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(54) Title: SYSTEM FOR MEASURING THE EFFECTIVENESS OF INTERNET BASED ADVERTISING OR MARKETING CAMPAIGNS

(57) Abstract:

SYSTEM FOR MEASURING THE EFFECTIVENESS OF INTERNET BASED ADVERTISING OR MARKETING CAMPAIGNS

FIELD OF THE INVENTION

The invention relates to a method and apparatus for measuring the effectiveness of an Internet-based advertising or marketing campaign.

BACKGROUND OF THE INVENTION

The Internet has only relatively recently become a medium for mass communication. The hypertext transfer protocol ("http") is an important part of the Internet, enabling pages of multimedia information to be communicated in a standardized format. With the widespread availability of browsers to display pages created using http and the increasingly growing number of people connected to the Internet, it is now possible to quickly and cost-effectively communicate multimedia information to large numbers of people over vast distances. These technologies also facilitate the rapid jumping between pages of information through the use of hypertext links. The domain of pages created using the http protocol that is publicly available over the Internet is often referred to as the "world wide web" (WWW). The computer servers hosting these pages are accessed through the browser by specifying a "uniform resource locator" or "URL" which specifies the location of any given server or web site.

One use for the world wide web is advertising or marketing to consumers. E-mails containing advertisements or marketing announcements may be sent to a large number of potential customers at very low cost. These e-mail advertisements may include may include hypertext links, i.e., http code that presents a highlighted selection of text representing a web site or web page. When such a link is "clicked on" or actuated by the reader of the e-mail,

the reader's e-mail program may actuate a browser (or the e-mail function may be an integral part of the browser itself) which will connect the reader or recipient of the e-mail to a web page on the Internet. The server hosting that page will consequently send the requested web page to the reader's browser. Thus, the e-mail may be used to foster an initial interest in a particular product or service, following which the e-mail reader can turn to the Internet to obtain further details relating thereto.

Advertising, by its very nature, is difficult to assess in terms of its effectiveness. Which advertising campaign "works", and which does not? In the online world, as in traditional media, it is desirable to be able to measure the effectiveness of e-mail advertising campaigns not only in terms of people reading the advertisements, but whether the advertisements generated any response from the customers.

SUMMARY OF THE INVENTION

Generally speaking, the invention provides for the distribution of advertisements over the Internet, such as by way of e-mail, and a mechanism for recording the response to each advertisement on an individualised level. Accordingly, statistics can be accumulated to measure the effectiveness of a given advertising campaign using various metrics described in greater detail herein. In addition, by tracking individual responses, the invention enables a profile to be built on the tastes or preferences of targeted individuals.

More particularly, the invention takes advantage of the unique capabilities of the world wide web by distributing an e-mail advertisement to a wide audience which includes a hypertext URL link that will point a receiver's web browser to a desired site where further information concerning the product or service being advertised is contained. In this sense the e-mail functions as an "attention getter", much the way, by analogy, a newspaper headline serves to attract a reader to a particular story of interest. The invention provides several ways

to measure the success of such e-mail advertisements. First, if the e-mail is successful, the receiver will "click-through" or actuate the linked URL to view the pointed-to web site. Second, the receiver may pass the e-mail to friends or acquaintances who may click-through to view the pointed-to web site. Third, if the web site is an e-commerce web site, the receiver and his or her friends who click-through the linked URL may make a purchase at the e-mail site. The present invention provides a system to track each of these metrics for a given e-mail advertisement.

A specific advertising campaign may consist of several different e-mail messages, sent at possibly different times to possibly different audiences or sets of receivers. Each e-mail message may include several encoded URLs. The invention allows the organization and tracking of responses to several messages having several encoded URLs for a number of campaigns. In addition, the system allows an organization to track the effectiveness of advertising campaigns provided by a number of content providers, without requiring the said organization to have control over or even access to the web pages containing the detailed advertising.

Furthermore, given consumers' increasing expectations for fast response in accessing a web-site, the preferred embodiments of the present invention attempt to minimize any adverse impact on the speed of connection between an e-mail recipient's web browser and the destination URL when a hypertext URL link is actuated or clicked through. Otherwise, a consumer may lose patience or become bored, and terminate the attempted connection.

In a first aspect the invention provides a method for measuring the effectiveness of a computer network-based advertising campaign wherein at least one e-mail message is sent to a plurality of recipients inviting each recipient to visit a destination web site. An actuatable link is incorporated in each e-mail so as to enable each recipient to reach the destination web site. The link points to an intermediate web site and includes information pertaining to the

identity of the destination web site. A web site request message including the identification information is received from at least one of the recipients as a result of the link being actuated, the web site request message being received by a server hosting the intermediate web site. The server records the actuation of the link, and redirects the recipient who actuated the link to the destination web site.

In a second aspect, the invention provides a method for conducting a computer network-based advertising campaign and measuring the effectiveness thereof. According to the method, at least one e-mail message is sent to a plurality of recipients inviting each recipient to visit a destination web site, and the identity of the recipients and the identity of the destination web site each recipient has been invited to visit is stored in a relational database. An actuatable link is incorporated in each e-mail so as to enable each the recipient to reach the destination web site, the link pointing to an intermediate web site and including information pertaining to the identities of the recipient and the destination web site. A web site request message including the identifying information is received from at least one of the recipients as a result of the link being actuated, the web site request message being received by a server hosting the intermediate web site. According to the method, the server consequently records the actuation of the link, redirects the recipient who actuated the link to the destination web site, and determines whether a cookie uniquely relative to the e-mail message and intended recipient has been issued, and if so, records a pass along event.

In a third aspect the invention provides an apparatus for conducting a computer network-based advertising campaign and measuring the effectiveness thereof. The apparatus is a computer system connected to said network for sending at least one e-mail message to a plurality of recipients inviting each recipient to visit a destination web site. The computer system has a relational database for storing the identity of said recipients and the identity of the destination web. Each e-mail incorporates an actuatable link pointing to an intermediate

web site and includes information pertaining to the identities of the recipient and the destination web site. The apparatus includes a plurality of network connectable devices, each associated with one of the recipients for reading said e-mail and for enabling the recipients to browse the destination web site by actuating the link. Each network connectable device is configured such that when the link is actuated the device sends to the computer system a web site request message including the identifying information. The computer system, in response to receiving the web site request message from a given device, records the actuation of said link, sends a redirection message to the given device so as to cause it to browse the destination web site, and determines whether a cookie uniquely relative to the e-mail message and intended recipient has been issued. If so, the computer system records a pass along event, and if not, the computer system sends a unique cookie relative to the e-mail message and intended recipient to the given device and memorizes the unique cookie in the database.

In a fourth aspect, the invention provides an apparatus for conducting a computer network-based advertising campaign and measuring the effectiveness thereof. The apparatus includes a computer system connected to the network for sending at least one e-mail message to a plurality of recipients inviting each recipient to visit a destination web site. The computer system has a relational database for storing the identity of the recipients and the identity of the destination web site. Each e-mail incorporates an actuatable link pointing to an intermediate web site and includes information pertaining to the identities of the recipient and the destination web site. The apparatus also includes a plurality of network connectable devices, each associated with one of the recipients for reading said e-mail and for enabling the recipients to browse the destination web site by actuating the link. Each device is configured such that when the link is actuated the device sends to the computer system a web site request message including the identifying information, and a stale cookie in the event the device has previously received information from the intermediate web site. The computer

system, in response to receiving the web site request message from a given device: records the actuation of the link; compares the data in the stale cookie, if received, against the identifying information passed back with the web site request message; sends a redirection message to the given device so as to cause it to browse the destination web site; and , in the event the comparison does not find a match or a stale cookie is not received, sends a fresh cookie to the given device and records the distribution of the fresh cookie in the database. The fresh cookie comprises information pertaining to the identities of the recipient and the destination web site.

In a fifth aspect, the invention provides a method for measuring the effectiveness of an Internet-based advertising campaign. The method stores in a destination URL table a list of destination URLs and corresponding destination URL identifiers, stores as an e-mail recipient table in a database a list of e-mail recipient identifier and corresponding e-mail addresses, creates a URL hits log table configured to comprise records of the e-mail recipient identifier and the destination URL identifier; and sends an e-mail advertisement to an e-mail recipient. The e-mail advertisement comprises at least one URL incorporating a code, and the code comprises an e-mail recipient identifier and a destination URL identifier. The method receives a reply to said encoded URL from said e-mail recipient's browser. The method stores the e-mail recipient identifier and the destination URL identifier in the URL hits log table, determines the destination URL using said destination URL identifier; and sends a redirect command to said browser redirecting said browser to the destination URL.

In other aspects the invention provides schemes, software, processes and apparatus for carrying out the methods of the above aspects. Other aspects of the present invention will become apparent to those ordinarily skilled in the art upon review of the following description of the specific embodiments of the invention in conjunction with the following figures.

BRIEF DESCRIPTION OF THE DRAWINGS

In the figures which illustrate exemplary embodiments of the invention:

Figure 1 is a block diagram of an advertisement tracking system according to a first

embodiment;

Figure 1A is a process diagram illustrating the steps involved in tracking

advertisements using the system shown in Figure 1;

Figure 2 is a more detailed block diagram of the tracking system of Figure 1;

Figure 3 is a schematic diagram of a database employed in the first embodiment;

Figure 4 is a block diagram of a tracking system according to a second embodiment

having the capacity to track advertisements that have been "passed along";

Figure 5 is a schematic diagram of a database employed in the second embodiment;

Figures 5A, 5B and 5C are flow diagrams illustrating the flow of messages between

various entities in the second embodiment under various circumstances;

Figure 6 is a block diagram of a tracking system according to a third embodiment

having the capacity to track "pass-alongs" and e-commerce transactions; and

Figure 7 is a schematic diagram of a database employed by the third embodiment.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

1.   Recording Click-through Events

Figure 1 is a block diagram of a first embodiment of the invention. The elements to

the left of the dashed line are the equipment owned and controlled by the persons organizing

the advertising campaign. This equipment includes an e-mail distribution server 110, which

is dedicated to running Internet advertising campaigns. This server is referred to herein as a

"flo" server. A database 112 is either attached to flo server 110 by dedicated lines 114, or

incorporated integrally therein. Database 112 may be implemented using one of the many commercially available structured query language ("SQL") systems or other relational database systems.

A web server 118 is attached to flo server 110 by dedicated lines 116. Web server 118 is dedicated to receiving, routing and recording responses from recipients of the advertising campaign, as discussed in greater detail below.

Flo server 110 is attached through a plurality of dedicated lines 120 to a packetized data network ("PDN") 122, such as the Internet. Similarly, web server 118 is attached through dedicated lines 124 and 126 to PDN 122. Lines 124 and 126 may be identical lines allowing communication between web server 118 and PDN 122, or each may be dedicated to serving traffic in one direction only. Furthermore, there may be a plurality of lines 124 and 126 connecting web server 118 to PDN 122. Similarly, a plurality of lines 120 may allow communication between flo server 110 and PDN 122, or may be used only to send signals from flo server 110 to PDN 122. While these lines have been described as dedicated lines, it will be understood that the lines may be established on an as-needed basis, e.g., through a switched connection using the public telephone network or the PDN 122 itself.

A plurality of recipient servers 128 and end system devices 129 (such as personal computers) which run browsers are connected to PDN 122 in a conventional manner by line 130. A client web server 122 is also connected to the PDN 122 in a conventional manner. In this context, "client" refers to the entity or organization whose products or services are the subject of the advertising campaign, and the web server 122 hosts the web page which provides further information concerning the product/service introduced in the e-mail advertisement. In other words this is the content provider and this web page is addressed at a URL hereinafter termed the "distribution URL".

Referring additionally to Fig.1A, a general description of the process by which e-mail

advertisements are tracked is provided here. Initially, note that a list of e-mail addresses of

recipients and preferably some personal data about them is stored on database 112. Flo

server 110 has information related to several mailings that are to constitute an advertising

campaign. A "mailing" process resident in flo server 110 accesses the list of recipient e-mail

addresses stored in database 112 and uses information about the recipient to create

personalized e-mail messages or advertisements specific to the mailing. For instance, these

e-mail messages may be personalized to include the name of the recipient or a picture of their

favourite sports team logo (if such information is available). The personalization is a desired

feature but not in any way essential to the invention.

Each e-mail message includes in it a URL address which the recipient will activate or

"click-through" on in the event the recipient wants further information about the product or

service being advertised. This URL, termed hereinafter the "encoded URL", points to web

server 118 and includes a code that enables the system to keep track of various metrics

pertaining to advertising effectiveness as well as enable web server 118 to further redirect the

recipient to the destination URL. In the preferred embodiment, the code contains identifiers

or pointers corresponding to: the e-mail address of the recipient; the campaign; a mailing

associated with the campaign; and the destination URL.

In a first step of the process, these e-mails are delivered by the server 110 via PDN

122 (as indicated by the dashed lines) to the e-mail addresses of the recipients. Typically, the

e-mails will be stored on server 128 for subsequent reading by the recipient via their web

browsing device 129 or other e-mail reader.

At some point, not necessarily immediately, the recipient will read the e-mail. If the

recipient wishes, he or she may click on the encoded URL link to request further information

or view the linked web site. Clicking on the encoded URL will activate a browser on the

recipient's device 129 (if such a browser is not already activated), and in a second step of the process the device 129 sends an http message (via server 128 and PDN 122) to web server 118 requesting to view or receive the information or web page located at the address specified by the embedded URL. This return message incorporates the encoded URL which is received by web server 118.

Following this, web server 118 decodes or interprets the encoded URL and attempts to look up the destination URL address using the corresponding identifier provided in the returned encoded URL. In order to speed up the process, web server 118 preferably uses an internal cache as described in greater detail below, but if this information is not available on web server 118 it will obtain the destination URL from database 112 via a look-up request to flo server 110. (This has been shown as steps 3 and 4 in Fig. 1A.) Once the destination URL is obtained, in a fifth step of the process an http "redirect" command is sent via PDN 122 to recipient device 129 which causes it to request access to the destination URL on client web server 132 via PDN 122. Once communications are established between recipient device 129 and the client web server 132 via PDN 122, normal Internet web communication will take place between these two activities.

Asynchronously, i.e., in a step that does not necessarily run simultaneously with the redirection step outlined above, servers 110 or 118 record the fact that the e-mail advertisement has been "successful" by recording the destination URL identifier and the recipient's e-mail address identifier in a log on database 112.

Further details of the processes and operations occurring in web server 118 and flo server 110 are illustrated in Figure 2. Referring additionally to Figure 2, flo server 110 preferably physically comprises a campaign command server 210, which runs a resident campaign command process 211 to organize and run campaigns. For a multiplicity of messages, process 211 stores (1) the date (and, optionally, the time) on which the mailing is

to occur; (2) the campaign with which the mailing is associated; (3) information specific to each mailing to allow the construction of the e-mail message; and (4) an indicator of the e-mail recipients the mailing is destined to be sent to. This information may be stored in database 112, or may be stored in database specifically dedicated to campaign command server 210.

Campaign command process 211 monitors the dates (and, optionally, the times) for the stored mailings. When the date for a mailing arrives, process 211 accesses database 112 to obtain data for the intended e-mail recipients. This data includes the recipient's e-mail address. The list of recipients is divided up and passed on to a multiplicity of "pumper" servers 212 for further processing. The information specific to each mailing is also sent to pumper servers 212.

Pumper servers 212 have resident pumper processes 213. Pumper processes 213 take the information specific to each mailing and meld it with the information provided about each e-mail recipient to create an e-mail advertisement individually tailored to each e-mail recipient. For example, the e-mail could include the recipient's first name, or a reference to the recipient's favourite sports team. The information for the mailing and the data for each e-mail recipient allow the creation of an individualized encoded URL, which is incorporated in the e-mail message destined to be sent to the individual e-mail recipient. The encoded URL includes indicators of the particular campaign, mailing, destination URL and e-mail recipient. The particular construction of the encoded URL is described further below with reference to Figure 3.

The individualized e-mail advertisements are sent on to SMTP servers 214 which have resident processes 215 for transmitting the individualized e-mail advertisements to the intended recipients via PDN 122.

In preferred embodiments to web server 118 executes an http server process 222. When an encoded URL message arrives or is returned from recipient device 129, http server process 222 passes the indicators contained in the encoded URL to a cache process 218. The cache process 218 manages a memory cache 216 which contains a table of destination URLs and destination URL identifiers. Ideally, this table will contain a list of all of the destination URLs that have been referenced through any recent mailing, thereby speeding up the step of redirecting the e-mail recipient to the destination URL.

Cache process 218 first searches memory 216 for the destination URL corresponding to the destination URL indicator provided by the received encoded URL. If the destination URL is not found, cache process 218 queries an SQL server process 224 (on flo server 210) with the destination URL identifier. The SQL server process 224 looks up the destination URL corresponding to the destination URL indicator in database 112, and transmits the destination URL back to cache process 218.

Once the destination URL is determined (whether from cache memory 216 or database 112), cache process 218 passes the destination URL to a redirector process 220. Redirector process 220 may be implemented as a CGI script, or any other appropriate method. Redirector process 220 (via http server process 222) sends a redirect response via PDN 122 to the browser initiated on recipient device 129.

Asynchronous of the above redirection procedure, cache process 218 sends the campaign, mailing, destination URL and e-mail recipient identifiers (as read from the returned encoded URL) to a recordal process 226 resident on flo server 110. This step is asynchronous of the redirection procedure, and it will usually take place after the redirection procedure is complete. All redirection procedures have priority in execution over the recordal procedures, which are processed when cache process 218 is not preoccupied with redirection procedures.

The structure of database 112 and its inter-relationship with various software

processes running on flo server 110 are detailed in Fig. 3. Information is stored in database

112 utilizing a relational database such as SQL based systems. Data base 112 includes an e-

mail recipient data table 310 which is configured to have a recipient identifier ("ID") field

312 as the primary key of the table. ID 312 is associated with the recipient's e-mail address

314 and other information collected about the recipient 316 (which may include their full

name, expressed interests and mailing address) to form a record pertaining to a particular

recipient.

A campaign table 320 is configured to have a campaign ID field 322 as the primary

key thereof. In addition to the campaign ID field 322, each record in table 320 may include

other fields identifying the name of the campaign, client, and other such application specific

information.

Database 112 also includes a destination URL table 328. Each record in this table

comprises a mailing ID field 326 and a campaign ID field, in addition to other applications

specific information pertaining to a mailing such as the name of the mailing that will be

understood in human terms. The mailing ID field 326 is the primary key of the table. The

campaign ID field is a foreign key which is logically linked (i.e., contains the same

information as) campaign ID field 322 of the campaign table 320.

Database 112 further contains a destination URL table 328. Each record in this table

comprises a destination URL ID 330, a mailing ID field and a destination URL address field

331. The destination URL ID field 330 functions as the destination URL identifier discussed

above. The mailing ID field is a foreign key, which is logically linked to the mailing ID field

326 of the mailing table 324. The destination URL address 331 stores the actual address for

the destination URL.

Database 112 still further includes a URL hit log table 334. Each record in this table comprises a campaign ID (linked to campaign ID field 322 of table 320), a recipient ID (linked to the recipient ID field 312 of table 310), a mailing ID (linked to the mailing ID field 326 of table 324) and a destination URL ID (linked to the destination URL ID field 330 of table 328).

The particular construction of the encoded URL relates to the information stored in database 112. Each encoded URL comprises the web address of web server 118 followed by a code incorporating the particular campaign ID, mailing ID, destination URL ID and recipient ID corresponding to a particular e-mail advertisement referenced by keys 322, 326, 330 and 312 in database 112. The encoded URL, using the key ID names in the code, could look like:

http://webserver118.com/CampaignID|MailingID|DestinationURLID|RecipientID.html
(where the "|" represents a field separator) or, if the campaign ID is 01, mailing ID is 02, destination URL ID is 03, and recipient ID is 04, the code would be 01020304, and the embedded URL could look like:

http://webserver118.com/ 01020304.html

The key ID names in the code could be separated by field separators, could each be of a predetermined number of characters, or could each begin with a unique character. The key ID names could include alphabetical or other symbols in addition to numbers.

Thus, when an e-mail recipient 128 clicks on or actuates the encoded URL in the e-mail, the http request sent to web server 118 will include information on the relevant campaign ID, mailing ID, destination URL ID and recipient ID. Alternatively, the code could be encrypted by pumper processes 213 before delivery to PDN 122, and could be decrypted by cache process 218 upon receipt.

In practice, cache process 218 first searches memory 216 for the destination URL

corresponding to the destination URL indicator provided by the received encoded URL. If the

destination URL is not found, cache process 218 queries SQL server process 224 (on flo

server 210) with the destination URL identifier. SQL server process 224 then queries the

destination URL table 322 to determine the destination URL associated with the given

destination URL ID. Once the destination URL is found, the SQL server process 224 passes

the destination URL back to cache process 218.

In practice, recordal process 226 receives from cache process 218 the campaign ID,

mailing ID, destination URL ID and the recipient ID relating to a given click-through event.

Recordal process 226 then saves all of these ID's to the URL hits log table 334.

Over time, this embodiment of the invention will compile statistics of the click-

throughs by e-mail recipients of the mailings for any given campaign. By querying database

112, information specific to a campaign, a particular mailing, or a particular recipient may be

received. The success or effectiveness of an advertising campaign or specific mailing thereof

may be measured by the number of corresponding click-throughs registered in the URL hits

log table 334. Furthermore, a profile may be built regarding the preferences or personal

tastes of individual e-mail recipients, For example, the mailing table 324 may have a field

indicating a category of goods or services. A particular e-mail recipient may thus show a

preference for responding to advertisements relating to automobiles, for instance, and hence

that recipient would be a good candidate to send similar advertising to in the future.

2.   Recording Pass-Along Events

A second embodiment of the invention also keeps track of "pass-alongs", i.e., where

an e-mail recipient receives an e-mail advertisement, clicks through or activates the encoded

URL in order to view the destination web site, and then passes the original e-mail

advertisement along to a friend who also clicks through to view the destination URL. This embodiment uses "cookies" to save information on a recipient's device 129 for identification purposes.

This embodiment is illustrated in Figure 4. Figure 4 is similar to Figure 2, with like parts featuring like numbers and names. The recipient's browser device 129 shows a web browser 414 resident thereon. Similarly, another e-mail server 416, web browsing devices 422 and web browsers 424 are shown connected to the PDN 122. Server 416 is not operated by the original recipients of the e-mail advertisements (or the internet service providers thereof). Rather e-mails received by the recipients of devices 129 are passed or copied via the PDN 122 and servers 128 and 416 (which may be thought of as being a part of the network) to friends who operate devices 422 and web browsers 424.

This second embodiment uses the database and processes illustrated in Figure 5. Figure 5 is similar to Figure 3, and like parts are given like numbers and names. Referring to Figure 5, the database 112 includes a cookie distribution table 510, each record of which comprises fields for storing recipient ID 314, campaign ID 322, mailing ID 326, and destination URL ID 330. Each record in the URL hits log table 334 also include an additional entry for a pass-along flag 336.

The second embodiment differs from the first embodiment in that when the cache process 218 receives an encoded URL from an e-mail recipient, the web server 118 sends a cookie along with the re-direction message to the recipient the first time the recipient clicks through the advertisement e-mail. The cookie data is essentially a replicate of the code incorporated in the encoded URL, and the web server 118 asynchronously records the cookie data in the cookie distribution table 510. The very same cookie will also be stored on the recipient's web browser device. Note also that, in accordance with the http protocol,

whenever a browser accesses a particular web server, the browser will send back the cookie received from that web server.

Hence, referring additionally to Figure 5A, in the event that a recipient has received and clicked through or actuated a previously received e-mail message, the recipient will have saved cookie information associated with that previous e-mail message (hereinafter referred to as a "stale" cookie). When a new and different e-mail message is sent to that recipient at step 450, at step 452 the recipient will return the stale cookie to web server 118. A step 454 the web server 118 will, in turn, send a new cookie to the recipient having a code conforming to the recently sent e-mail at step 450. This cookie, which is referred to herein as a "fresh" cookie, is stored in the cookie distribution table 510 and on the recipient's browser. In this scenario, it should be noted that the code incorporated in the stale cookie (step 452) will not be identical to the code sent to the recipient in the e-mail message (at step 450).

It is also possible for the original recipient of the e-mail to pass this e-mail to a friend, as shown at step 458 in figures 5B and 5C. Referring to figure 5B, which assumes that the friend has previously accessed an encoded URL in an old e-mail message, when that friend clicks through the e-mail at step 460 he or she will send a different stale cookie back to the web server 118. In that case too, the stale cookie received by the web server (step 460) will feature a code which is different than the code incorporated in the encoded URL sent with the e-mail message (step 450).

In order to resolve whether the click-through event arises from the originally intended recipient or whether this is a "pass along" event, the web server 118 queries the cookie distribution table 510 to see if a cookie matching the code in the returned encoded URL exists. If such a cookie does not exist then it is assumed that the intended recipient of the e-mail has actuated or clicked on the encoded URL for the first time (as otherwise a cookie having the identical code is expected to be found in the cookie distribution table 510). In this

case, cache process 218 requests the SQL server process 224 to store the campaign ID,

recipient ID, mailing ID, and destination URL ID to the URL hit log table 334 and to set the

pass-along flag to zero. Setting the pass-along flag to zero indicates that this click-through

event was made by the intended recipient of the e-mail through browser 414. In addition,

cache process 218 sends a fresh cookie to be stored by browser 414 of device 129 which

cookie comprises the recipient ID, campaign ID, message ID and destination URL ID of the

latest e-mail message.

On the other hand, if the query finds a cookie in distribution table 510 which matches

the code in the returned encoded URL, then the intended recipient of the e-mail has already

clicked through the e-mail and it is assumed that the returned encoded URL has been

received from a third person who has received the e-mail directly or indirectly from the

originally intended recipient. In this case, cache process 218 saves the campaign ID,

recipient ID, mailing ID, and destination URL ID to URL hit log table 334, and set the pass-

along flag to 1. The value of 1 indicates a pass-along event.   In addition, cache process

218 sends a generic fresh cookie to be stored by browser 424 of device 422. This generic

cookie comprises the campaign ID, message ID, recipient ID and destination URL ID of the

latest e-mail message, but also incorporates code indicating that it is a generic cookie as

opposed to a "normal" cookie. (Although this generic cookie isn't strictly necessary for the

functioning of this second embodiment, it is used in the third embodiment involving "buy-

rate tracking" and to avoid double-counting of pass-along click-throughs.)

It is also possible for the intended recipient of the e-mail or the friend to click on or

actuate the encoded URL twice in a row. In this case, the code in the stale cookie returned to

the web server 118 at step 452 (Fig. 5A) will be the same as the code in the encoded URL

returned to the web server 118. In this case, the redirection procedures outlined above with

reference to Fig. 3 are followed. In one embodiment, the repeat click-throughs (whether from

the original e-mail recipient or via a pass-along) are not stored if it is only desired to keep track of the number of different people who click-through the encoded URL. Alternatively, if it is desired to keep track of the specific number of click-throughs, cache process 218 requests the SQL server process 224 to store the campaign ID, mailing ID, destination URL ID and mailing ID to the URL hits log table 334. If the stale cookie is a generic cookie, the pass-along flag is set to one; otherwise, the pass-along flag is set to zero. Note that in either case it is not necessary to resend the fresh cookie to the recipient or friend (or store it in the cookie distribution table) since the stale cookie and the fresh cookie are identical.

Alternatively, referring to Fig. 5C, no cookie may be sent back to web server 118 along with the encoded URL (step 464). In this case, the web server 118 looks up whether or not a cookie has been recorded in the cookie distribution table which matches the code in the returned encoded URL. If so, then the original intended recipient has already clicked through the advertisement e-mail and it is assumed that the click-through arises from the friend who has never previously accessed an encoded URL in an old e-mail message. In this case cache process 218 requests the SQL server process 224 to store the campaign ID, mailing ID, destination URL ID and recipient ID to the URL hits log table 334, and sets the pass-along flag to one. Cache process 218 also sends a generic cookie back to the requesting computer (step 466) and saves the relevant data in cookie distribution table 610. If no matching cookie is found an assumption is made that it is the originally intended recipient who executed the click-through. In the still further alternative, the e-mail address corresponding to the recipient ID of the returned encoded URL may be retrieved and a more sophisticated analysis may be performed to determine whether the IP packet received by web server 118 originates from the same subnetwork as that of the e-mail address. If so, an assumption can be made that the click-through event was executed by the originally intended recipient, and if not, the system can register the click-through as a pass along event.

The foregoing processes allows the system to efficiently redirect browsers to the destination URLs while maintaining records allowing for information on pass-alongs to be analyzed. The number of different people who have clicked through an advertising e-mail, whether as an initial recipient of the e-mail or as a pass-along, may be seen for any particular mailing by counting the number of times the destination URL ID appears in URL hits log table 334. The number of click-throughs from pass-alongs (as opposed to click-throughs by the initial recipient) may be determined by counting the number of times a destination URL ID appears with a pass-along flag of 1 in URL hits log table 334. Finally, the number of times a particular pass-along occurs from a particular e-mail recipient may be determined by counting the number of times a particular recipient ID matches a particular destination URL ID with a pass-along flag of 1 in URL hits log table 334.

3.   Buy-Rate Tracking

A third embodiment of the invention involves "buy-rate" tracking, which allows the recording and analysis of the buying habits of the e-mail advertisement recipients in response to the advertisement e-mails. This embodiment would only be employed when the destination URL is an "e-commerce" site, where customers such as e-mail recipients can purchase goods or services on-line.

The processes for this embodiment are additional to, and take place after, the processes described above. The elements of this embodiment are illustrated in Figures 6 and 7. Figures 6 and 7 are respectively similar to Figs. 4 and 5, and like elements are given like names and reference numbers. In Figure 6, client server 132 includes a verification web page 610 with embedded html code 612. There is also an e-commerce tracking process 614 resident in web server 118. In Figure 7, database 112 includes an e-commerce table 710 wherein each record comprises recipient ID 314, campaign ID 322, mailing ID 326, and

destination URL ID 330 fields, a pass-along flag 714 (which is different from pass-along flag

336) as well as field(s) for purchase details 712.

In operation, a user of device 412 or 422 establishes contact with the destination URL

on web server 132 following the steps described above for the second embodiment, whereby

a cookie 426 or 428 will have been stored on the respective devices. The e-commerce web-

site on web server 132 is configured so that, as a final step in an e-commerce purchase, the

"verification page" information 610 is transmitted from destination client server 132 to

browser 414 or 424. The transmitted verification page includes embedded HTML code 612

which causes the browser 414 or 424 to send a signal to web server 118, including purchase

details (possibly including the amount paid or exact goods or services purchased), as well as

the data in cookie 426 or 428. The embedded HTML code may use the standard http "get"

protocol.

This information is received by http process 222 on web server 118. Http process

222, upon receiving a signal which includes purchase details, passes the signal to e-

commerce tracking process 614. E-commerce tracking process 614 transmits the purchase

details and the information from cookie 426 or 428 to recordal process 226 in flo server 110.

Recordal process 226 saves the recipient ID, campaign ID, mailing ID, destination

URL ID and the purchase details in a record in e-commerce table 710. If the cookie is a

generic cookie, the purchase has been made by the recipient of a pass-along, and pass-along

flag 714 is set to one; if the cookie is not generic, pass-along flag 714 is set to zero.

The information in e-commerce table 710 may be analyzed to determine the number

of purchases resulting from a particular message, a particular campaign, viewing of a

particular destination URL, made by the persons corresponding to various recipient ID's, or

made by persons who received a "pass-along" e-mail advertisement from the person

corresponding to a particular recipient ID.

In cases where the e-commerce purchase is made by a person unconnected with the advertising campaign, the signal received by web server 118 will either have no cookie information or have cookie information unconnected with the purchase details. In such a case, the web server 118 may simply discard the signal and the information contained therein. Alternatively, web server 118 could store the information in these signals in a separate database for further analysis.

Although the preferred embodiments have described a use of the invention to implement advertising campaigns efficiently over the Internet, it should be recognized that such a system could equally well be set up and run internally within an organization over that organization's PDN. It will be further understood that the invention is not limited to the embodiments described herein which are merely illustrative systems for carrying out the invention, and which are susceptive to modification of form, arrangement, parts, steps, details, and order of execution. The invention, rather, is intended to encompass all such modification within its spirit and scope.

WHAT IS CLAIMED IS:

1.   A method for measuring the effectiveness of a computer network-based advertising

campaign wherein at least one e-mail message is sent to a plurality of recipients inviting each

recipient to visit a destination web site, the method comprising:

incorporating an actuatable link in each e-mail so as to enable each recipient to reach

the destination web site, said link pointing to an intermediate web site and including

information pertaining to the identity of the destination web site;

receiving a web site request message including said identification information from at

least one of the recipients as a result of the link being actuated, said web site request message

being received by a server hosting said intermediate web site, and consequently

(i)   recording the actuation of the link, and

(ii)   redirecting the recipient who actuated said link to the destination web site.

2.   A method of conducting a computer network-based advertising campaign and

measuring the effectiveness thereof, said method comprising:

sending at least one e-mail message to a plurality of recipients inviting each recipient

to visit a destination web site;

storing in a relational database the identity of the recipients and the identity of the

destination web site each recipient has been invited to visit;

incorporating an actuatable link in each said e-mail so as to enable each recipient to

reach the destination web site, said link pointing to an intermediate web site and including

information pertaining to the identities of the recipient and the destination web site;

receiving a web site request message including said identifying information from at

least one of the recipients as a result of the link being actuated, said web site request message

being received by a server hosting the intermediate web site, and consequently

   (i)   recording the actuation of the link, and

   (ii)   redirecting the recipient who actuated the link to the destination web site.

3.   The method according to claim 2, wherein:

the network is the Internet;

the web sites are addressed using a universal resource locator (URL) and are

configured to communicate in accordance with a hypertext transfer protocol (http);

the actuatable link is a hypertext link having a URL for the intermediate web site and

said identifying information is included in this URL; and

wherein each recipient operates a device for reading the e-mail and for enabling the

recipient to browse the destination web site by actuating the link.

4.   The method according to claim 3, wherein the identifying information is in the form

of a code constituting a recipient identifier and a destination web site identifier, said

identifiers being respectively relationally linked in the database to an e-mail address for the

corresponding recipient and a URL address for the corresponding destination web site.

5.   The method according to claim 4, including storing a portion of the destination web

site identifiers and their corresponding destination URLs in a cache, and upon receipt of the

web site request message, searching the cache in order find the destination URL.

6.   The method according to claim 4, including storing in the database the identity of a

mailing campaign associated with each e-mail and a mailing identifier, and including the

mailing identifier in the identifying information of each e-mail.

7.   The method according to claim 6, wherein recording the actuation of a given said link includes storing the recipient, destination URL, and mailing identities received along with the web site request message in a log.

8.   A method for conducting a computer network-based advertising campaign and measuring the effectiveness thereof, said method comprising:

sending at least one e-mail message to a plurality of recipients inviting each recipient to visit a destination web site;

storing in a relational database the identity of the recipients and the identity of the destination web site each recipient has been invited to visit;

incorporating an actuatable link in each said e-mail so as to enable each said recipient to reach the destination web site, said link pointing to an intermediate web site and including information pertaining to the identities of the recipient and the destination web site;

receiving a web site request message including the identifying information from at least one of the recipients as a result of the link being actuated, said web site request message being received by a server hosting the intermediate web site;

the server consequently (a) recording the actuation of the link, (b) redirecting the recipient who actuated the link to the destination web site, and (c) determining whether a cookie uniquely relative to the e-mail message and intended recipient has been issued, and if so, recording a pass along event.

9.   The method according to claim 8, wherein, if the server determines that a cookie uniquely relative to the e-mail message and intended recipient has not been issued, the server

sends a unique cookie relative to the e-mail message and intended recipient to the actuating recipient and memorizes said unique cookie in the database.

10. The method according to claim 9, wherein the determination as to whether or not a cookie uniquely relative to the e-mail message and intended recipient has been issued includes searching the database.

11. The method according to claim 9, wherein the server also receives a stale cookie in the event the actuating recipient has previously received information from the intermediate web site.

12. The method according to claim 11, wherein said cookies include the identities of a recipient and a destination web site.

13. The method according to claim 12, wherein said determination includes comparing the stale cookie data against the identifying information accompanying the web site request message.

14. The method according to claim 12, wherein a pass along event is registered in the event the identity of the recipient in the stale cookie differs from the identity of the recipient in the identifying information accompanying the web site request message.

15. Apparatus for conducting a computer network-based advertising campaign and measuring the effectiveness thereof, said apparatus comprising:

a computer system connected to said network for sending at least one e-mail message

to a plurality of recipients inviting each recipient to visit a destination web site, said computer system having a relational database for storing the identity of said recipients and the identity of the destination web, wherein each said e-mail incorporates an actuatable link pointing to an intermediate web site and including information pertaining to the identities of the recipient and the destination web site;

a plurality of network connectable devices, each associated with one of said recipients for reading said e-mail and for enabling the recipients to browse said destination web site by actuating said link, each said device being configured such that when said link is actuated the device sends to said computer system (i) a web site request message including said identifying information;

wherein said computer system, in response to receiving said web site request message from a given device, (a) records the actuation of said link, (b) sends a redirection message to the given device so as to cause it to browse the destination web site, and (c) determines whether a cookie uniquely relative to the e-mail message and intended recipient has been issued, and if so, recording a pass along event, and if not, sends a unique cookie relative to the e-mail message and intended recipient to the given device and memorizes said unique cookie in the database.

16.   Apparatus for conducting a computer network-based advertising campaign and measuring the effectiveness thereof, said apparatus comprising:

a computer system connected to the network for sending at least one e-mail message to a plurality of recipients inviting each recipient to visit a destination web site, said computer system having a relational database for storing the identity of the recipients and the identity of the destination web site, wherein each said e-mail incorporates an actuatable link pointing to an intermediate web site and including information pertaining to the identities of the

recipient and the destination web site;

a plurality of network connectable devices, each associated with one of the recipients for reading said e-mail and for enabling the recipients to browse the destination web site by actuating the link, each device being configured such that when the link is actuated the device sends to the computer system (i) a web site request message including the identifying information and (ii) a stale cookie in the event the device has previously received information from the intermediate web site;

wherein the computer system, in response to receiving the web site request message from a given device, (a) records the actuation of the link, (b) compares the data in the stale cookie, if received, against the identifying information passed back with the web site request message, (c) sends a redirection message to the given device so as to cause it to browse the destination web site, and (d) in the event the comparison in part (b) does not find a match or a stale cookie is not received, sends a fresh cookie to the given device and records the distribution of the fresh cookie in said database, said fresh cookie comprising information pertaining to the identities of the recipient and the destination web site.

17.   A method for measuring the effectiveness of an Internet-based advertising campaign, comprising:

storing in a destination URL table a list of destination URLs and corresponding destination URL identifiers;

storing an e-mail recipient table in a database a list of e-mail recipient identifier and corresponding e-mail addresses;

creating a URL hits log table configured to comprise records of the e-mail recipient identifier and the destination URL identifier;

sending an e-mail advertisement to an e-mail recipient, said e-mail advertisement comprising at least one URL incorporating a code;

said code comprising an e-mail recipient identifier and a destination URL identifier;

receiving a reply to said encoded URL from said e-mail recipient's browser;

storing said e-mail recipient identifier and said destination URL identifier in said URL

hits log table;

determining the destination URL using said destination URL identifier; and

sending a redirect command to said browser redirecting said browser to the

destination URL.

18.   The method of claim 17, further comprising a cache table of destination URLs and

destination URL identifiers, wherein said step of determining the destination URL is

performed by a dedicated cache process, said cache process accessing said cache table to

determine the destination URL in preference to accessing said destination URL table.

19. The method of claim 18, further comprising:

storing in a campaign table a list of campaign identifiers;

storing in a message table a list of mailing identifiers associated with specific

campaign identifiers;

associating mailing identifiers with destination URL identifiers in said destination

URL table;

further configuring said URL hits log table to associate records of mailing identifiers

and campaign identifiers with said records of an e-mail recipient identifier and

a destination URL identifier;

said code further including a campaign identifier and a mailing identifier;

said step of storing said e-mail recipient identifier and said destination URL identifier

in said URL hits log table further including storing said campaign identifier
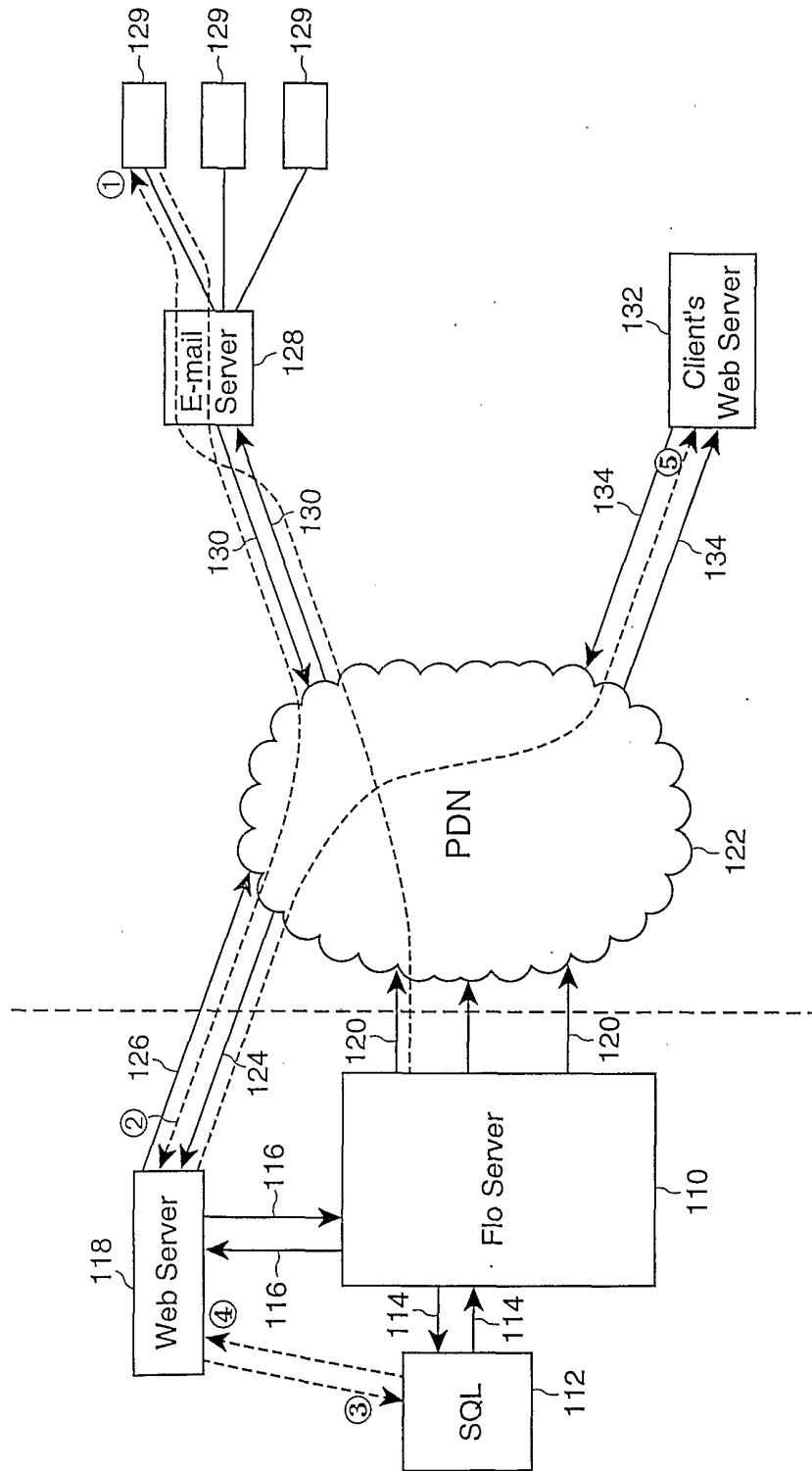
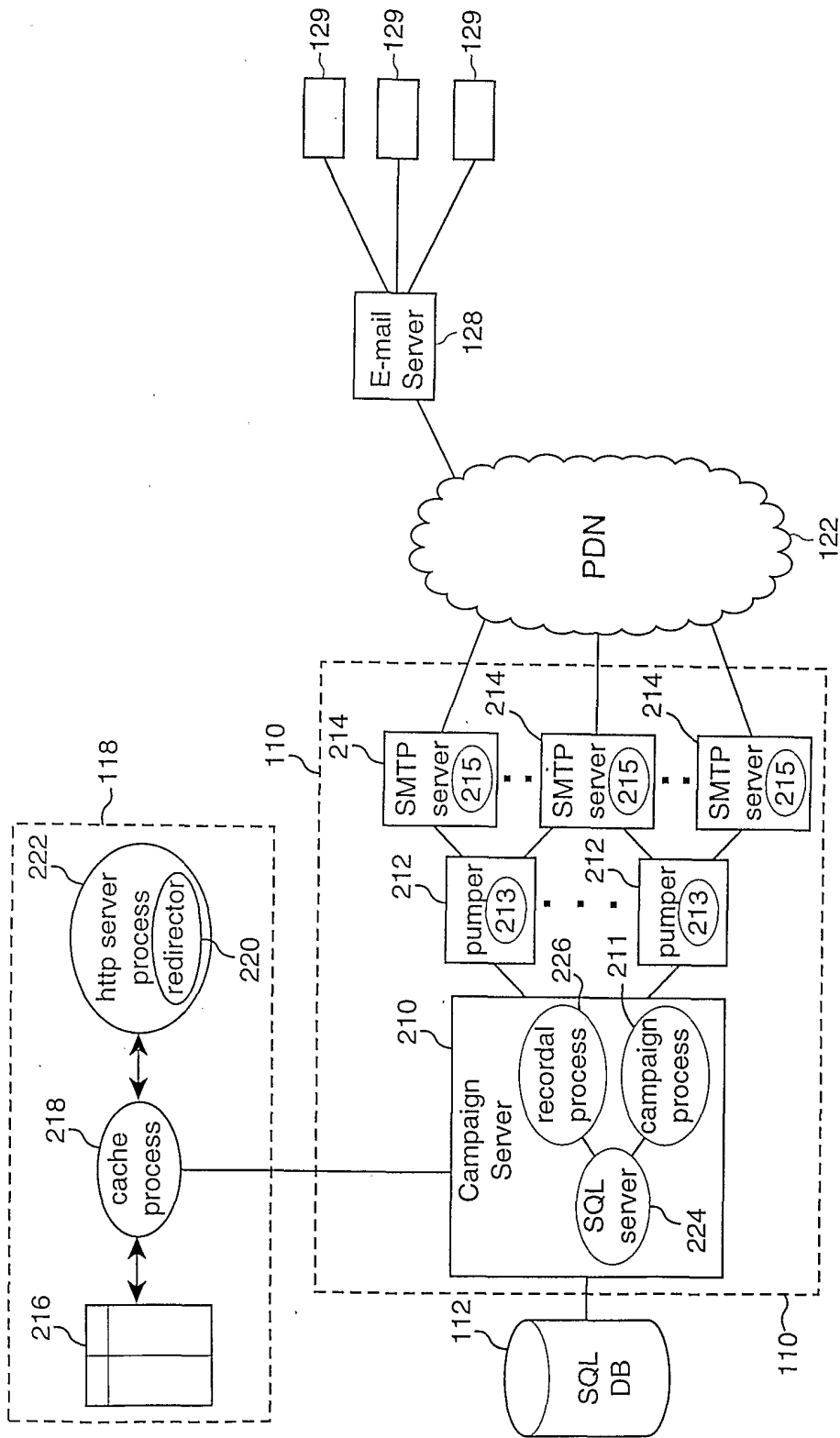and said mailing identifier in said URL hits log table.
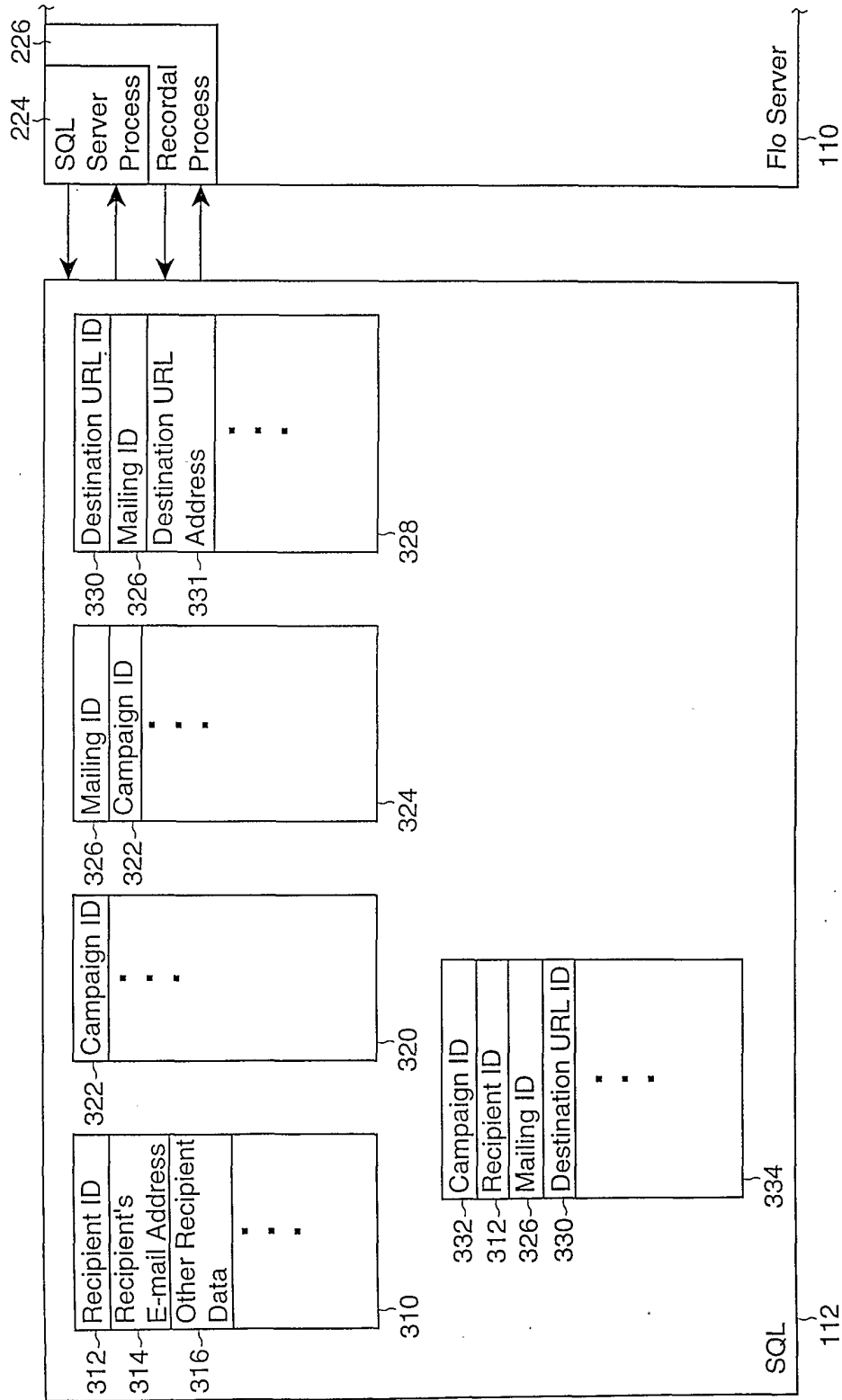
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Figure 1

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Figure 1A

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Figure 2

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Figure 3

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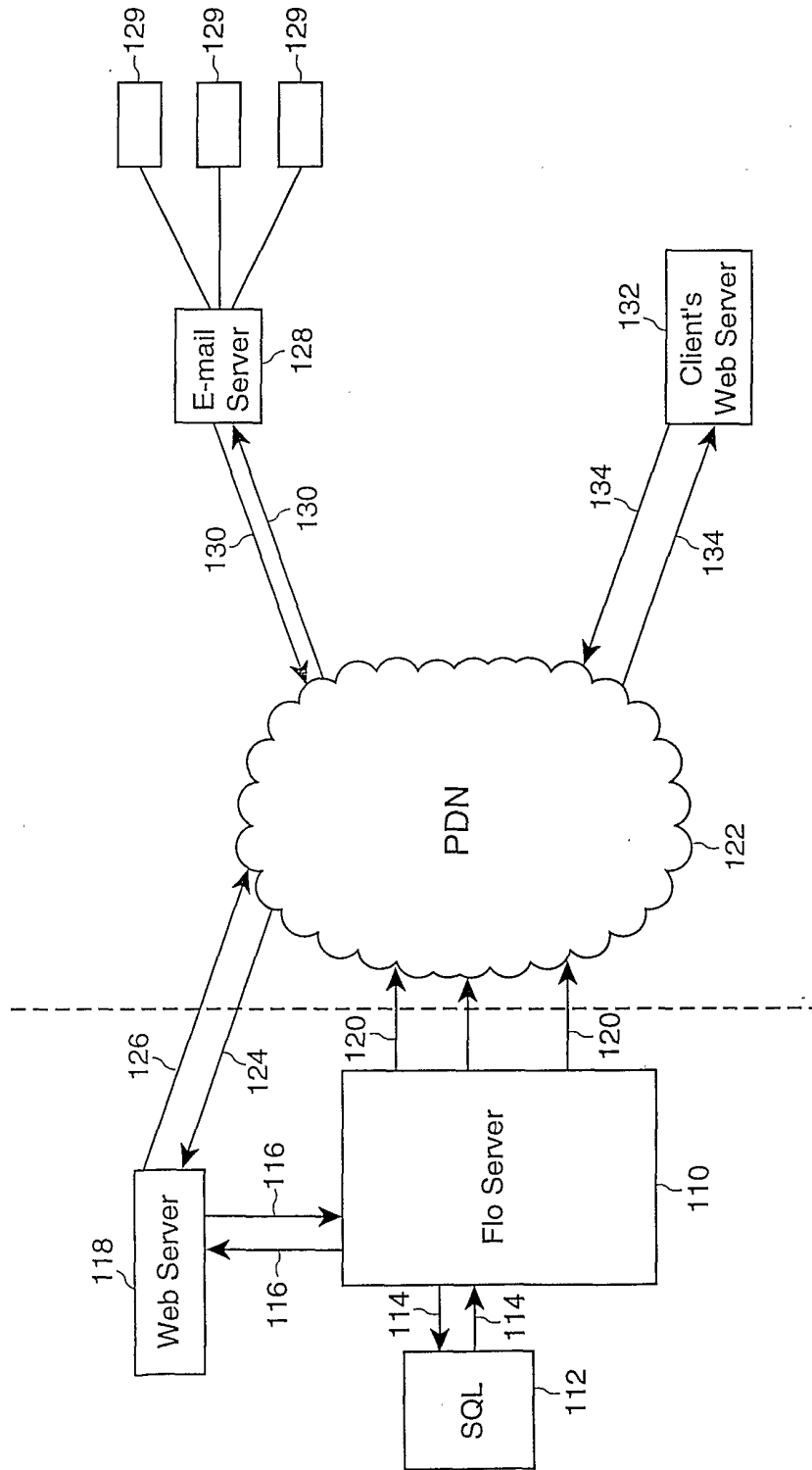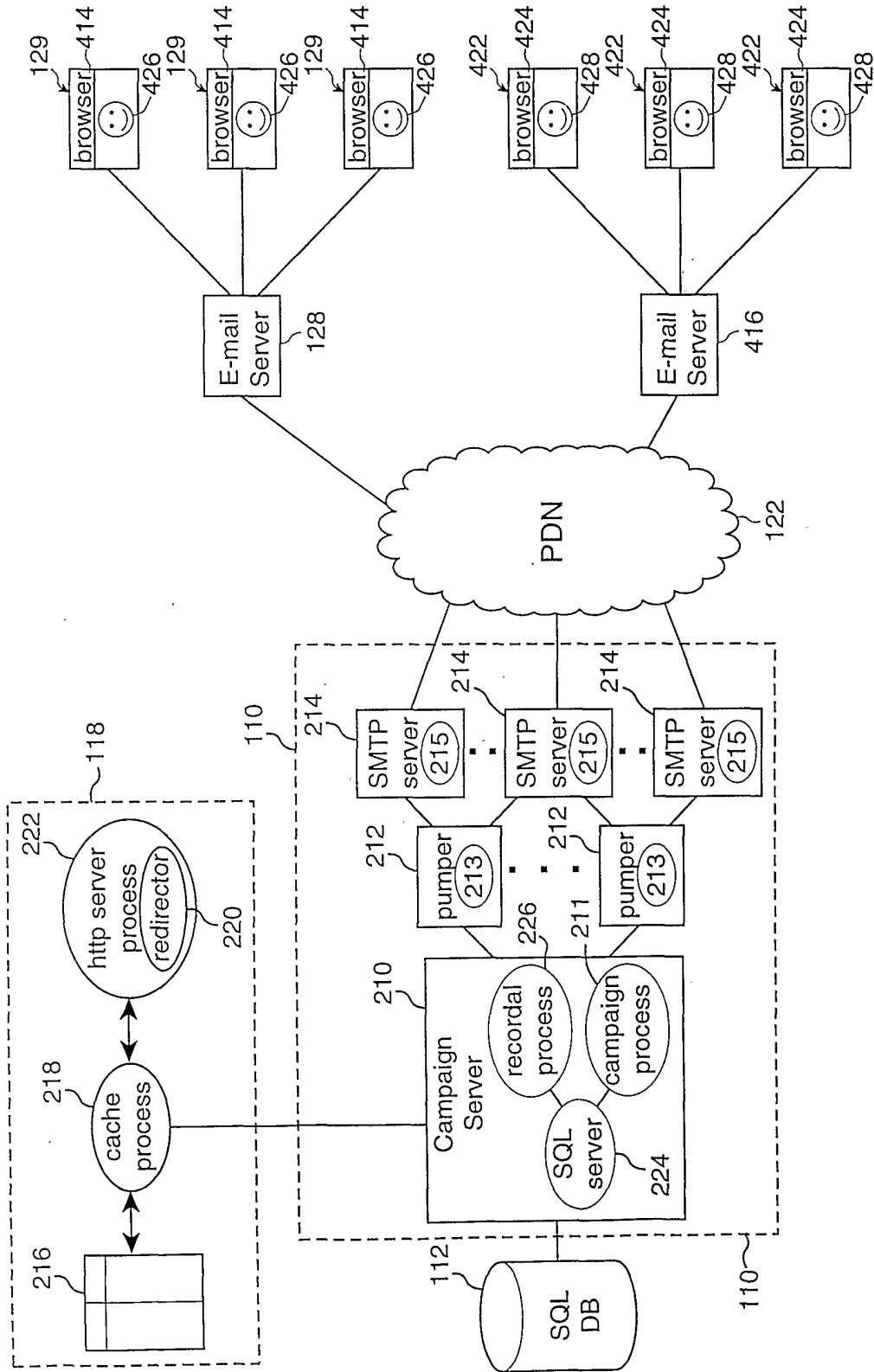
Figure 4

Figure 5

Figure 5A

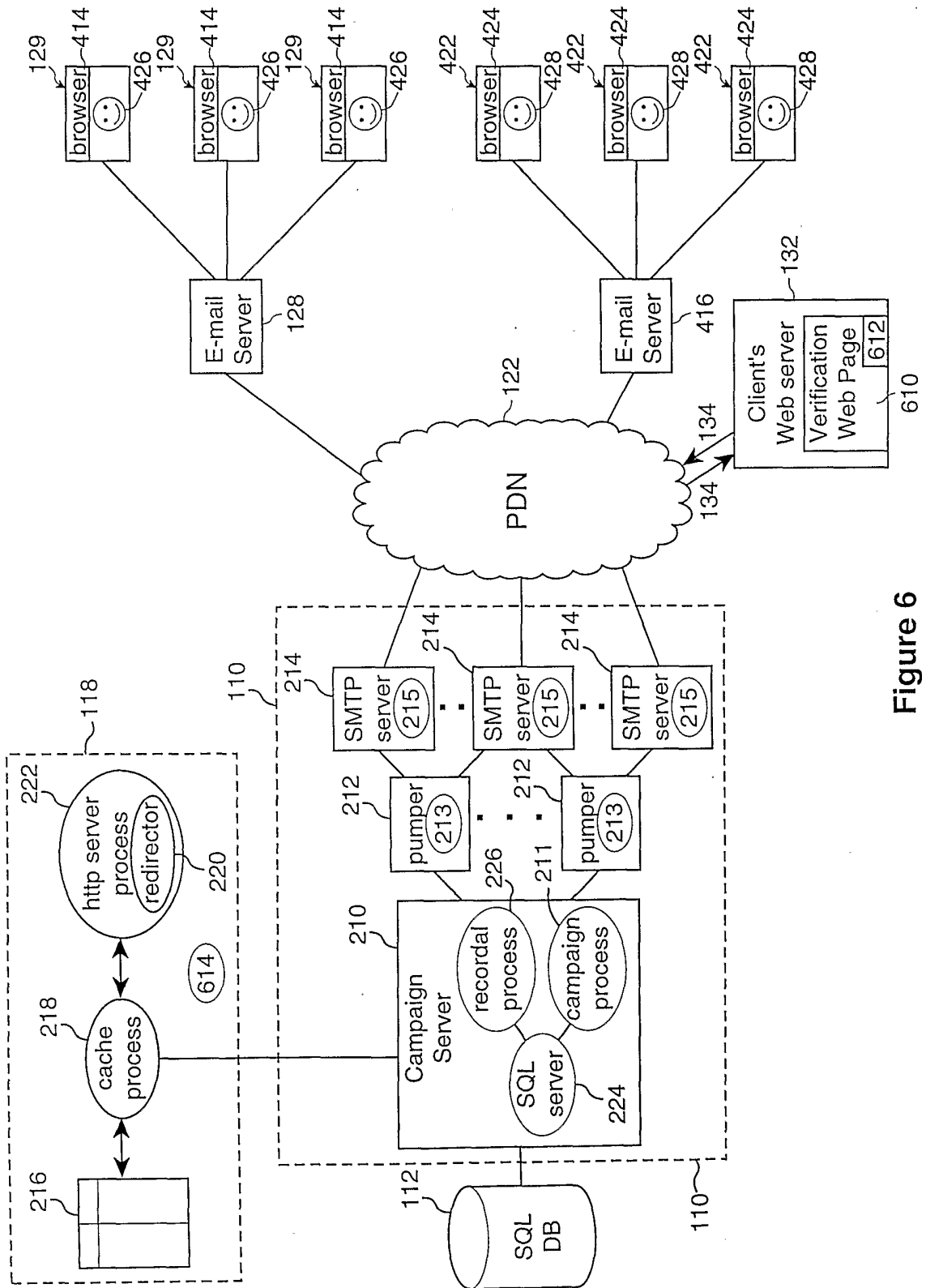**Figure 5B**
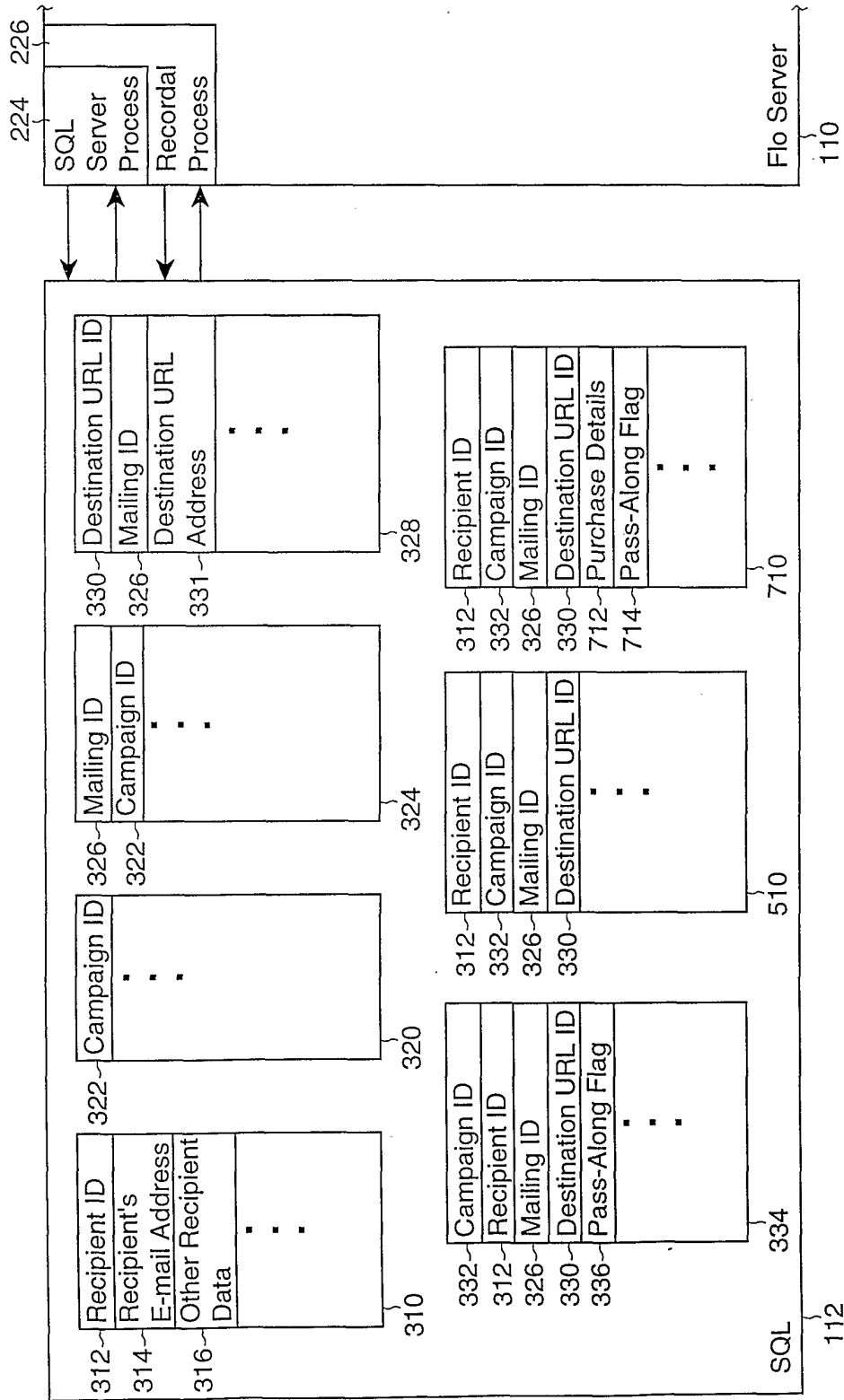
Figure 5C

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Figure 6

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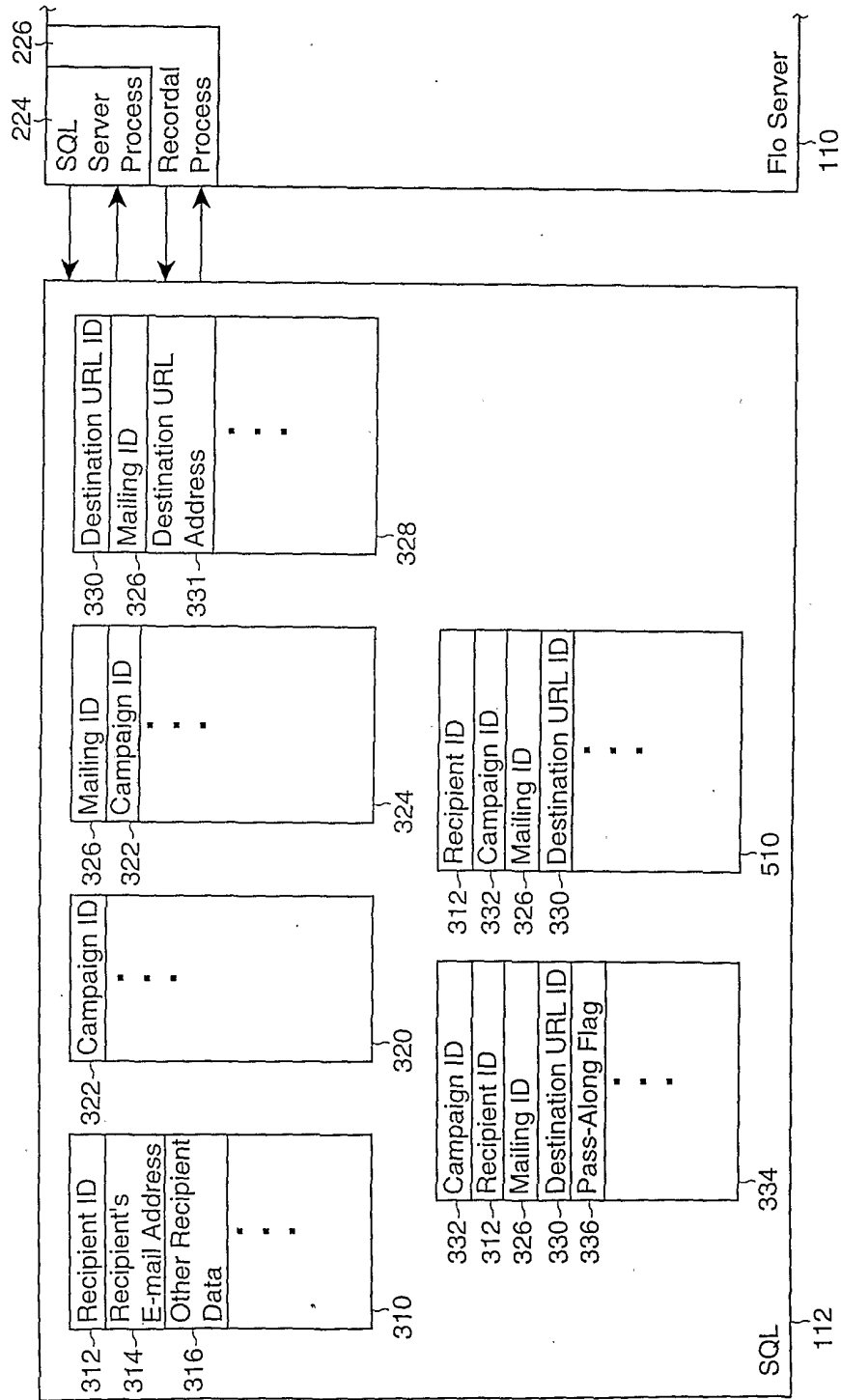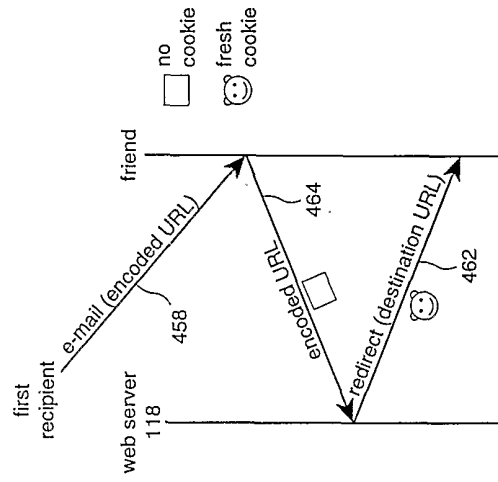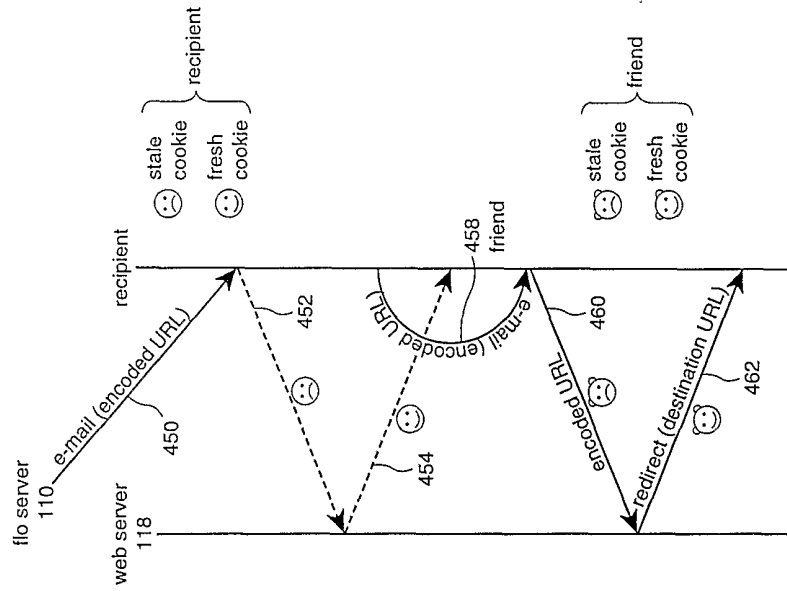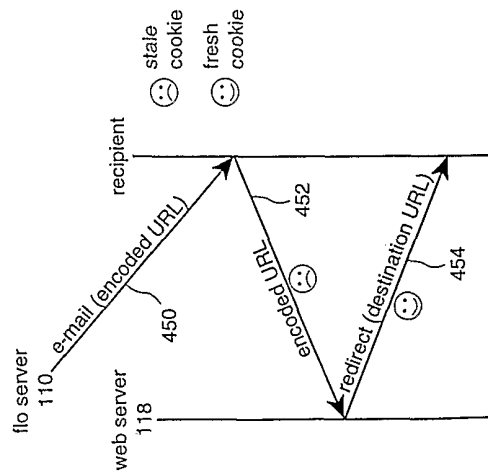
Figure 7

PATENT COOPERATION TREATY

PCT

DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a), Rules 13ter.1(c) and Rule 39)

Applicant's or agent's file reference 58552/31	IMPORTANT DECLARATION	Date of mailing*(day/month/year)* 07/06/2001
International application No. PCT/CA 01/ 00044	International filing date*(day/month/year)* 19/01/2001	(Earliest) Priority date*(day/month/year)* 16/03/2000

International Patent Classification (IPC) or both national classification and IPC	G06F17/60

Applicant
FLONETWORK INC. et al.

This International Searching Authority hereby declares, according to Article 17(2)(a), that **no international search report will be established** on the international application for the reasons indicated below

1. [X] The subject matter of the international application relates to:

   a. [ ] scientific theories.

   b. [ ] mathematical theories

   c. [ ] plant varieties.

   d. [ ] animal varieties.

   e. [ ] essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.

   f. [X] schemes, rules or methods of doing business.

   g. [ ] schemes, rules or methods of performing purely mental acts.

   h. [ ] schemes, rules or methods of playing games.

   i. [ ] methods for treatment of the human body by surgery or therapy.

   j. [ ] methods for treatment of the animal body by surgery or therapy.

   k. [ ] diagnostic methods practised on the human or animal body.

   l. [ ] mere presentations of information.

   m. [ ] computer programs for which this International Searching Authority is not equipped to search prior art.

2. [ ] The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:

   [ ] the description   [ ] the claims   [ ] the drawings

3. [ ] The failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:

   [ ] the written form has not been furnished or does not comply with the standard.

   [ ] the computer readable form has not been furnished or does not comply with the standard.

4. Further comments:

Name and mailing address of the International Searching Authority	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Mar´a Rodr´guez Nõvoa

Form PCT/ISA/203 (July 1998)

FURTHER INFORMATION CONTINUED FROM   PCT/ISA/ 203

The subject-matter claimed in claims 1-14 and 17-19 falls under the provisions of Article 17(2)(a)(i) and Rule 39.1(iii), PCT, such subject-matter relating to a method of doing business.

Claims 15 and 16 relate to a conventional system for performing the method claimed. Although these claims do not literally belong to the method category, they essentially claim protection for the same commercial effect as the method claims. The International Searching Authority considers that searching this subject-matter would serve no useful purpose. It is not at present apparent how the subject-matter of the present claims may be considered defensible in any subsequent examination phase in front of the EPO as International Preliminary Examining Authority with regard to the provisions of Article 33(1) PCT (novelty, inventive step); see also Guidelines B-VII, 1-6).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.