16.

7 18. A method of managing the transmission of data messages between normally un-
8 connected message originating clients in a data messaging system including at least
9 one participating message handling server and at least one participating message
10 addressee client in which,

11 the message originating client is a phone device, such as a cell phone, a
12 personal digital assistant (PDA) or a computer;

13 the addressee client is an addressee client phone;

14 the outgoing data message is an outgoing phone data message;

15 the message handling server is constituted by a cellular service provider;

16 the method comprising the steps of:

17 programming the cellular service provider:

18 to intercept an outgoing phone data message sent to an
19 addressee client phone associated with that cellular service
20 provider;

1 to compare the sender information in respect of the
2 outgoing phone data message to a database of permitted
3 callers in respect of the addressee client phone kept by the
4 cellular service provider;

5 if the comparison is positive, to route the outgoing phone
6 data message directly to the addressee client phone; and

7 if the comparison is negative, to automatically cycle into a
8 registration process by means of which originating client
9 phone data may be registered on the database of permitted
10 callers;

11 programming the cellular service provider to, in the registration
12 process:

13 generate a form request message;

14 send the form request message to the originating client
15 phone, the form request message being adapted to require
16 the originating client phone to respond with a form request
17 response and seeded with a program adapted to drive the
18 originating client phone to send a form request response
19 back to the cellular service provider;

20 programming the cellular service provider, if a positive form request
21 response is received, to automatically generate a form and to send
22 the form back to the originating client phone for completion in a
23 manual input step, the form containing a forced manual input
24 mechanism that compels a manual response;

1 seeding the form being with a program adapted to drive the
2 originating client phone to send the completed form back to the
3 cellular service provider on completion of the manual input process;

4 programming the cellular service provider to validate the input code
5 and if valid, to generate and send an authorisation request to the
6 addressee client phone;

7 programming the addressee client phone to display the
8 authorisation request as a form for a manual input process, the
9 authorisation request being seeded with a program that drives the
10 addressee client phone to send a database modification
11 authorisation to the cellular service provider if access is to be
12 granted to register the originating client phone on the permitted
13 caller database; and

14 programming the cellular service provider to send a retransmission advice
15 to the originating client phone, the retransmission advice being seeded with
16 a program that drives the originating client phone to retransmit the outgoing
17 phone data message to the addressee client phone.

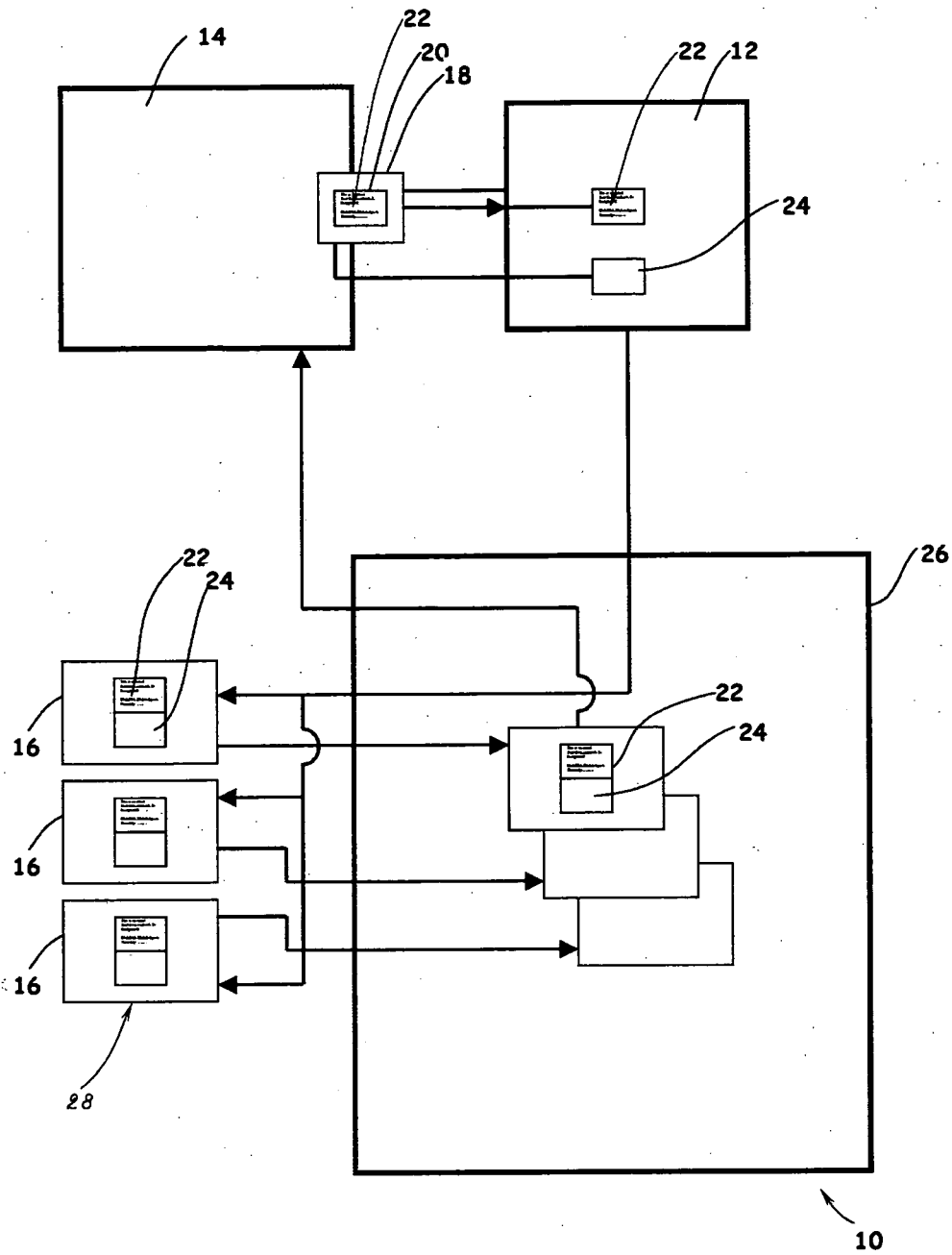


Figure 1

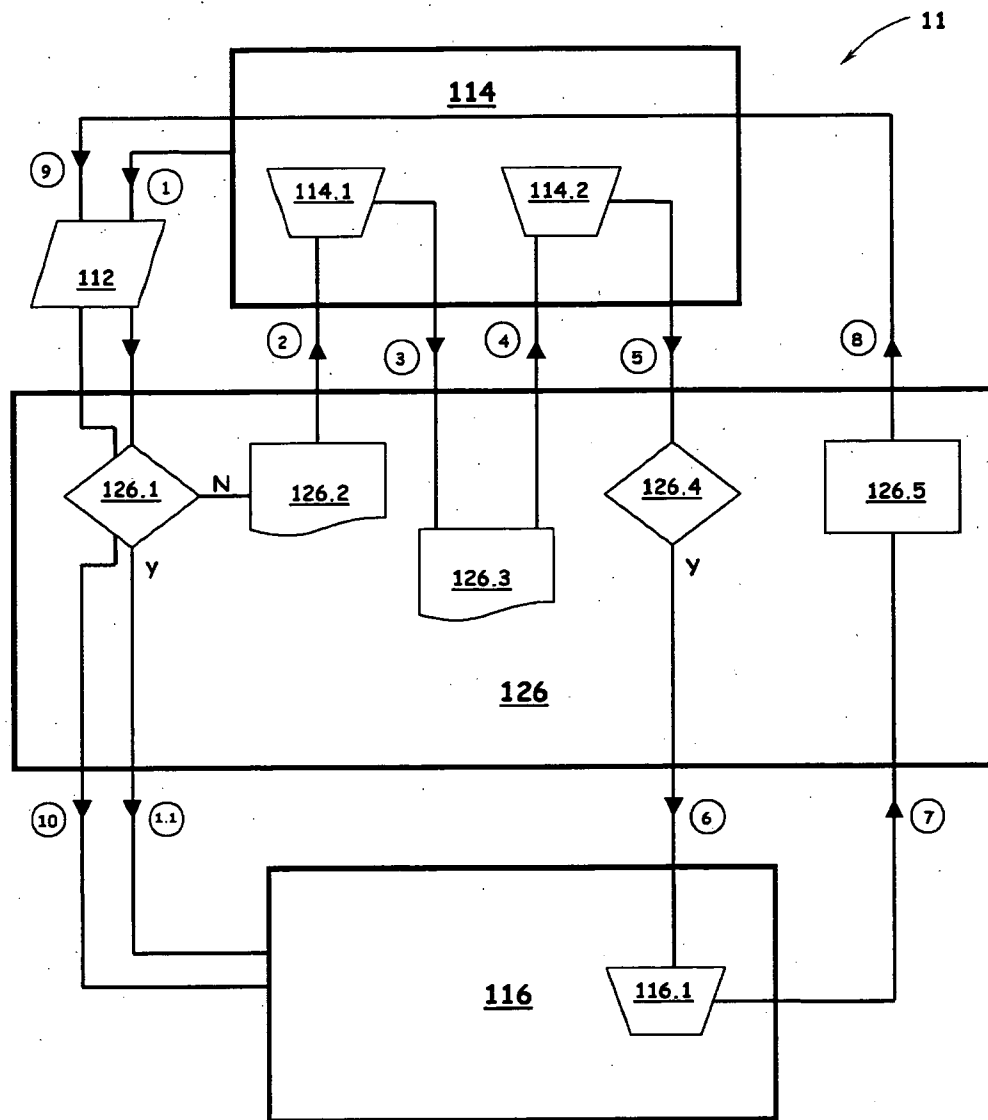


Figure 2