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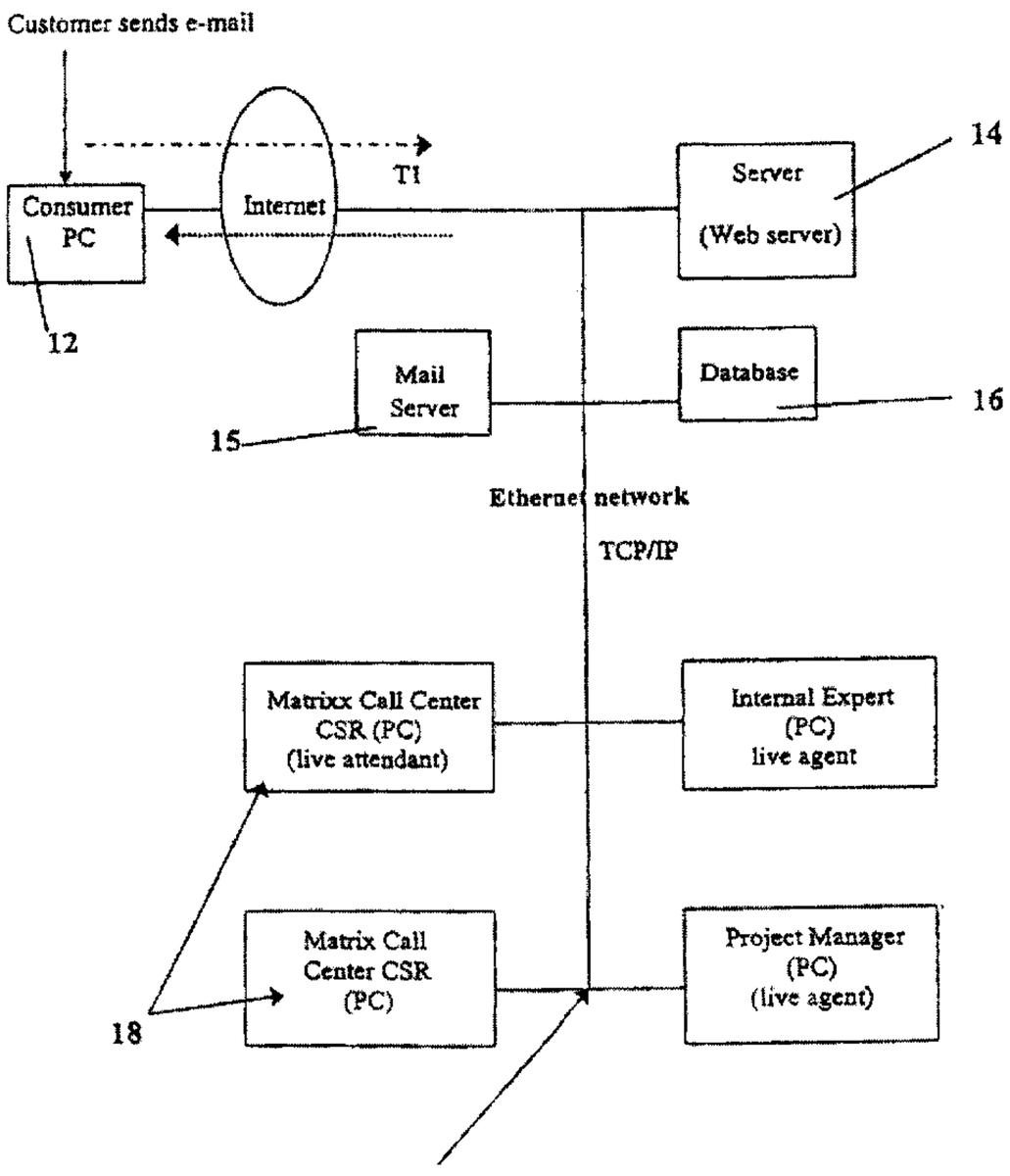

(57) Abrégé/Abstract:
An electronic message, or e-mail, management system having a digital computer for accepting e-mail messages; a program interface for automatically transferring received electronic messages to a database; a structured database for storing the received electronic messages in a predetermined format; and an interface for allowing a customer service representative, at a remote computer, to access, and respond to, the electronic messages stored at the database.

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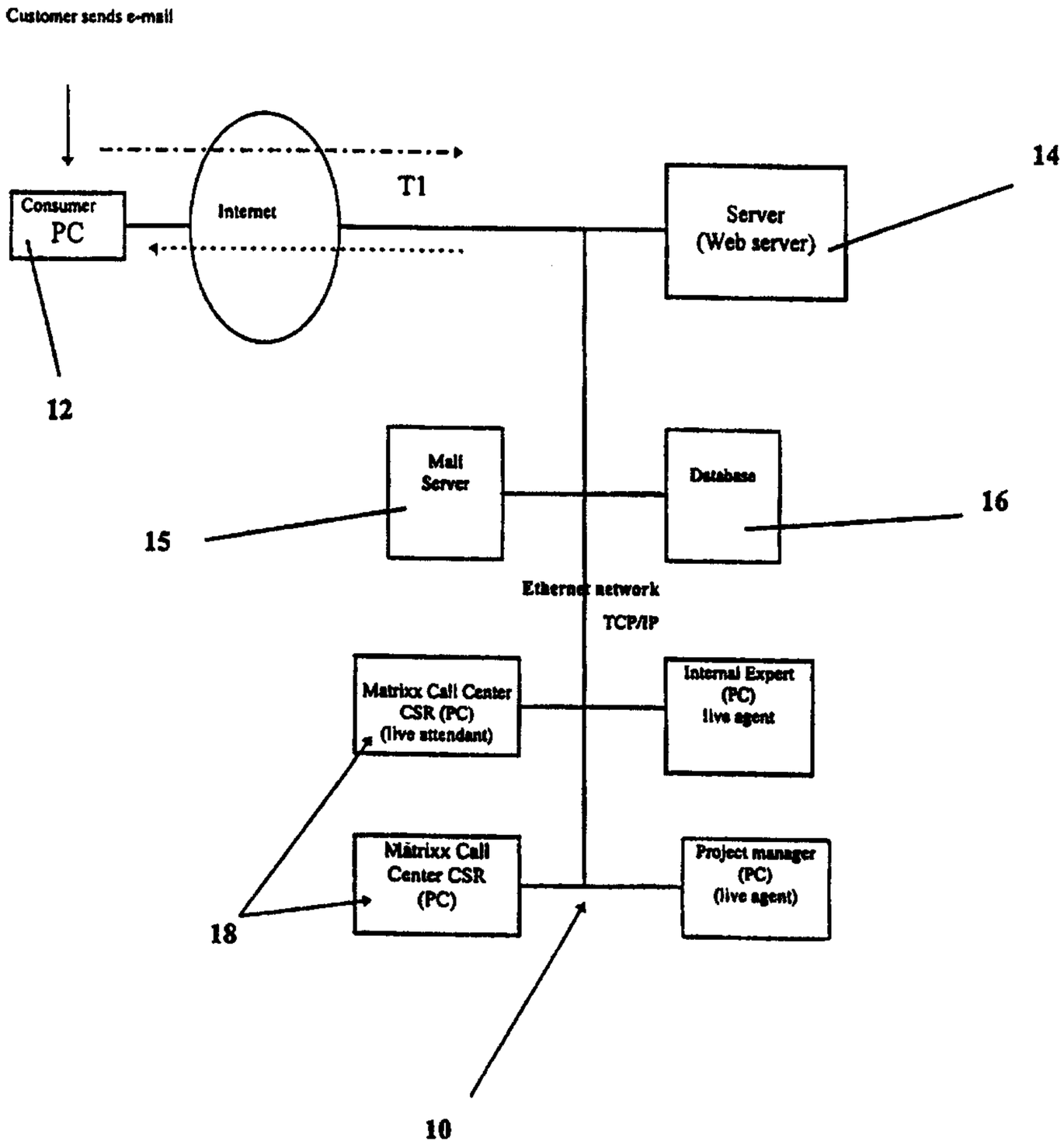
(57) Abstract

An electronic message, or e–mail, management system having a digital computer for accepting e–mail messages; a program interface for automatically transferring received electronic messages to a database; a structured database for storing the received electronic messages in a predetermined format; and an interface for allowing a customer service representative, at a remote computer, to access, and respond to, the electronic messages stored at the database.



ELECTRONIC MESSAGE MANAGEMENT SYSTEM

BACKGROUND AND SUMMARY OF THE INVENTION

The present invention relates to an electronic message management system and method, and more particularly, to an electronic message storage, tracking, management, and response method and system.

The number of Internet users continues to grow at an astounding rate. Accordingly, Internet Web sites have become an important way to communicate with customers. Internet Web sites are being used to send electronic message inquiries to customer service departments of many companies. Accordingly, as with traditional telephone customer service departments, customers expect timely responses to their e-mail inquiries.

An analysis was performed on the proficiency of companies in responding to e-mail inquiries received through their Web site. The study found that:

17% of the companies responded via e-mail;

27% of the companies did not respond to the e-mail inquiries;

8% responded via the U.S. postal service; and

48% of the companies did not have any mechanism for accepting e-mail inquiries.

Additionally, of the small percentage of companies actually responding to e-mail inquiries, many of those companies took 3-4 weeks to respond to e-mail inquiries, with many of the inquiries never being answered. Many popular Web sites generate tens of thousands of hits, and thousands of e-mail inquiries, per month. As the popularity of the Internet increases, the number of e-mail inquiries sent will continue to increase.

At the present time, electronic message inquiries are handled manually by customer service departments. In other words, the e-mail is sent directly to a customer service Mail server. The e-mail message inquiries are then read by a customer service representative who

is assigned to respond to the e-mail inquiries. The customer service representative may either respond to the message or may refer the message to another customer service representative who is more qualified to answer the inquiry. Currently, the process of forwarding the messages to responsible customer service representatives (CSRs) is accomplished manually. In other words, either the forwarding CSR clicks the "forward" button to send the message to the responsible CSR or the e-mail inquiry is actually printed out and physically handed to the responsible CSR. The responsible CSR then responds to the e-mail inquiry.

This manual process of responding to electronic messages results in a lack of electronic message management and a failure to provide any type of quality assurance on the message responses. For example, in a traditional system, once an e-mail inquiry is received at the designated mail server a customer service representative may access that e-mail message by using any known e-mail program (e.g. Eudora). If the customer service representative cannot answer the message, he must refer that inquiry to another CSR that can answer the question. With these known systems, the CSR must "manually" forward the inquiry to another responsible CSR able to take the inquiry. The e-mail is "manually" forwarded, for example, by designating the e-mail address of the responsible CSR and clicking the "forward" button in the mail program. Once the responsible CSR receives the forward inquiry, he or she may respond to the inquiry.

Accordingly, these traditional system are not well suited to handle a large load of electronic message inquiries. The manual forwarding of inquiries to responsible CSRs may take a considerable amount of time when there are thousands of inquiries and where there are many different CSRs (e.g. one to take billing inquiries, one to take technical support inquiries, one to take dealer locator inquiries). The time needed to initially read each message, to determine who the responsible CSR is, to determine the location of the

responsible CSR, and to forward the message to the responsible CSR for response, results in long response times.

Additionally, these traditional systems do not provide any efficient means to provide quality assurance and electronic message tracking. For example, once the responsible CSR responds to the message, it is sent to the customer without being reviewed for appropriate content. This lack of quality control may result in inappropriate, or inaccurate, responses being sent to customers and accordingly, damage to valuable customer relations.

Additionally, in these known systems, the manual forwarding of electronic message inquiries to responsible CSRs results in a lack of message status tracking. In these known electronic messaging systems it is virtually impossible to administer the status of the electronic message inquiries, to determine what the inquiries were about, who the responsible CSR is, which inquiries have been responded to, and which inquiries are still in need of attention. For example, as an illustration, assume that in one week Company "Fortune 500" receives 100,000 e-mail inquiries. Assume that the e-mail messages were distributed as follows:

25,000 messages were sent to 100 different technical support CSRs;

25,000 messages were sent to 100 different billing CSRs;

25,000 messages were sent to 100 different product CSRs;

5,000 messages were sent to 20 different dealer locator CSRs; and

20,000 messages were sent to 100 general CSRs.

With traditional e-mail messaging systems, the only way that these different CSRs can obtain access to the appropriate e-mail inquiry is to either:

1.) manually forward the e-mails to the responsible CSR;

2.) print out the e-mail message and physically deliver it to the responsible CSR; or

3.) have the original e-mail message sent directly to the different e-mail addresses of each CSR.

All of these methods would be inefficient for distributing e-mail inquiries to responsible CSRs and, accordingly, for the subsequent responding to the 100,000 e-mail messages.

Additionally, with these known systems, it would be virtually impossible to provide any administrative tracking or quality assurance on these 100,000 e-mail inquiries. Once the e-mail inquiry has been forwarded to the responsible CSR, administration could not efficiently track the status of the inquiry (i.e. responded to or still pending) or the content of the responses being sent. In these known systems, the individual CSR would have to individually inform administration of the status of each assigned e-mail inquiry and forward each response to administration for approval.

As the popularity of the Internet increases, electronic message communication will become a standard and indispensable form of communication. Accordingly, companies need to implement e-mail communication with their customers. Additionally, many companies are, and will be, receiving thousands of electronic message inquiries per week. Accordingly, there is a need for an electronic message management system that provides for the efficient storage, administration, tracking and reporting of customer inquiries. Additionally, an electronic message management system is needed which will allow the generation of timely responses to electronic message inquiries. The present invention provides such an electronic message management system that provides the following advantages over existing e-mail programs:

1.) provides an automatic interface to a structured database for forwarding all electronic messages;

2.) provides access to the database by authorized CSRs, from remotely located computers;

3.) stores the electronic messages by predetermined attributes (e.g. time the inquiry was received, the e-mail address of the customer, the status of the message) so that the e-mail inquiries can be retrieved by any, or all, of the attributes;

4.) allows administrators to provide quality assurance reviews on selected responses before sending the message to the customer;

5.) provides updates to the interface based on CSR or administrator activities so that the status of all electronic messages are current;

6.) provides a list of authorized CSRs that may have access to the electronic messages in the interface, and allows customized settings of individual CSR privileges;

7.) provides security against hackers and viruses;

8.) provides a historical record of all electronic messages from each customer;

9.) interfaces the CSRs to a database containing predefined, standard, responses for frequently asked questions;

10.) allows the forwarding of the message to the relevant expert, the database being updated to indicate that the message has been referred to an expert;

11.) tracks the responses to all electronic message inquiries and updates the database accordingly;

12.) provides the ability to efficiently add additional CSRs, delete CSRs, add standard responses, and to provide custom reports;

13.) allows categorization of all electronic inquiries/messages by client-defined categories;

14.) allows the reporting of the average response time of responses; and

15.) allows the monitoring of CSRs.

In accordance with one aspect of the invention, there is provided a system for managing electronic messages from customers, comprising a system for managing electronic messages from customers, comprising a first programmed digital computer programmed to receive electronic messages from customers, a relational database operatively coupled to said first programmed digital computer to automatically receive and store said electronic messages from said first programmed digital computer, said relational database being configured to assign predetermined tracking attributes to said electronic messages and means facilitating electronic access, according to at least one of said predetermined attributes, to electronic messages

stored by said relational database, by a customer service representative entitled to review said electronic messages.

In accordance with another aspect of the invention, there is provided a method for managing electronic messages from customers where the electronic messages are received from the Internet or an Intranet. The method involves receiving electronic messages from the customers, automatically forwarding the electronic messages to a structured database, storing the electronic messages in the database, structuring the storage of each one of the electronic messages by assigning to each message predetermined attributes for tracking the electronic messages and providing an interface for allowing customer service representatives access to the database from a computer located apart from the database.

In accordance with another aspect of the invention, there is provided a method for managing electronic messages from customers, the electronic messages being received from the Internet or an Intranet. The method involves receiving electronic messages from the customers, transferring the electronic messages to a structured database, storing the electronic messages in the database, structuring the storage of each one of the electronic messages by assigning to each message at least one predetermined message attribute for tracking the electronic messages and providing an interface for allowing customer service representatives access to the database from a computer.

The present system also allows for the administering and updating of the database according to specific application needs.

In addition to the features mentioned above, objects and advantages of the present invention will be readily apparent upon a reading of the following description.

BRIEF DESCRIPTION OF THE DRAWINGS

Novel features and advantages of the present invention, in addition to those mentioned above, will become apparent to those skilled in the art from a reading of the following detailed description in conjunction with the accompanying drawings wherein similar reference characters refer to similar parts and in which:

Figure 1 illustrates one embodiment of the e-mail management system of the present invention;

Figure 2 illustrates a block diagram illustrating one embodiment of the interface between the Web server and the database;

Figure 3 illustrates a flow chart depicting the main operational steps of the e-mail management system;

Figure 4A illustrates a flow chart depicting the main steps for accessing and responding to e-mail messages;

Figure 4B illustrates a flow chart depicting the choices available to a CSR when handling e-mail messages in the system of the present invention;

Figure 5 illustrates a flow chart depicting the steps for forwarding a message to an expert;

Figure 6 illustrates a flow chart depicting the steps needed for replying to an e-mail message;

Figure 7 illustrates a flow chart depicting the steps for providing a quality assurance review of e-mail responses;

Figure 8 illustrates a flow chart depicting the steps for administering the e-mail system of the present invention;

Figure 9 illustrates a flow chart depicting the steps for requesting a report; and

Figures 10-34 illustrate example screen shots from various pages of a preferred system of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT(S)

The preferred system herein described is not intended to be exhaustive or to limit the invention to the precise forms disclosed. They are chosen and described to explain the principles of the invention, and the application of the method to practical uses, so that others skilled in the art may practice the invention.

Figure 1 illustrates one embodiment of the electronic management system **10** of the present invention. The system is preferably comprised of a server **14**, a computer running mail server software **15**, a database **16**, and a customer service representative (CSR) computer **18**. (A mail server **15** would not be needed if all electronic messages were submitted via Web page forms).

It is preferred that the server **14**, the mail server **15**, the database **16**, and the CSR computer **18** be connected by a network. This network, preferably, makes up the call center network **10** of the present invention. For example, the network **10** may be an ethernet network based on Transfer Connect Protocol/ Internet Protocol (TCP/IP), although it is

appreciated that other protocols may be used. The network **10** may also be part of a Wide Area Network (WAN). It is also appreciated that the components of the present system may be variously arranged. For example, the server **14**, acting as a Web server, may also be configured as the mail server. However, in the preferred embodiment, as illustrated in **Figure 1**, the mail server **15** is a separate computer from the server **14**, and linked by the network.

The server **14** is generally a large capacity computer programmed for interfacing the CSR computer **18** and the database **16**. The server **14** is preferably a computer configured, or programmed, with Web server software. The server **14**, configured with Web server software (i.e. a "Web server"), serves as an interface between the CSR's computer **18**, configured with Web browser software, and the database **16**.

Typically, the network is connected by a T1 line to the Internet. Again, it is preferred that the server **14** be configured with Web server software with the capability to store, and transfer, Hypertext Markup Language (HTML) files and/or other scripts. As will be discussed, the CSR user interfaces are, preferably, viewed through a Web browser which accesses HTML code, or files, stored at the server **14**.

The customer's computer **12** is typically a personal computer having a modem for communicating with the call center network **10** facility, through the Internet. There are many advantages of using the Internet to communicate with the call center network, e.g., the customer has access to low cost clients (i.e. Web browsers), and the Web allows standard user interfaces and the ability to work across different platforms and applications.

In the preferred embodiment, the customer sends an electronic message, or inquiry, through the Internet, which finds its way to the mail server **15**. (Electronic messages include, but are not limited to, e-mail messages). If e-mail, the mail server **15** receives and accepts the electronic message (if the message is submitted from a Web page form it is interface directly to the database **16**). The mail server **15** is preferably a mail server program (e.g.

Microsoft Exchange Server) that may either be located on the server **14**, or a separate computer electronically linked to the server **14** (i.e. the server **14** may be configured with both Web server software and mail server software or the server **14** configured with Web server software may be electronically connected to another computer **15** configured with mail server software).

In any case, the call center network **10** is configured to automatically transfer the received electronic messages to the database **16** for storage (i.e. without an intermediate manual step). Automatic transfer of the electronic messages may either be the automatic forwarding of the messages or having the messages pulled by the database. For example, a customer, using an e-mail client (e.g. Eudora) located on his computer **12** sends an e-mail message to companysupport@matrixx.net. The e-mail message travels through the Internet and enters the call center network **10**. The e-mail message is routed to the mail server **15** (This is accomplished through known mail protocols, for example, the mail server **15** is configured to accept and send Internet e-mail. When a mail message arrives it is sent to the server defined as the mail server in the Domain Name Service and MX records). The database **16** is programmed to automatically retrieve the e-mail messages from the mail server. In other words, a program may be written that retrieves predetermined received e-mail messages from the mail server and delivers them to the database **16** for storage. This program may be written in a number of different languages including C++ or SQL. The key being to provide automated integration between the mail server, the Web page, and any SQL stored procedures.

It should be appreciated that electronic messages from customers may be received in forms other than through traditional e-mail clients. For example, an electronic message may be sent from on-line forms embedded in company Web pages. These electronic messages may also be sent to the Web server **14**, and stored in the database **16**. For example, company

Web sites may have on-line forms for submitting data or customer inquiries. These forms submit the message to a program, preferably written in C++, on the Web Server **14**. Once the program receives the message, it stores the message in the database **16**.

The database **16** is generally a storage area for the received electronic messages, including e-mails, and any other data required by the system (e.g. CSR data). It is preferred that the database **16** be a complete database management system (DBMS) which acts to organize and standardize data retrieval and storage, and is controlled by a language that helps to manipulate the data and allows querying of the database (e.g. SQL).

Although the database **16** may be a "flat file" it is preferred that the database **16** be a relational database. A relational database is a database that stores the information in tables, and where there are rules that define the relationship between the tables. Generally, the tables in a relational database are separated by different entities (e.g. all received e-mail messages, all data on CSRs, and predefined CSR standard responses). Generally, each row of a database table defines a subset of that particular entity where each column of that table defines a specific attribute, or category, for that entity. For example, a table storing all received e-mail messages may be stored as one table or entity. One row may be designated for each separate e-mail message where the message is given specific attributes defined by each column of that row (e.g., the time the message was received or the status of the message).

Figure 2 illustrates a block diagram illustrating one embodiment of the interface **24** between the Web server **14** and the database **16**. The Web server **14** may be connected to more than one database **16**. The server **14** is adapted to interface with the database **16** so that the CSR may access, and retrieve, the data residing on the database **16**. For example, a server **14**, acting as a Web server **14**, generally consists of HTML files and electronically communicates with the CSR computers **18** using HyperText Transfer Protocol (HTTP). When a Web page is requested by the Web browser, HTML files are sent from the Web

Server **14** to the CSR Web browser via HTTP. When data from the database **16** is needed, the Web page is programmed to retrieve the data from the database **16**.

Accordingly, the server **14** and the database **16** must be integrated for proper communication. However, in many cases the server **14**, acting as an interface to the database **16**, cannot communicate with standard databases without an interface **24** that maps the incoming query to the server **14** to the appropriate semantics in the database **16**.

In many databases today, Structured Query Language ("SQL") is used as the industry standard. SQL is a data language designed for creating, manipulating, and controlling relational databases. In order for a Web Server **14** to communicate with a database, a program extension **26** may be needed that converts the requests for data from the Web server **14** to a form that the database **16** will understand. For example, if the database **16** is a SQL database, the programmed program extension **26** will convert the data request from the Web Server **14** to SQL so that the database **16** will understand. However, in the preferred embodiment a program extension **26** is not required. In the preferred embodiment, the Web Server speaks directly to the database with Internet Database Connector files ("IDC" files) which allow Web pages to interface with the data in the database **16**.

Additionally, in the preferred embodiment, an Open Database Connectivity (ODBC) layer is also programmed into the call center network **10**. ODBC is a standard interface between the database **16** and an application trying to access the data in the database **16**. Basically, the ODBC layer **28** allows any front end application to access the database **16** (in other words, the ODBC interface **28** is a program that provides a uniform way of calling data request to a database **16**).

Accordingly, in the preferred embodiment, a data request from the Web server **14** is sent via IDC files, which use ODBC-compatible SQL, to the ODBC interface **28**. The ODBC

layer **28** converts the ODBC SQL calls into the predetermined database **16** native calls and then performs the database **16** interaction. The ODBC layer may also return the results of the data queries in a uniform way to the Web server **14**.

The operation of the invention can be understood with reference to the flowcharts of **Figures 3-9** and corresponding screen shots illustrated in **Figures 10-34**. The flowcharts of **Figure 3-9** describe the operational flow of one example system of the present invention. Screen shots from various stages of the system flow are depicted in **Figures 10-27**, however not all screen shots have been provided.

As discussed above, customers submit electronic message inquiries (e.g. e-mail) to the call center network **10**. As discussed, the electronic messages are automatically transferred to a database **16** according to a predetermined format. Accordingly, the CSRs must access the electronic messages stored on the database **16** and respond to the inquiries.

A CSR accesses the database **16** from a computer station **18** electronically connected to the server **14**. It is preferred that the CSR stations **18** are connected to the server **14** via a TCP/IP network, however, it should be understood that other network and data transfer protocols may suffice. As discussed, the server **16** is a computer that interfaces the CSR computer **18** with the database **16**. It is preferred that the server **16** be configured with Web server software that allows the maintenance of HTML files, i.e. Web pages, that are used as interfaces to the database **16** (The following explanation of the invention and the flowcharts assume HTML as the preferred file format of the user interfaces although other formats may be used. Accordingly, the server **14** in the following explanation will be configured with Web server software, i.e. a Web server **14**).

To access the database **16**, a CSR points his Web browser to the appropriate address (e.g. a URL **13**) of the starting address of the call center interface files located on the Web

server **14**. The Web server **14** transmits the HTML files of the CSR login page to the requesting CSR. (See the screen shot of **Figure 10**.) The CSR then logs in with his ID and his password **block 30**. A program then checks to make sure the ID and the password are of a required form **block 32** and sends the data to the database to make sure the CSR is allowed access **block 34**. It is preferred that an ID and password checking program be embedded in the HTML. For example a script is sent to the browser where it is subsequently run by the browser running on the CSR computer **18**.

If the ID and password are of a required form, they are sent to the database to confirm the CSR may access the messages. If the CSR is authorized, the HTML files informing the user of authorized access are sent to the CSR browser (see **Figure 11**). Upon clicking the "continue button" **17**, the main navigational page (see screen shot of **Figure 12**) are sent to the CSR computer **18**. The main navigational page is displayed **block 36** via the Web browser at the CSR computer **18**. The call center interface may be programmed so as to require the changing of CSR passwords after a predetermined time. The main navigational page provides links, to HTML, or Web, page interfaces that allow the CSR to perform one of the main functions of the call center system **10**. The CSR may opt to:

1.) access and process the received electronic messages;

2.) provide administrative functions;

3.) create detailed reports;

4.) view the history of the received electronic messages; or

5.) change the passwords of the CSRs.

The CSR selects one of these options **block 38** by clicking on the appropriate link in the main navigational page as illustrated in **Figure 12**. For example, if the CSR wants to respond to e-mail messages he clicks on the "e-mail" link **40**; if he wants to administer the system he clicks on the "Administration" link **42**; if he wants to view a report on system

statistics he clicks on the "Reports" link **44**; if he wants to retrieve a history report he clicks on the "History" link **46**; if he wants to change passwords he clicks on the "Password" link ; and if he wants to process mail, he clicks on the "Process Mail" link.

By clicking on the "e-mail" link **40** on the main navigational page, the database is queried to find which e-mail addresses the CSR may respond to and how many e-mails are waiting response. The results of the query are used to create the HTML file of the "E-mail Response" page. The "E-mail Response" page is sent to the CSR computer **18** from the Web server **14**. (**Figures 4A and 4B** illustrate a flow chart depicting the main steps for accessing and responding to e-mail messages.) Once the HTML files are received at the CSR computer **18**, the "E-mail Response" page, illustrated in **Figure 13**, is displayed **block 52** via the Web browser.

The E-mail Response page preferably gives the CSR the option of either:

1.) selecting a group of e-mail messages to respond to if the CSR has permission to respond to the received electronic messages; or

2.) selecting a group of e-mail messages to provide quality assurance (QA) reviews **block 54**.

E-mail messages are preferably grouped according to the e-mail addresses where the inquiry was sent. For example, all e-mail messages sent to a particular e-mail group are all preferably grouped together, stored together in the database **16**, and accessed together. For example, in **Figure 13**, there is only one group, "cyberesponse@matrixx.net". It is preferred that only the CSR groups to which each CSR has access be listed on the retrieved page. It is important to note that many CSRs (each linked by a computer **18**) can respond to a single address/group. Setting CSR privileges to groups is discussed in further detail below.

If the CSR wishes to access and respond to e-mail messages, the CSR selects a group to respond to **block 56**. By selecting a group, the corresponding electronic messages

received, and queued, for that group are retrieved **block 58** from the database **16** and sent to the CSR computer **18** where they are displayed via HTML **block 60**. An example of a "Queued Messages" page is illustrated in **Figure 14**. In the example page of **Figure 14**, the retrieved messages are categorized by:

1.) message number;

2.) response number;

3.) the status of the message;

4.) whether the message has been assigned;

5.) when the message was received;

6.) who sent the message, including the customer's e-mail address; and

7.) the subject of the message.

It is preferred that the messages be separated into three different subgroups: the General message subgroup **62**, the QA message subgroup **64**, and the Expert message subgroup **66**. The QA message subgroup contains all the messages that are awaiting QA review or messages denied by QA. All the messages in the Expert message subgroup are messages that are awaiting expert response or have been answered by an expert. The General message group contains all other messages that are still in queue. As illustrated in **Figure 14**, the status of the QA messages are either "From QA" or "Pending QA". Messages with the "From QA" status indicate that the message has been reviewed and denied by a CSR with QA privileges. Messages with the "Pending QA" status indicate that the message has not yet been reviewed. Similarly, the status of the Expert messages are either "From Expert", indicating the expert has responded to the CSR's inquiry, or "Wait for Expert", indicating the CSR is still waiting for the expert to respond. Messages in the General message subgroup **62** may indicate to which CSR the message has been assigned.

A CSR may have the option to retrieve messages from either the General message subgroup **62**, the QA message subgroup **64**, or the Expert message subgroup **66 (block 68)**. If the CSR wishes to respond to a message that has not yet been opened or assigned, the CSR may click on a link **70** of a message that has a status of "Unopened" and "Unassigned". Upon clicking such a link, the message is retrieved from the database **16** (the database **16** being updated to indicate the message has been opened) and sent to the CSR computer **18** where it is displayed via the Web browser **block 72**.

Upon clicking on an unassigned e-mail message to review, the CSR is given the option to either:

1.) assign the message to himself; or

2.) return to the queued message page **Figure 14** without assigning the message **block 78**.

If the CSR does not wish to assign the message to himself, the CSR is returned to the queued message page. If the CSR wishes to assign the message to himself, the CSR clicks on the "Assign Message to Me" link. The database **16** is updated to indicate that the message has been assigned **block 82**. Upon assigning the message, the CSR is sent another HTML page which contains text asking the CSR to assign a category to the message **block 84**. See **Figure 15**. Upon assigning a category(s), the database **16** is updated to reflect which categories the message has been assigned. Once a category is assigned to the message, CSR is given the option to either respond to the message, refer the question to an expert, or not respond to the message **block 86**.

If the CSR indicates that a response is not needed for a particular message, the CSR so indicates and the message is removed from the queued message table and the database is updated to indicate the message did not need a response **block 88**.

If the CSR wishes to refer the message to an expert more suited to respond to the inquiry, the CSR clicks on the appropriate link. **Figure 5** illustrates a flowchart of the steps for referring a message to an expert. An HTML page is sent to the CSR **block 90** requesting expert referral that asks the CSR to select an expert to take the message (see **Figure 16** illustrating an example screen shot). The CSR then selects an expert and refers the message to the designated expert **block 92 and 94**. The database **16** is then updated to indicate that the message has been referred to an expert and that it is pending response from that expert **block 96**. Once the expert reviews and responds to the message, the database **16** is updated to indicate that the expert has responded to the message, i.e. "From Expert". An expert is preferably a CSR that has been given expert privileges or a designated expert outside the E-mail management system, as will be discussed below. Accordingly, the expert accesses the management system via a computer configured similarly to the CSR computer **18** (or if outside the E-mail management system, receives and replies to expert inquiry via standard Internet E-mail).

From the page illustrated in **Figure 15**, the CSR may wish to respond to an assigned message rather than referring it to an expert. **Figure 6** illustrates a flow chart depicting the steps needed for replying to an e-mail message. The CSR will have the option of providing a custom response, a standard response, or both, to the inquiry **blocks 98-104**. The standard responses are stored and retrieved from the database **16**. They are preferably indexed, and retrieved, by the particular group, category, or keyword of the message (**Figure 17** illustrates a screen shot listing example standard responses). Providing standard responses to frequently asked customer questions reduces the time required to respond to many of the customer inquiries.

The system **10** is programmed to determine whether the response requires QA review **block 106**, prior to the message being sent to the originating customer. As will be discussed

in greater detail below, the administrator of the system may designate responses from certain CSRs as requiring QA review (discussed in greater detail below). In other words, all responses of designated CSRs must be given a QA review before their responses are sent to the customers. This feature allows the monitoring of CSR responses. This is especially important when training CSRs or when certain CSRs have a discourteous service record. If the response requires QA review, the response is flagged for QA review and the database **16** is updated to indicate that the stored response is to be reviewed and approved before being sent **blocks 108 and 110**. If the response does not require QA review, the message is sent to the customer and the database **16** is updated to indicate that the message was responded to **blocks 112-116**.

As discussed above, a CSR with QA privileges may opt to provide a QA review on the CSR responses as opposed to responding to a message **block 54**. **Figure 7** illustrates a flow chart depicting the steps for providing a quality assurance review of e-mail responses. Once a CSR indicates that he wishes to review submitted CSR responses that are in queue, an HTML page is sent to the CSR computer **18** containing a table of responses that must be reviewed (the responses are retrieved from the database **16**) **block 118**. **Figure 18** illustrates an example screen shot of a page listing messages to be given QA review.

The CSR may then click on a message to review block **120**. An HTML file is sent to the CSR computer **18** that, preferably, displays the text of the message, the response formulated by a CSR, and other message data **block 122**. This data being retrieved from the database **16**. Upon QA review, the reviewing CSR may accept or deny the response **block 124**. If the response is accepted, it is sent to the customer and the database **16** is updated to indicate that the customer message was reviewed and replied to **blocks 126, 128**. If the response is denied, the QA CSR sends the denied message back to the CSR with an

explanation and a recommendation of how to respond to the inquiry. The database **16** is updated to indicate that the response has been reviewed and denied **block 130**.

As previously discussed, a CSR, with administrative privileges, has the option to perform administrative duties on the electronic message management system. The administrative CSR may perform administrative functions by clicking on the appropriate link in the main navigational page **block 38** as illustrated in **Figure 12**. Once the administrative CSR clicks on the administrative link, an HTML file of the main administrative options page is sent to the CSR **block 132**, located at a CSR computer **18** (**Figure 19** illustrates an example screen shot of the main administrative options page of the present invention). **Figure 8** illustrates a flow chart depicting the steps for administering the electronic message system of the present invention.

From the main administrative options page **Figure 19**, the CSR may elect to update message groups (these groups preferably consisting of a number predetermined e-mail addresses), update CSR data, or update a group of messages **block 134**. In updating CSR data, the administrative CSR may add new CSRs **block 136** or change existing CSR privileges **block 138**. **Figure 20** illustrates an example screen shot for adding CSRs and updating CSR privileges. Again, these screen shots are preferably HTML files, or pages, displayed with a Web browser located at the CSR computer **18**. As illustrated in **Figure 20**, the administrative CSR may change CSR passwords, update CSR privileges, and give permissions to selected groups the CSR may respond to. It is also preferred that the pages be linked to the database **16**, so that changes to the CSR data made on the page are automatically made in the database **16**, according to the methods previously discussed (i.e. The data is sent via the CSR computer **18** to the Web server **14** to the database **16**).

The administrative CSR may also choose to update a group, or a group address. **Figure 21** illustrates example screen shots displayed at the administrative CSR's computer **18**

for updating group data. As illustrated in **Figure 21**, an administrative CSR may have the option **block 140** to:

change the categories of a group **block 142, Figure 21;**

assign CSRs to a group **block 144, Figure 22;**

add or change standard responses of the group **block 146, Figure 23;**

add or change the signatures of the group **Figure 24;** or

view a summary page of the group **Figure 25.**

It is preferred that these pages be linked to the database **16**, so that changes to the group data made on the page are automatically uploaded to the database **16.**

The administrative CSR may also grant other CSRs the privilege to view reports (Reports CSRs). The Reports CSRs may choose to view a report on a certain group. **Figure 9** illustrates a flow chart depicting the steps for requesting a report. In the preferred embodiment, the Reports CSRs have the option to view a report of a group **block 148** based on either the:

category of messages **block 150;**

time and/or day the messages were received **block 152;**

messages of a group that did not need a response **block 154;**

messages that were initiated by a CSR **block 156;**

messages that are still pending **block 158;** or

messages that have been reviewed by a QA CSR .

Figures 26-34 illustrate example screen shots displayed at the administrative CSR's computer **18** for viewing and printing group reports. The reports are created by retrieving the appropriate data from the database **16** and sending them to the CSR computer **18** to be displayed in a predetermined interface format, preferably created by HTML. As discussed,

the requests for data sent from these pages are sent to the server **14** which interfaces these data requests to the database **16**.

It is also preferred that the present system allow the CSRs to initiate e-mail messages to the customers from their computers **18**. It is also preferred that the CSRs e-mail programs be linked to the database **16** so that the system may track and store:

i) which CSR sent the e-mail;

ii) when the e-mail was sent;

iii) where the e-mail was sent; and

iv) what the e-mail message consisted of.

This feature allows the system of the present invention to track CSR performance for CSR initiated e-mails similarly to the tracking of CSR responses to customer initiated messages.

Having shown and described a preferred embodiment of the invention, those skilled in the art will realize that many variations and modifications may be made to affect the described invention and still be within the scope of the claimed invention. It should be appreciated that the present system may be implemented by other data protocols, programming languages, and differing arrangements of certain programs and interfaces not discussed in the present application. Thus, many of the elements indicated above may be altered or replaced by different elements which will provide the same result and fall within the spirit of the claimed invention. It is the intention, therefore, to limit the invention only as indicated by the scope of the claims.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A system for managing electronic messages from customers, comprising:

a first programmed digital computer programmed to receive electronic messages from customers;

a relational database operatively coupled to said first programmed digital computer to automatically receive and store said electronic messages from said first programmed digital computer, said relational database being configured to assign predetermined tracking attributes to said electronic messages; and

means facilitating electronic access, according to at least one of said predetermined attributes, to electronic messages stored by said relational database, by a customer service representative entitled to review said electronic messages.

2. A system according to claim **1**, wherein said relational database includes a sql database.

3. A system according to claim **1** or **2**, wherein said means facilitating electronic access further comprises:

a second programmed digital computer electronically interfaced to said relational database, wherein a customer service representative at said second programmed digital computer may retrieve and view said stored electronic messages from said relational database.

4. A system according to claim **1**, **2** or **3**, wherein said first programmed computer is configured with mail server software.

5. A system according to claim **3**, wherein said second programmed computer is configured with Web browser software.

6. A system according to claim **3**, further comprising:

a data interface for receiving data requests originating from said second programmed digital computer and converting said data requests to a language that said relational database will recognize.

7. A system according to claim **6**, wherein said data interface further includes an open database connectivity interface for providing a standard interface to said database.

8. A system according to claim **3**, further comprising an incoming communications line connected to said first programmed digital computer to receive electronic messages from the Internet.

9. A system according to claim **8**, further comprising:

a third programmed digital computer, remotely located from said system and interfaced to said first programmed digital computer through said Internet; and

wherein said third programmed digital computer is configured to allow interface to said first programmed digital computer.

10. A system according to claim **3**, wherein one of said predetermined tracking attributes of said electronic messages is the respective times that said electronic messages were received by said first programmed digital computer.

11. A system according to claim **3**, wherein one of said predetermined attributes of said electronic message is an e-mail address of a customer who sent said electronic message.

12. A system according to claim **3**, wherein one of said predetermined attributes of said electronic message is a number assigned to each of said electronic messages.

13. A system according to claim **3**, wherein said database contains structured data relating to a list of customer service representatives, said data relating to a list of customer service representatives being structured by predetermined attributes.

14. A system according to claim **13**, wherein said one of said attributes of said customer service data includes access privileges to said electronic messages stored on said database.

15. A system according to claim **3**, wherein said second programmed digital computer is configured to allow said customer service representative to respond to said electronic messages received from said database; and wherein said customer service representative responses are tracked on said database.

16. A system according to claim **15**, wherein one of said predetermined attributes of said electronic message is the status of said electronic message.

17. A system according to claim **16**, wherein said status of one of said electronic messages which has not been responded to will be a pending status.

18. A method for managing electronic messages from customers, said electronic messages received from the Internet or an Intranet, the method comprising:

receiving electronic messages from said customers;

automatically forwarding said electronic messages to a structured database;

storing said electronic messages in said database;

structuring said storage of each one of said electronic messages by assigning to each message predetermined attributes for tracking said electronic messages; and

providing an interface for allowing customer service representatives access to said database from a computer located apart from said database.

19. A method according to claim **18**, further comprising accepting a database access request from said customer service representatives.

20. A method according to claim **18**, further comprising accepting data requests from said customer service representatives.

21. A method according to claim **20**, further comprising translating said data request into a language of said database.

22. A method according to claim **20**, further comprising transmitting requested data from said database to said interface.

23. A method according to claim **22**, further comprising translating said transmitted data into a language of said interface.

24. A method according to claim **23**, further comprising:

transmitting said requested data from said interface to said computer of one of said customer service representatives; and

displaying, to said one of said customer service representatives, said requested data.

25. A method according to claim **18**, further comprising providing an attribute, in said database, for each of said electronic messages by the time each of electronic messages were received from said customer.

26. A method according to claim **18**, further comprising providing an attribute, for each of said electronic messages in said database, based on an e-mail address of the customer.

27. A method according to claim **18**, further comprising providing an attribute, for each of said electronic messages in said database, based on the current status of said electronic message.

28. A method according to claim **27**, further comprising updating said status attribute of an electronic message that has been responded to.

29. A method according to claim **18**, further comprising retrieving at least one of said electronic messages based on one of said predetermined attributes.

30. A method according to claim **18**, further comprising storing data relating to said customer service representatives in said database.

31. A method according to claim **30**, further comprising structuring storage of said customer service representative (CSR) data in said database by predetermined CSR attributes.

32. A method according to claim **31**, further comprising:

receiving a request at said interface, by one of said customer service representatives, for a list of certain ones of said electronic messages in said database;

checking at least one of said CSR attributes in said database to determine whether said customer service representative is allowed access to said list of electronic messages; and

sending said list of certain ones of said electronic messages to said customer service representative if said customer service representative is allowed access to said electronic messages.

33. A method according to claim **32**, further comprising:

receiving a request, from said customer service representative, to access one of said electronic messages;

transmitting said one of said electronic messages to said customer service representative; and

responding to said one of said electronic messages.

34. A method according to claim **31**, further comprising changing said CSR attributes based on changed CSR privileges.

35. A method according to claim **31**, further comprising providing an attribute, for each said customer service representative in said database, based on quality assurance privileges.

36. A method according to claim **18**, further comprising:

receiving a request at said interface, from one of said customer service representatives, to access one of said electronic messages; and

transmitting said one of said electronic messages to said customer service representative.

37. A method according to claim **36**, further comprising:

responding to said one of said electronic messages; and

storing said response in said database.

38. A method according to claim **37**, further comprising transmitting said response to one of said customers.

39. A method according to claim **38**, further comprising updating one of said predetermined message attributes of said responded to electronic message to indicate that a response was sent.

40. A method according to claim **36**, further comprising updating one of said predetermined message attributes of said responded to electronic message to indicate that a quality assurance review must be conducted on said response.

41. A method according to claim **40**, further comprising:

receiving a request from a quality assurance representative to review said response; and

sending said response to said quality assurance representative for review.

42. A method according to claim **41**, further comprising:

conducting a quality assurance review on said response; and

approving said response if said response meets quality assurance requirements.

43. A method according to claim **42**, further comprising:

transmitting said response to one of said customers; and

updating one of said predetermined message attributes of said electronic message to indicate that a response has been sent.

44. A method according to claim **43**, further comprising:

receiving a request at said interface for a report, said report providing information on the status of all electronic messages of one group;

accessing said report information from said database; and

transmitting said report information to a party requesting said report.

45. A method according to claim **44**, wherein receiving a request at said interface for a report is followed by translating said report request into a language of said database.

46. A method according to claim **44**, wherein accessing said report information from said database is followed by translating said report information into a format recognized by said computer of said customer service representative.

47. A method according to claim **36**, further comprising:

forwarding said one of said electronic messages to an expert; and

and updating said database to indicate said one of said electronic messages has been sent to said expert.

48. A method according to claim **47**, further comprising:

having an expert respond to said one of said electronic messages; and

updating said database to indicate that said expert responded to said one of said electronic messages.

49. A method for managing electronic messages from customers, said electronic messages received from the Internet or an Intranet, the method comprising:

receiving electronic messages from said customers;

transferring said electronic messages to a structured database;

storing said electronic messages in said database;

structuring said storage of each one of said electronic messages by assigning to each message at least one predetermined message attribute for tracking said electronic messages; and

providing an interface for allowing customer service representatives access to said database from a computer.

50. A method according to claim **49**, further comprising retrieving one of said electronic messages by at least one predetermined message attribute.

51. A method according to claim **50**, further comprising:

responding to said one of said electronic messages; and

updating said database to indicate that said one of said electronic messages has been responded to.

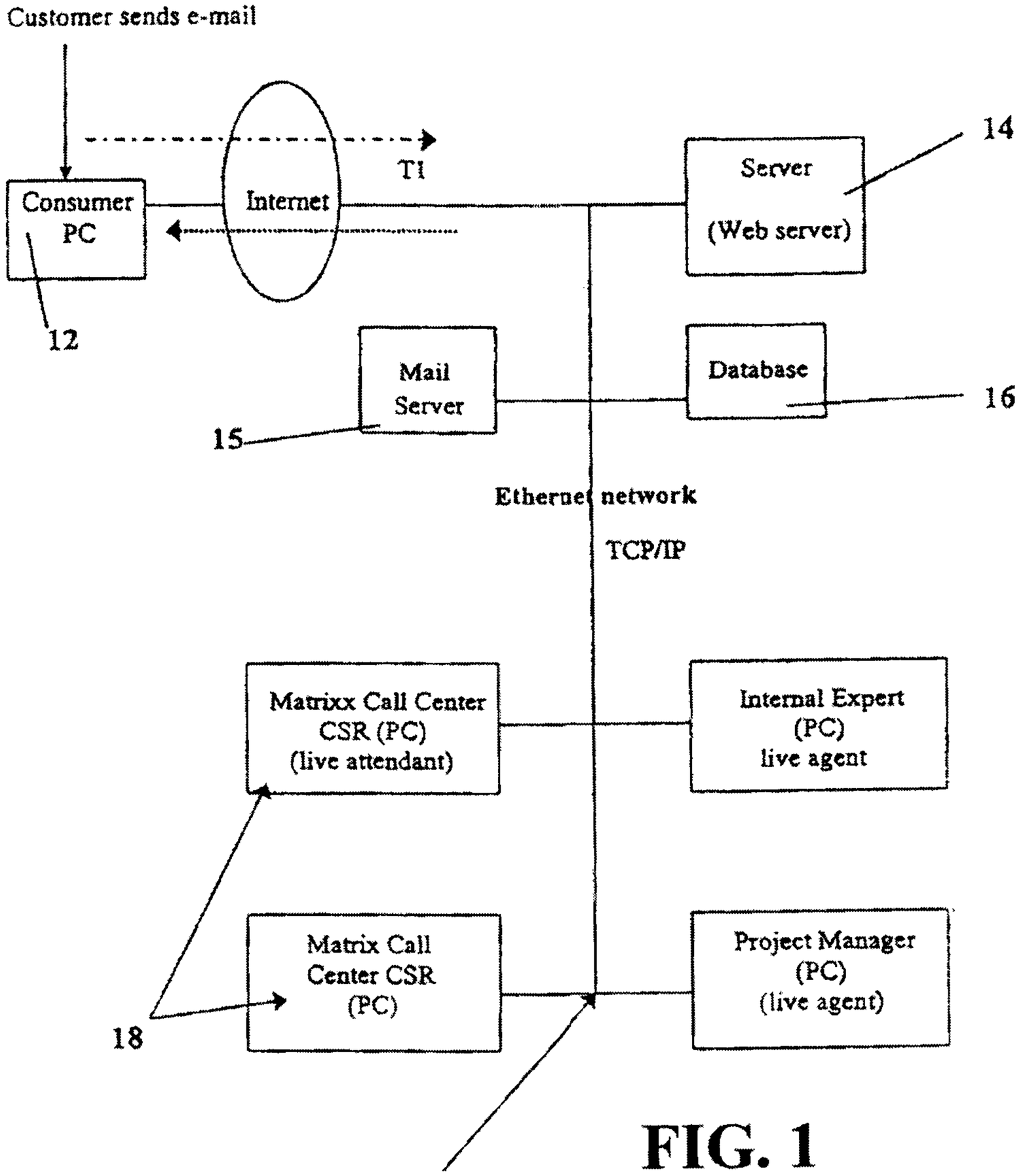

Customer sends e-mail
T1
Consumer PC
Internet
Server (Web server)
14
12
Mail Server
15
Database
16
Ethernet network
TCP/IP
Matrixx Call Center CSR (PC) (live attendant)
Internal Expert (PC) live agent
Matrix Call Center CSR (PC)
Project Manager (PC) (live agent)
18
10

FIG. 1

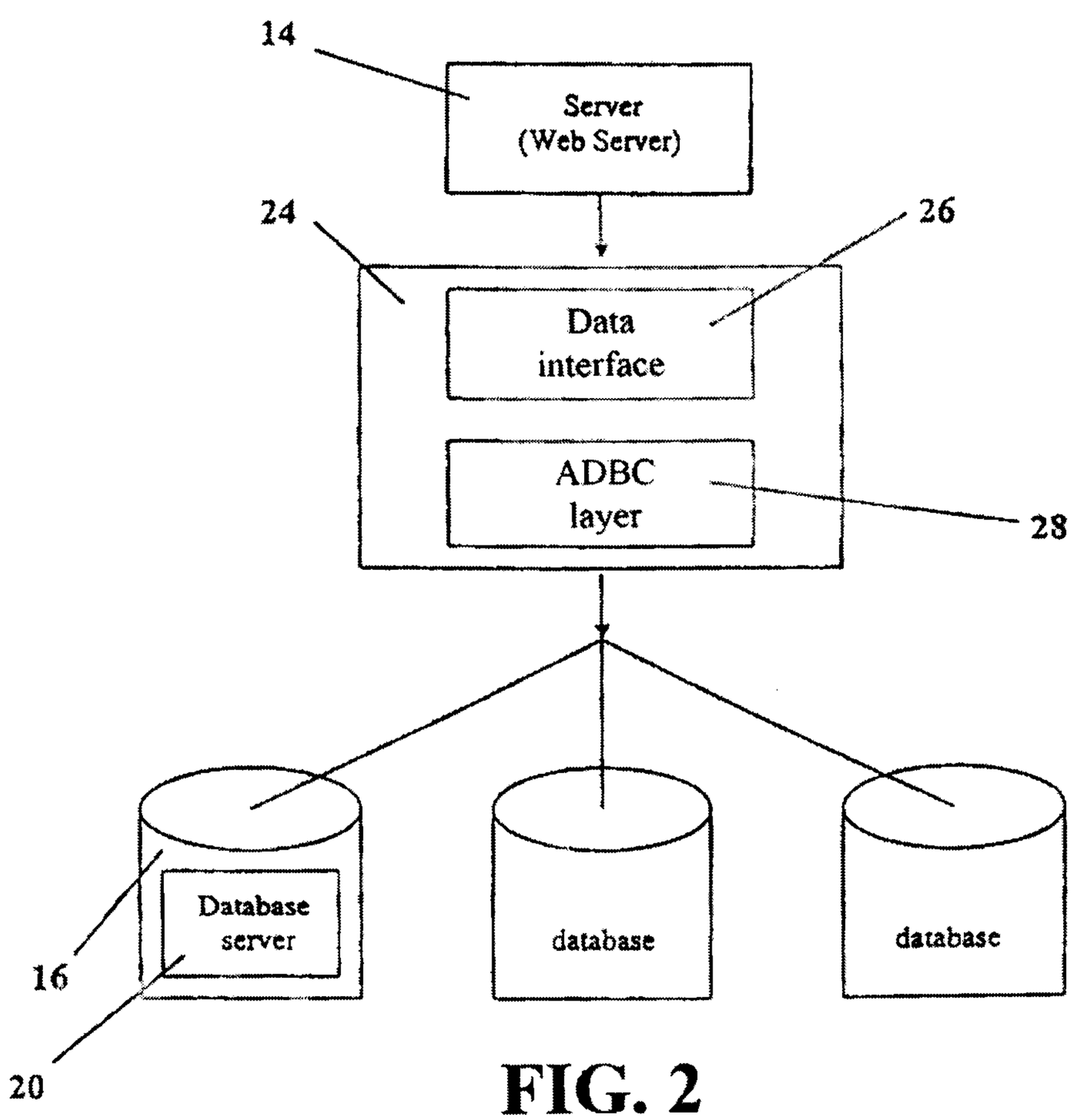

14
Server
(Web Server)
24
26
Data
interface
ADBC
layer
28
Database
server
database
database
16
20

FIG. 2

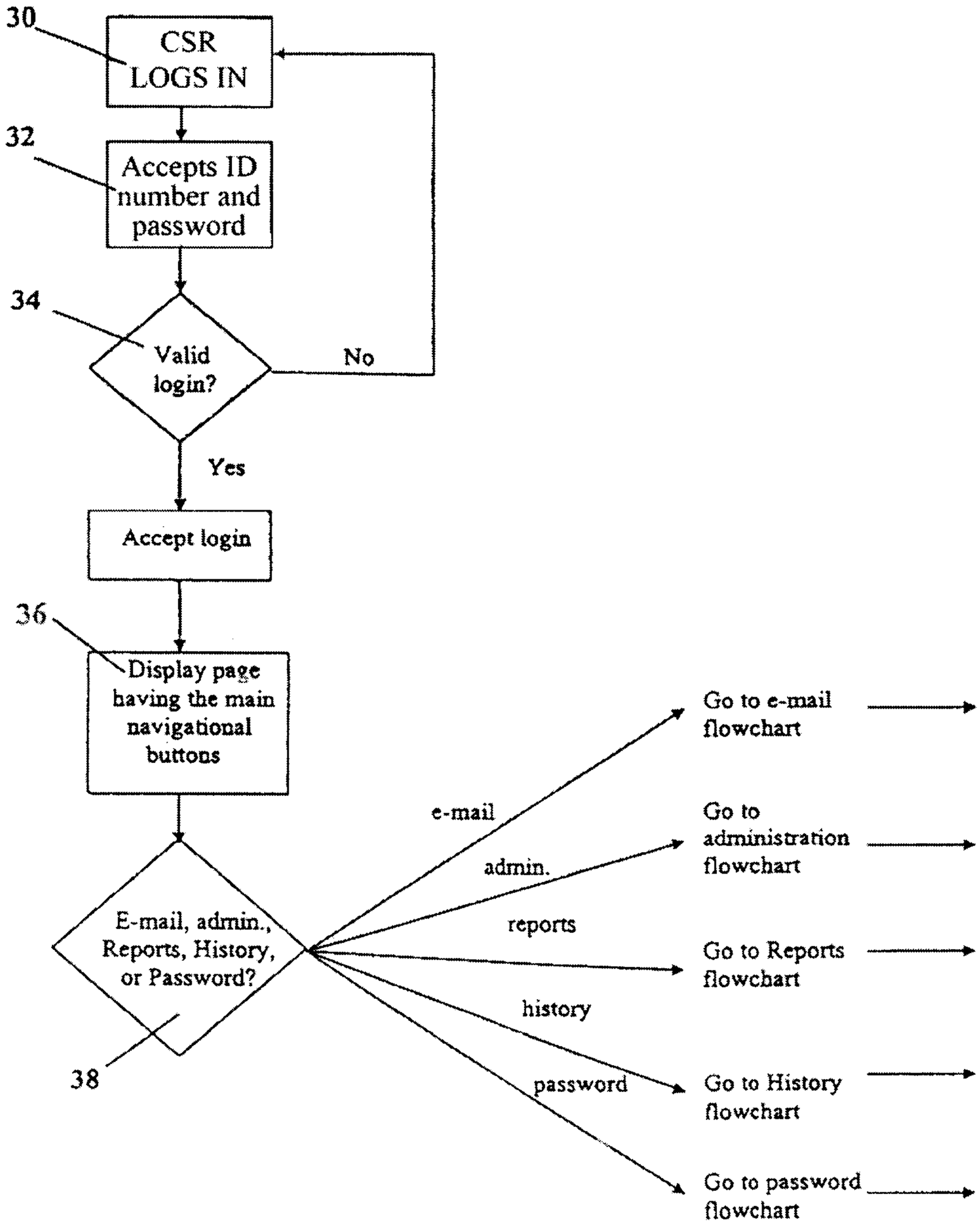

30
CSR LOGS IN
32
Accepts ID number and password
34
Valid login?
No
Yes
Accept login
36
Display page having the main navigational buttons
E-mail, admin., Reports, History, or Password?
38
e-mail
admin.
reports
history
password
Go to e-mail flowchart
Go to administration flowchart
Go to Reports flowchart
Go to History flowchart
Go to password flowchart

FIG. 3

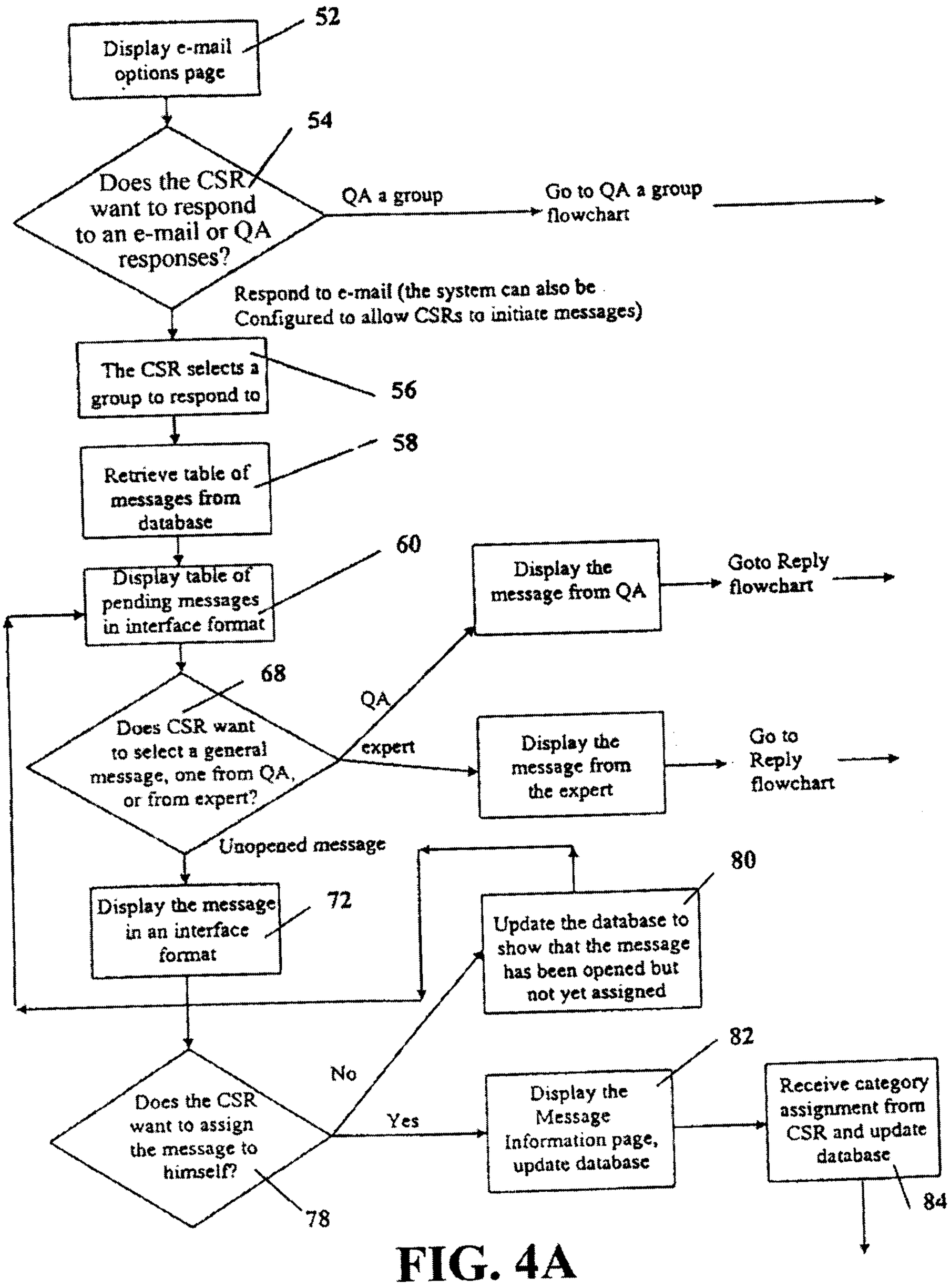

Display e-mail options page
52
Does the CSR want to respond to an e-mail or QA responses?
54
QA a group
Go to QA a group flowchart
Respond to e-mail (the system can also be Configured to allow CSRs to initiate messages)
The CSR selects a group to respond to
56
Retrieve table of messages from database
58
Display table of pending messages in interface format
60
Display the message from QA
Goto Reply flowchart
QA
Does CSR want to select a general message, one from QA, or from expert?
68
expert
Display the message from the expert
Go to Reply flowchart
Unopened message
Display the message in an interface format
72
Update the database to show that the message has been opened but not yet assigned
80
Does the CSR want to assign the message to himself?
78
No
Yes
Display the Message Information page, update database
82
Receive category assignment from CSR and update database
84

FIG. 4A

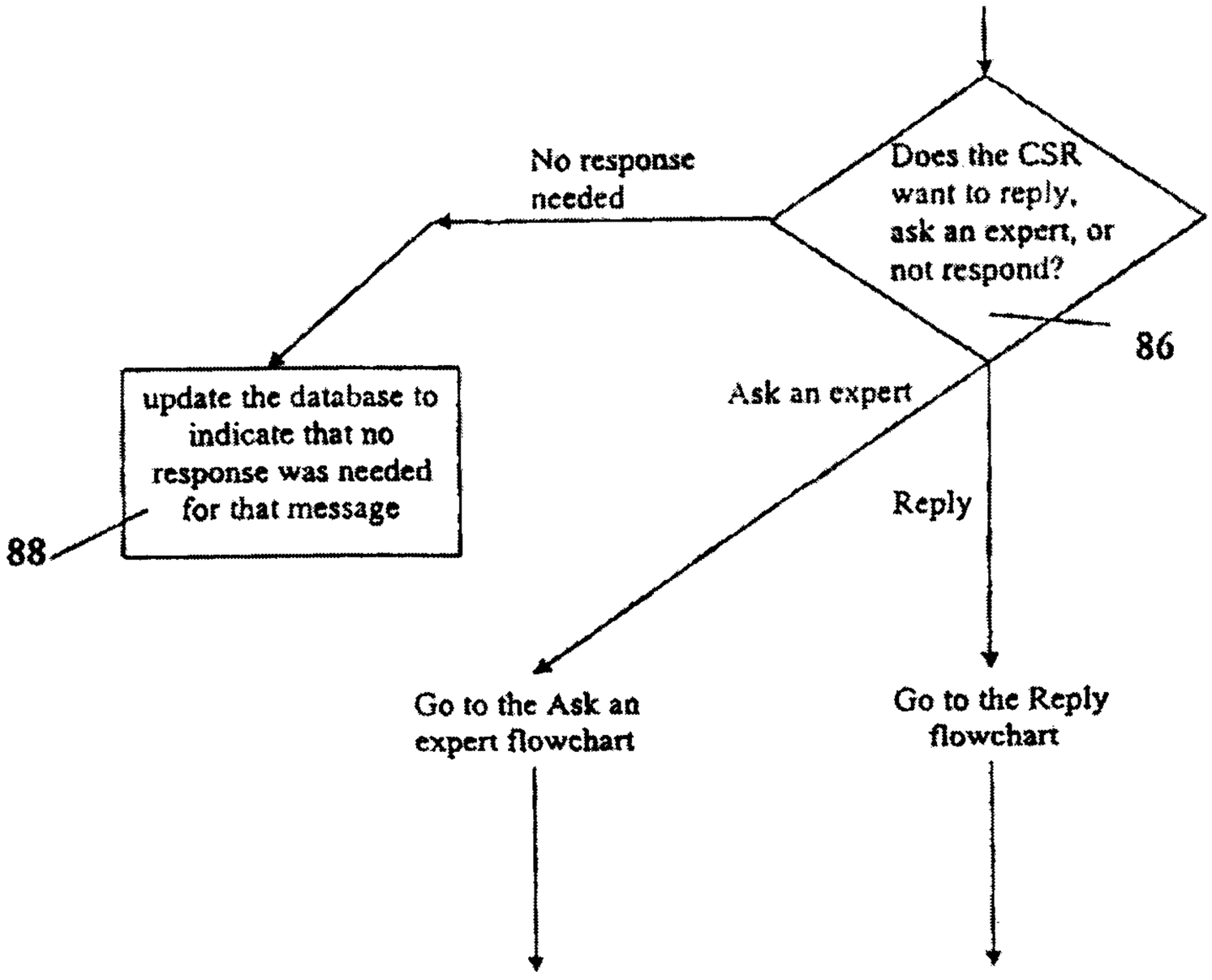

Does the CSR want to reply, ask an expert, or not respond?
86
No response needed
update the database to indicate that no response was needed for that message
88
Ask an expert
Reply
Go to the Ask an expert flowchart
Go to the Reply flowchart

FIG. 4B

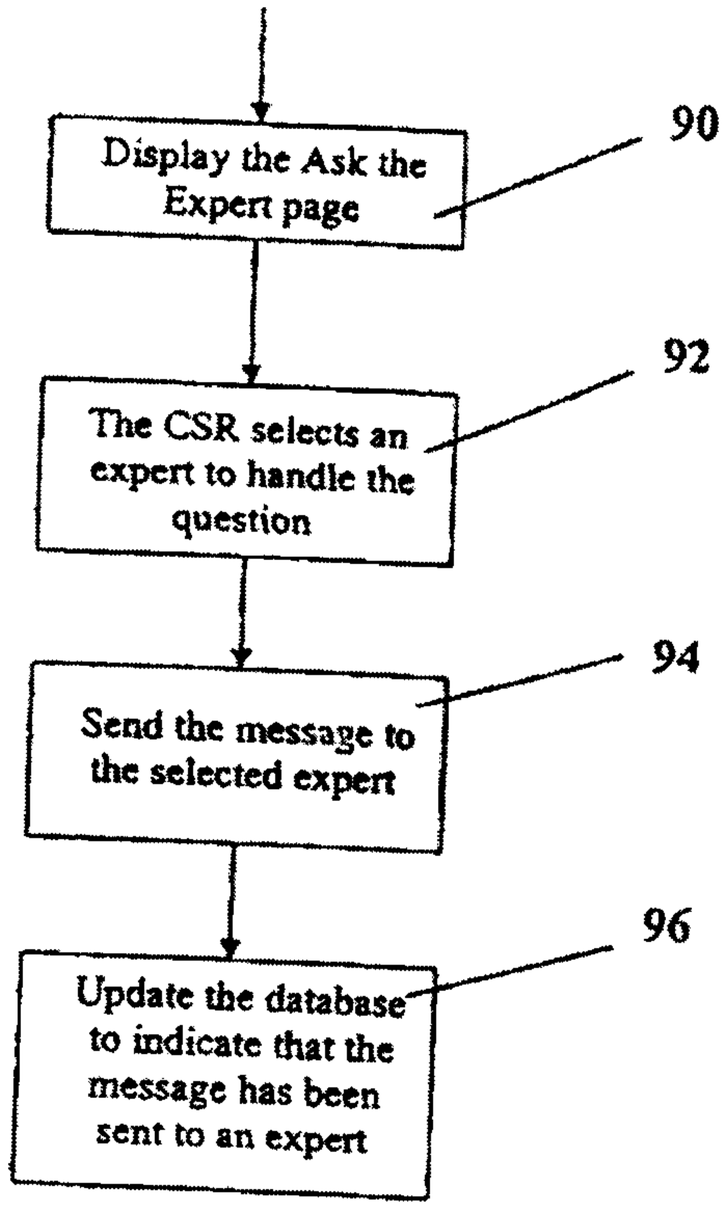

Display the Ask the Expert page
90
The CSR selects an expert to handle the question
92
Send the message to the selected expert
94
Update the database to indicate that the message has been sent to an expert
96

FIG. 5

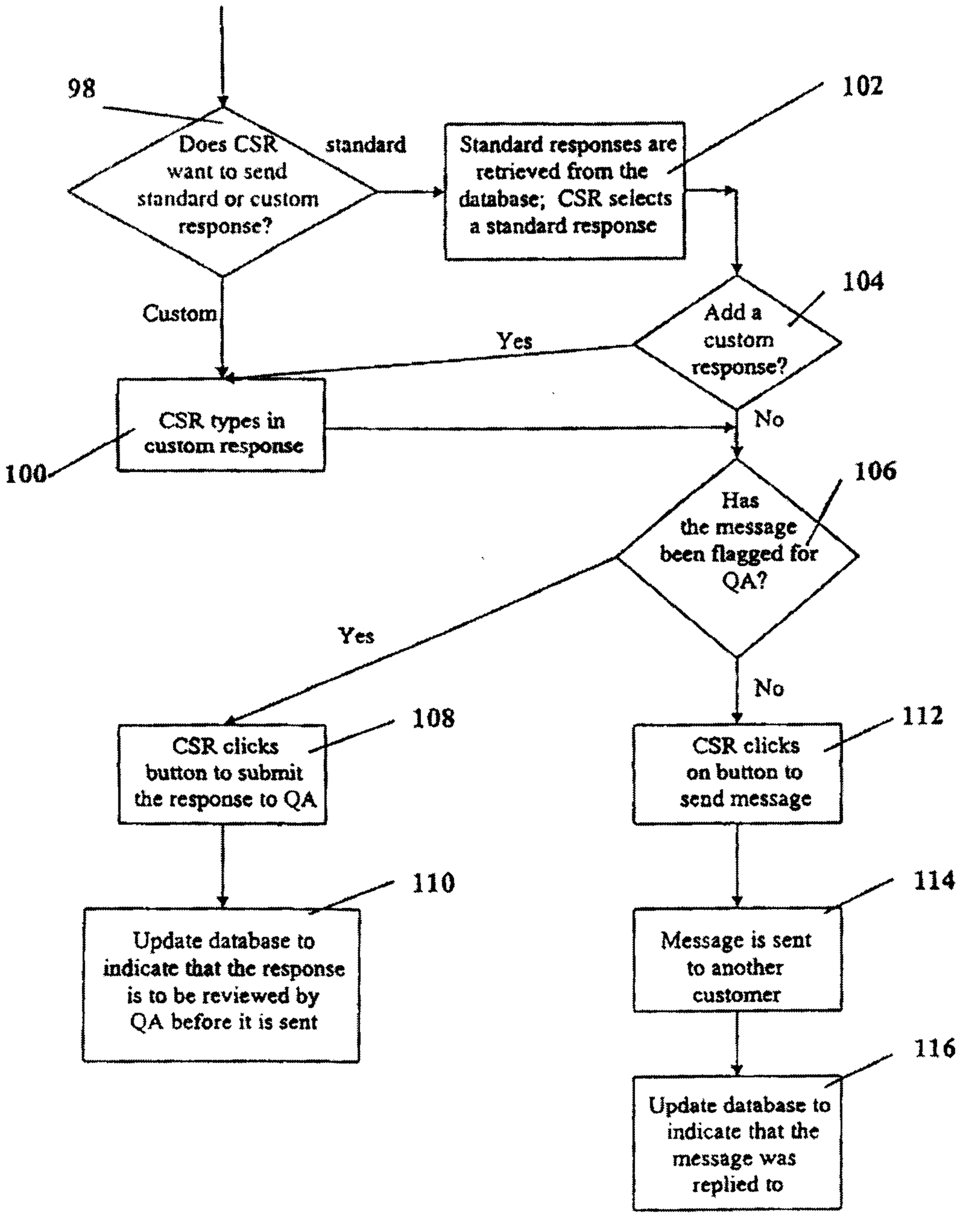

98
Does CSR want to send standard or custom response?
standard
Custom
102
Standard responses are retrieved from the database; CSR selects a standard response
104
Add a custom response?
Yes
No
CSR types in custom response
100
106
Has the message been flagged for QA?
Yes
No
108
CSR clicks button to submit the response to QA
110
Update database to indicate that the response is to be reviewed by QA before it is sent
112
CSR clicks on button to send message
114
Message is sent to another customer
116
Update database to indicate that the message was replied to

FIG. 6

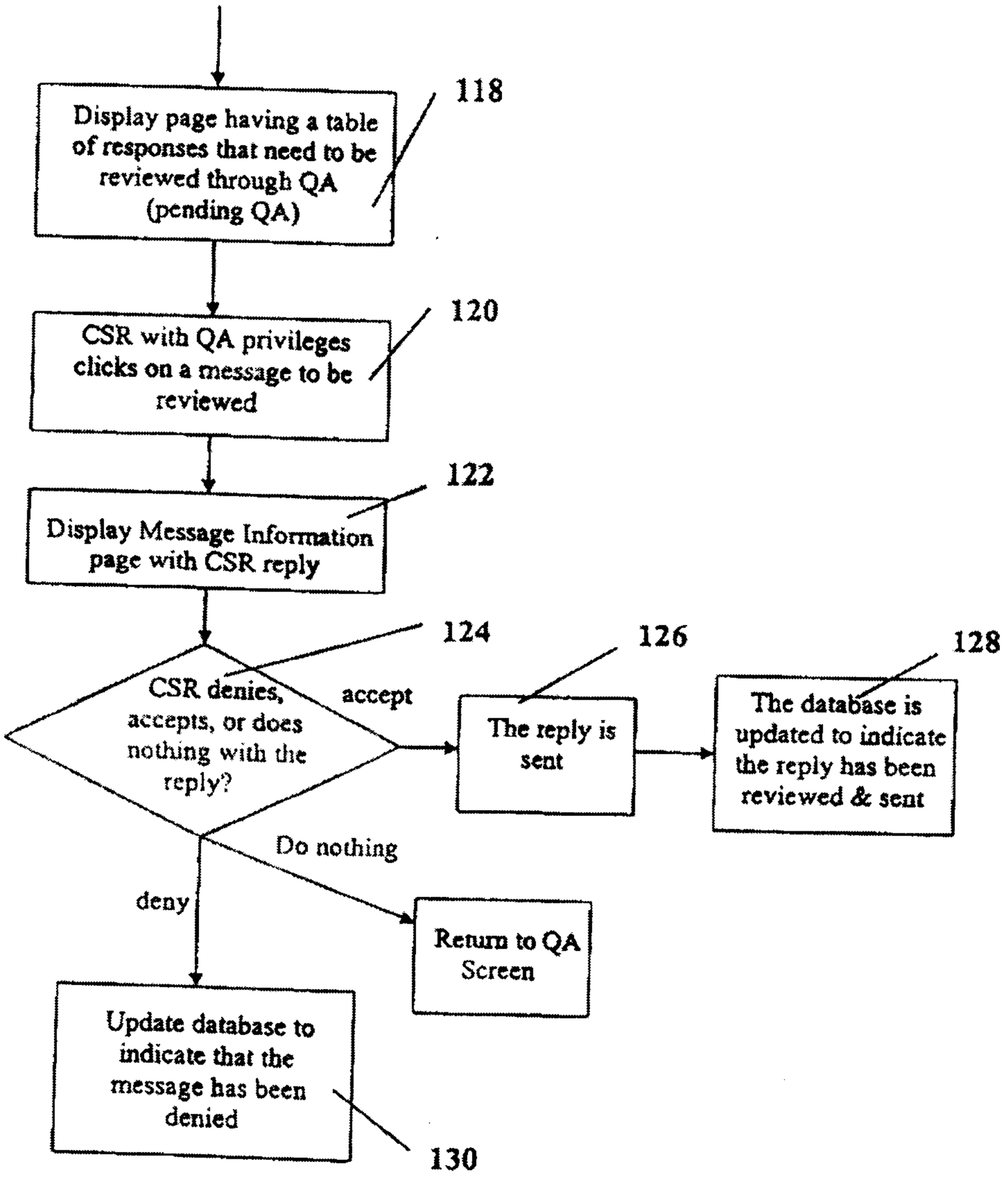

Display page having a table of responses that need to be reviewed through QA (pending QA)
118
CSR with QA privileges clicks on a message to be reviewed
120
Display Message Information page with CSR reply
122
CSR denies, accepts, or does nothing with the reply?
124
accept
The reply is sent
126
The database is updated to indicate the reply has been reviewed & sent
128
Do nothing
deny
Return to QA Screen
Update database to indicate that the message has been denied
130

FIG. 7

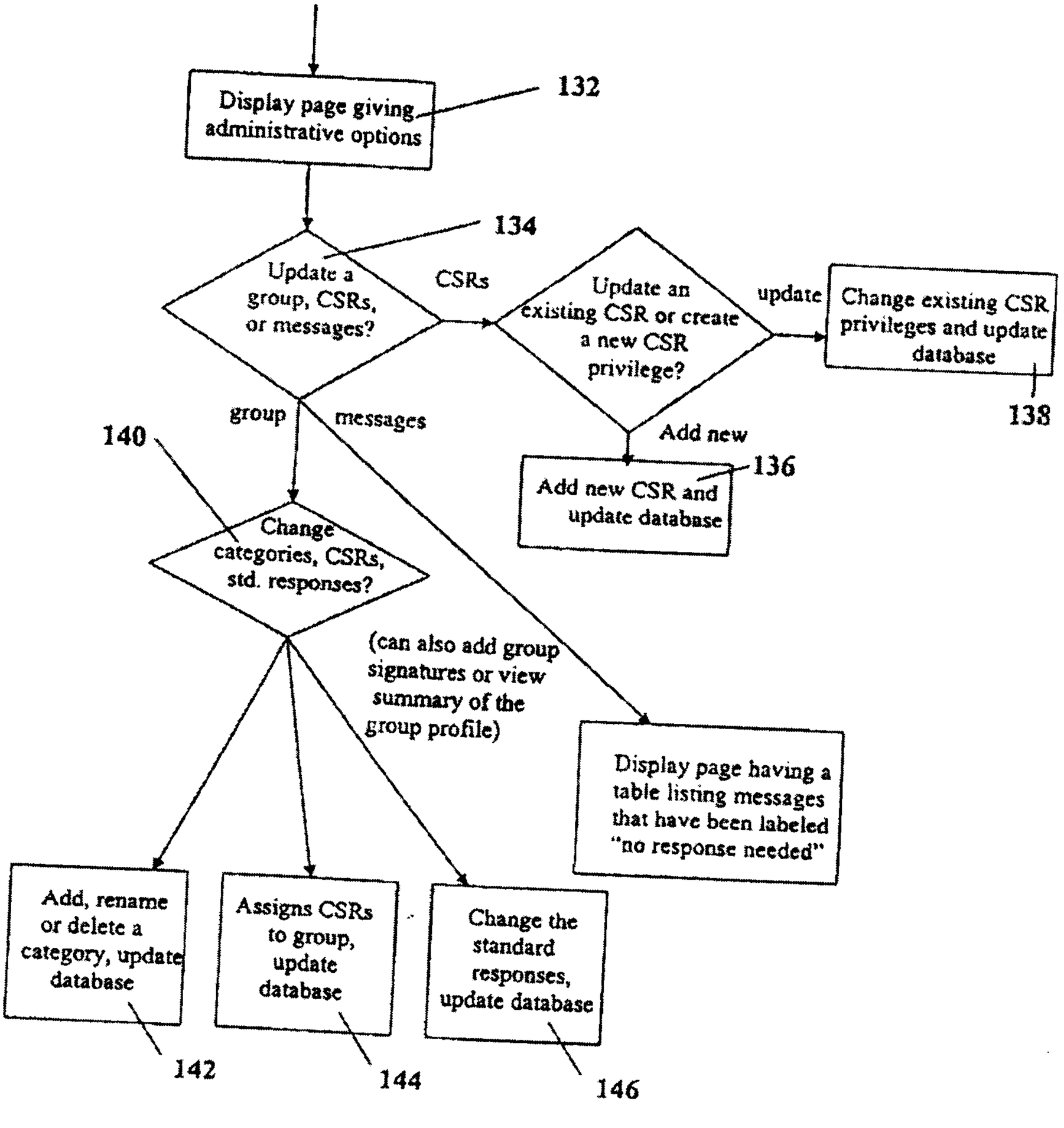

Display page giving administrative options
132
Update a group, CSRs, or messages?
134
CSRs
Update an existing CSR or create a new CSR privilege?
update
Change existing CSR privileges and update database
138
group
messages
Add new
Add new CSR and update database
136
140
Change categories, CSRs, std. responses?
(can also add group signatures or view summary of the group profile)
Display page having a table listing messages that have been labeled "no response needed"
Add, rename or delete a category, update database
142
Assigns CSRs to group, update database
144
Change the standard responses, update database
146

FIG. 8

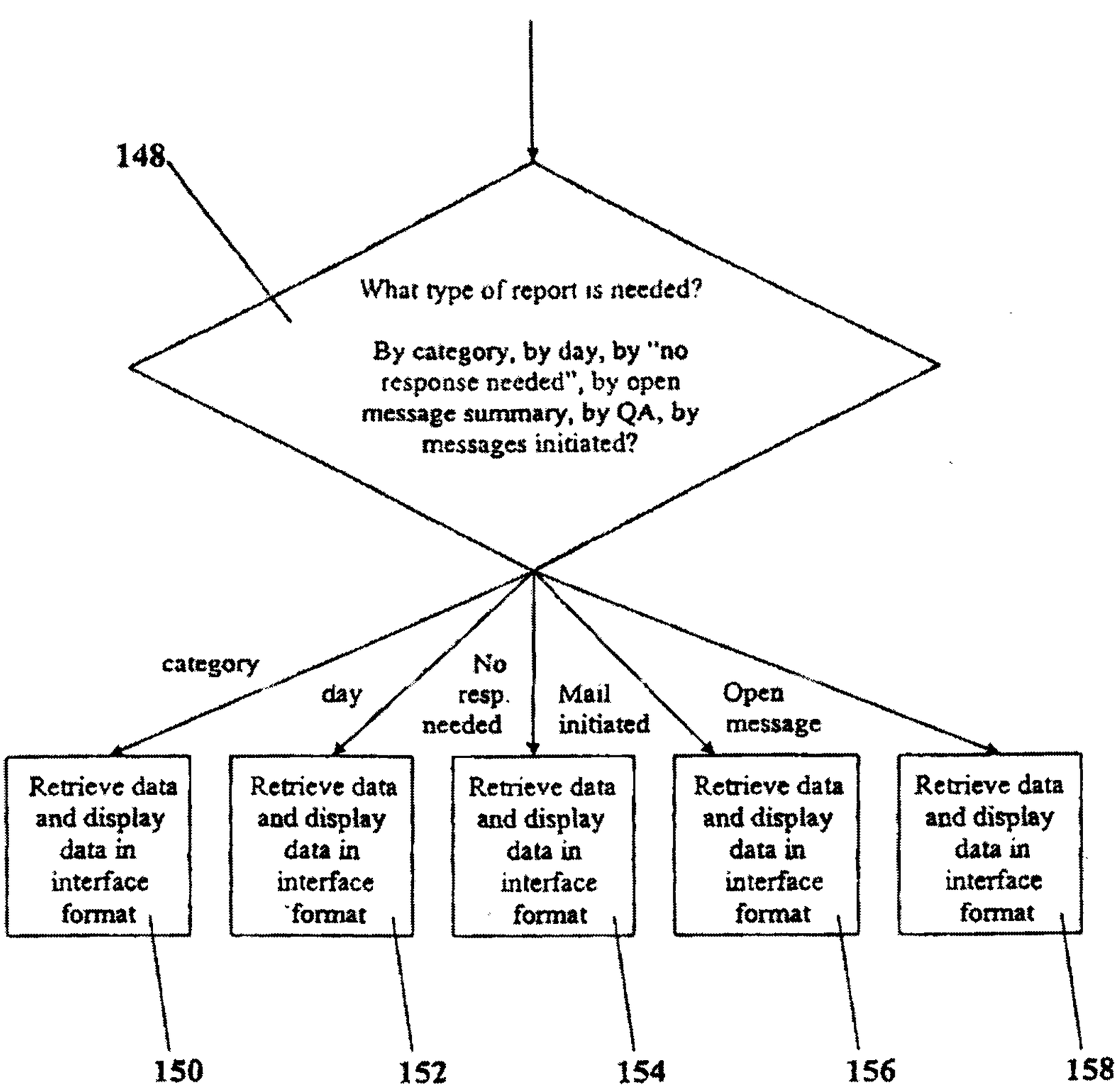

148
What type of report is needed?
By category, by day, by "no response needed", by open message summary, by QA, by messages initiated?
category
day
No resp. needed
Mail initiated
Open message
Retrieve data and display data in interface format
Retrieve data and display data in interface format
Retrieve data and display data in interface format
Retrieve data and display data in interface format
Retrieve data and display data in interface format
150
152
154
156
158

FIG. 9

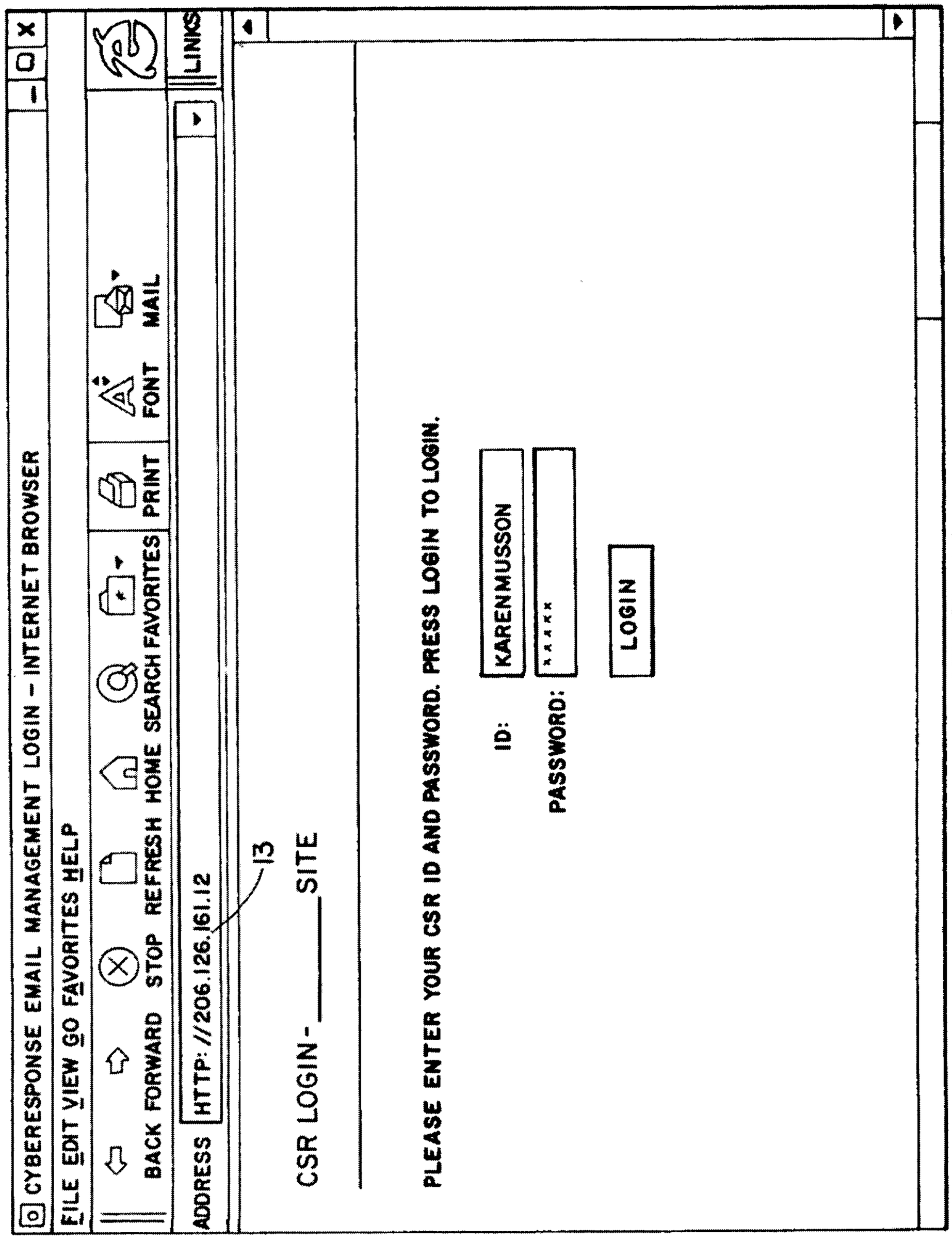

CYBERESPONSE EMAIL MANAGEMENT LOGIN – INTERNET BROWSER
FILE EDIT VIEW GO FAVORITES HELP
BACK FORWARD STOP REFRESH HOME SEARCH FAVORITES PRINT FONT MAIL
ADDRESS HTTP://206.126.161.12
13
CSR LOGIN-_____SITE
PLEASE ENTER YOUR CSR ID AND PASSWORD. PRESS LOGIN TO LOGIN.
ID: KARENMUSSON
PASSWORD: ******
LOGIN
LINKS

FIG. 10

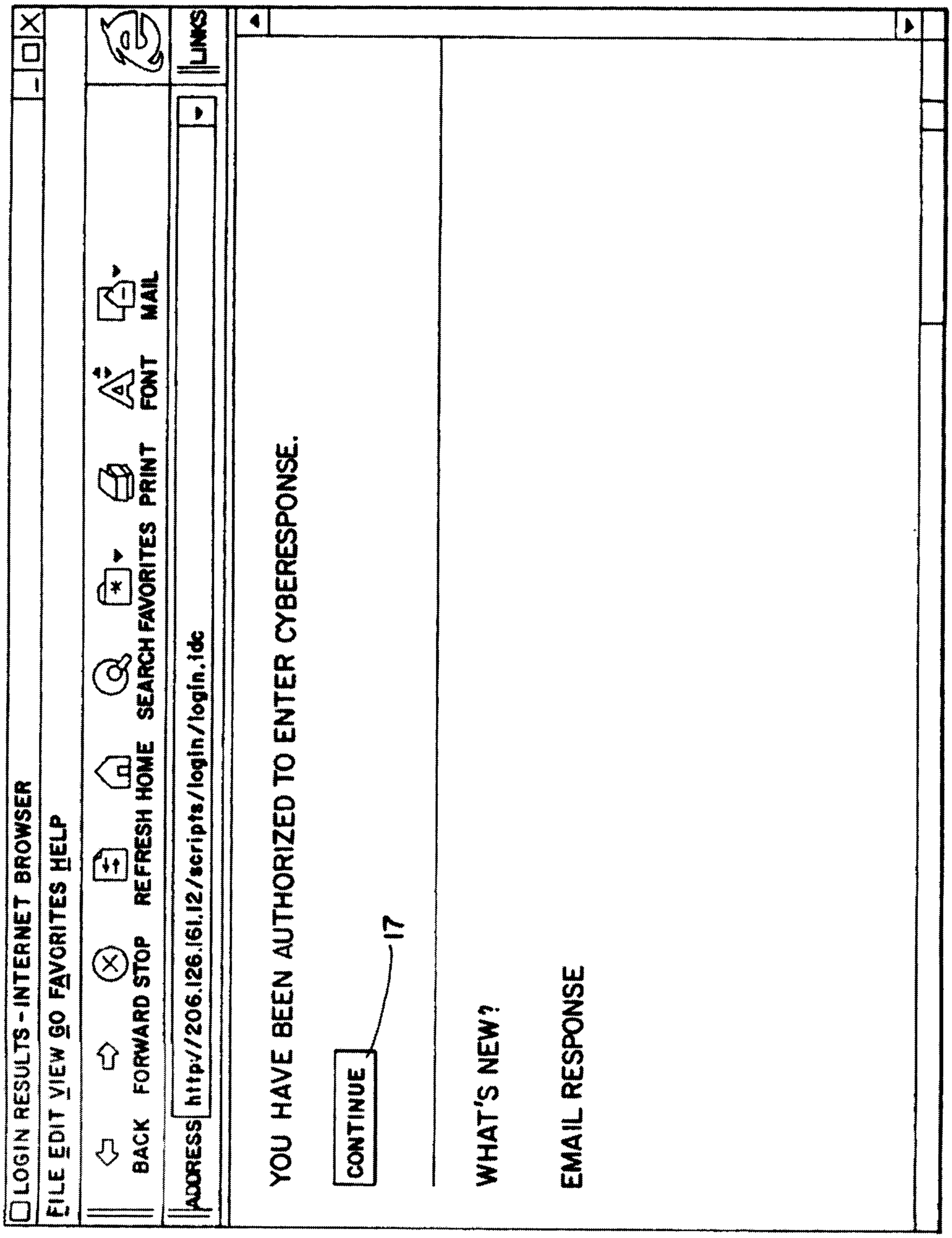

LOGIN RESULTS - INTERNET BROWSER
FILE EDIT VIEW GO FAVORITES HELP
BACK FORWARD STOP REFRESH HOME SEARCH FAVORITES
ADDRESS http://206.126.161.12/scripts/login/login.idc
LINKS
FONT MAIL
PRINT
YOU HAVE BEEN AUTHORIZED TO ENTER CYBERES
CONTINUE
17
WHAT'S NEW?
EMAIL RESPONSE

FIG. 11

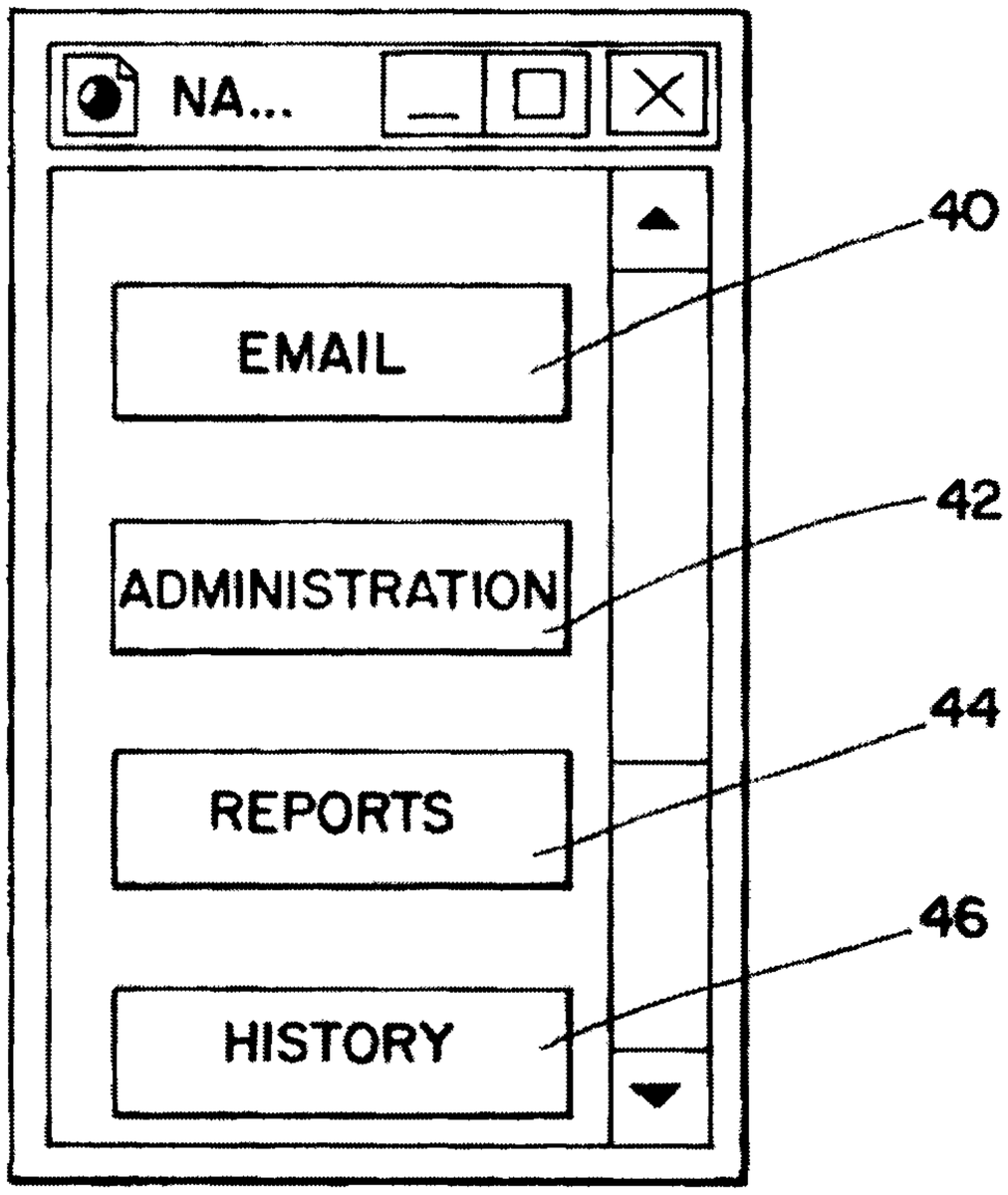


FIG. 12

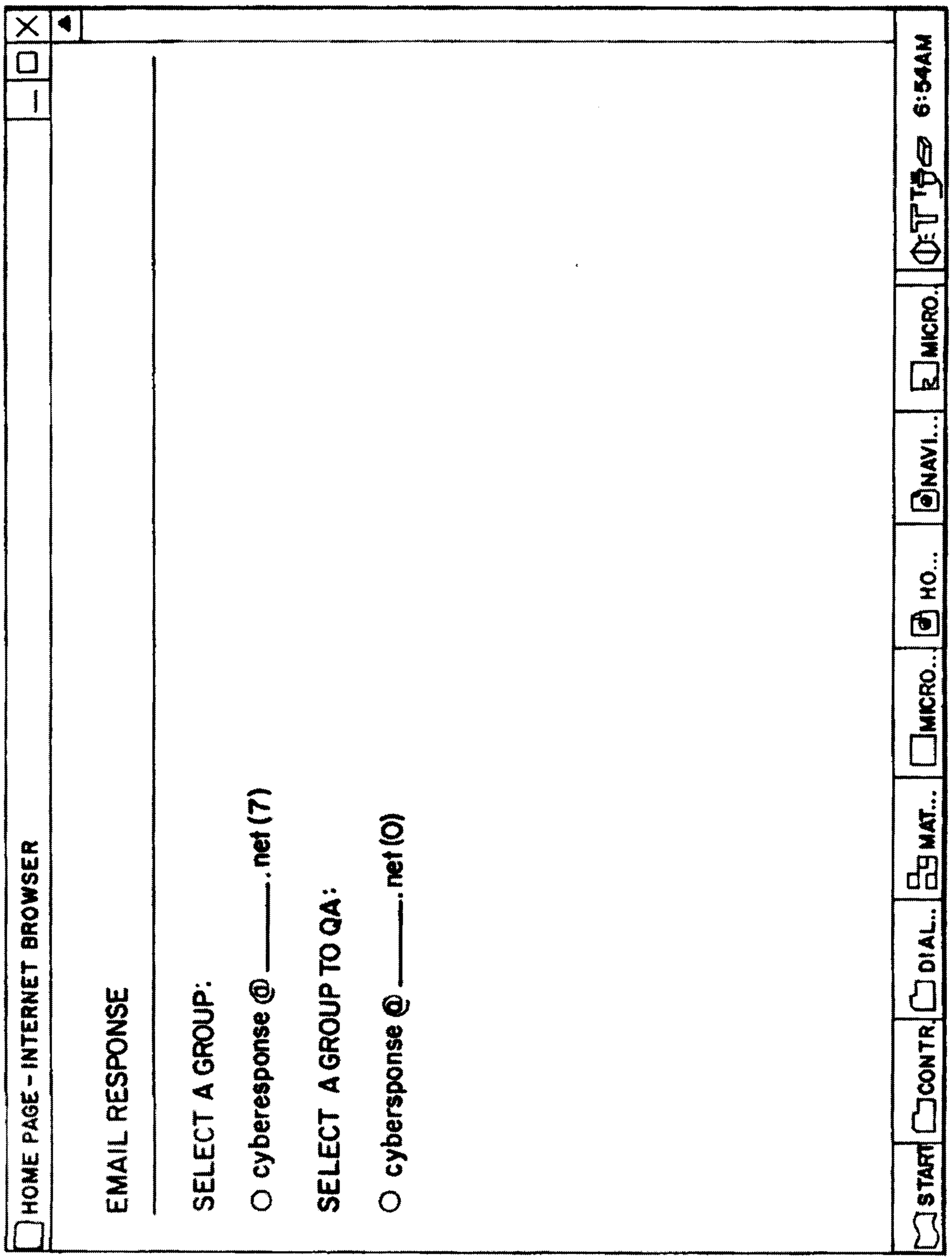

HOME PAGE - INTERNET BROWSER
EMAIL RESPONSE
SELECT A GROUP:
cyberesponse @ _____. net (7)
SELECT A GROUP TO QA:
cyberesponse @ _____. net (0)
START
6:54AM

FIG. 13

GROUP ADDRESS: cyberesponse@____.net

62

MESSAGE	RESPONSE	STATUS	ASSIGNED	RECEIVED	ORIGINATOR SUBJECT
○ 31	42	OPENED	JENNY BOTTS	3/24/1997	KARENMUSSON(kmusson@_.net) TEST FOR MARSHALL
○ 60	69	OPENED	SHERRI	3/27/1997	JENNYBOTTS(jbottse_.net) TEST 27
○ 66	84	OPENED	JENNYBOTTS	3/27/1997	JENNY BOTTS(jbotts@_.net) TEST 33
○ 69	78	OPENED	JERRY	3/27/1997	JENNY BOTTS(jbotts@_.net) TEST 36
○ 72	81	OPENED	MARSHALL	3/27/1997	JENNY BOTTS(jbotts@_.net) TEST 39
70 ○ 95	105	OPENED	SHERRI	4/14/1997	KARENMUSSON(kmusson@.net) CYBERESPONSE QUESTION
○ 129	139	OPENED	CKACMARSKY	4/24/1997	CHRISKACMARSKY(ckacmarsky TEST 12 @__.net)
○ 130	140	OPENED	ISD	4/24/1997	CHRISKACMARSKY(ckacmarsky TEST 13 @__.net)
○ 142	152	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM (bexam@_.net) TEST
○ 143	153	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM (bexam@_.net) TEST
○ 144	154	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM (bexam@_.net) TEST
○ 145	155	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM (bexam@_.net) TEST
○ 146	156	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM (bexam@_.net) TEST
○ 147	157	UNOPENED	UNASSIGNED	5/1/1997	BOB EXAM (bexam@_.net) TEST

64 QA MESSAGES

MESSAGE	RESPONSE	STATUS	ASSIGNED QA ASSIGNED	RECEIVED	ORIGINATOR SUBJECT
○ 148	158	FROM QA	ISD ISD	5/1/1997	BOB EXAM (bexam@__.net) TEST
149	159	PENDING QA	ISD UNASSIGNED	5/1/1997	BOB EXAM(bexam@_.net) TEST

66 EXPERT MESSAGES

MESSAGE	RESPONSE	STATUS	CSR ASSIGNED EXPERT	RECEIVED	ORIGINATOR SUBJECT
○ 153	163	FROM EXPERT	ISD SHERRI	5/5/1997	KARENMUSSON(kmussons@_.net) BUSINESS DIVISION QUESTION
○ 151	161	WAIT FOR EXPERT	ISD jbotts a__.net	5/2/1997	TEST(dwi@___.net) TEST

http://206.126.161.12/script/response/queued.idc

FIG. 14

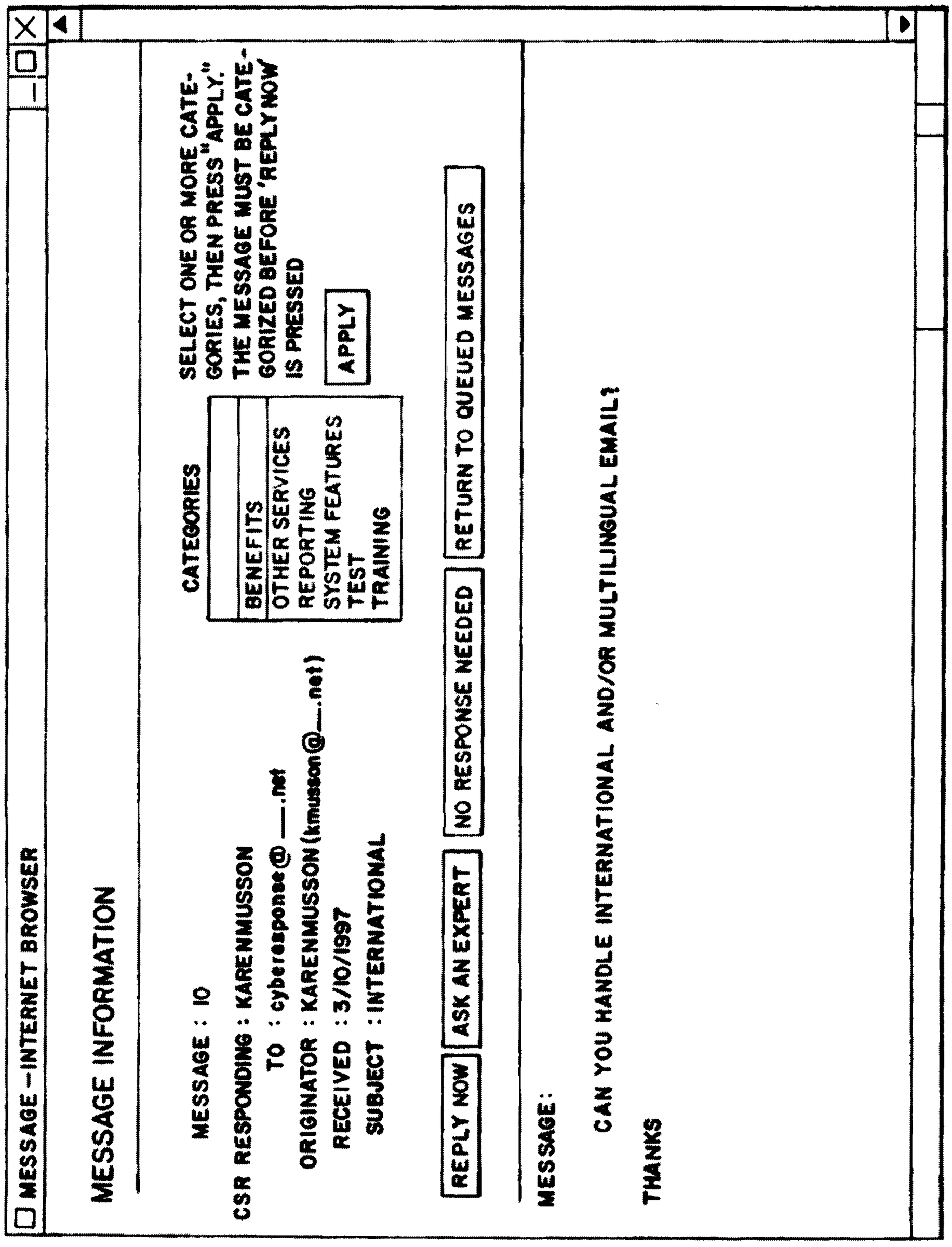

MESSAGE – INTERNET BROWSER
MESSAGE INFORMATION
MESSAGE : 10
CSR RESPONDING : KARENMUSSON
TO : cyberesponse@___.net
ORIGINATOR : KARENMUSSON(kmusson@___.net)
RECEIVED : 3/10/1997
SUBJECT : INTERNATIONAL
REPLY NOW
ASK AN EXPERT
NO RESPONSE NEEDED
RETURN TO QUEUED MESSAGES
MESSAGE:
CAN YOU HANDLE INTERNATIONAL AND/OR MULTILINGUAL EMAIL?
THANKS
CATEGORIES
BENEFITS
OTHER SERVICES
REPORTING
SYSTEM FEATURES
TEST
TRAINING
SELECT ONE OR MORE CATEGORIES, THEN PRESS "APPLY." THE MESSAGE MUST BE CATEGORIZED BEFORE 'REPLY NOW' IS PRESSED
APPLY

FIG. 15

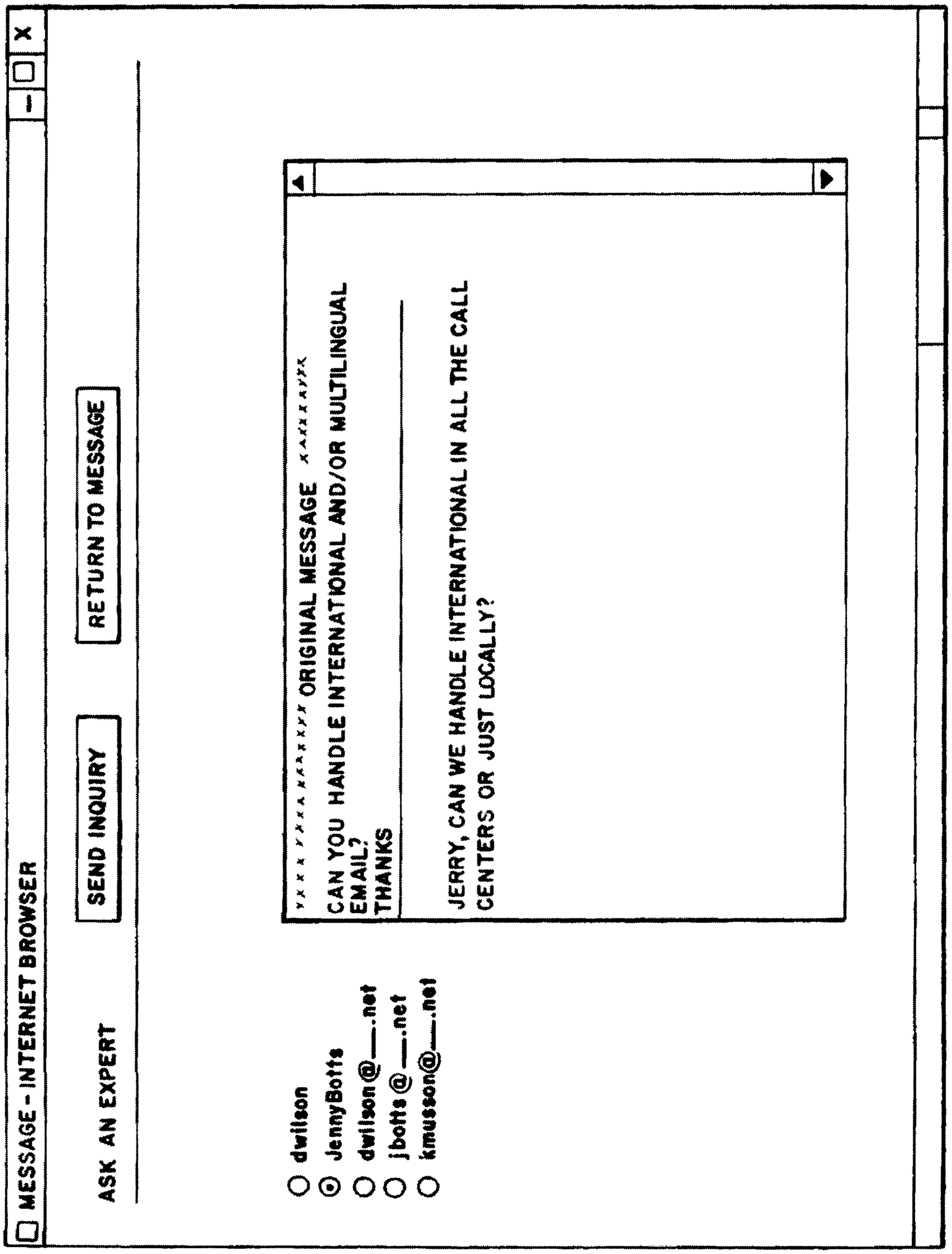

MESSAGE - INTERNET BROWSER
ASK AN EXPERT
dwilson
JennyBotts
dwilson@___.net
jbotts@___.net
kmusson@___.net
SEND INQUIRY
RETURN TO MESSAGE
XXXXXXXXXX ORIGINAL MESSAGE XXXXXX
CAN YOU HANDLE INTERNATIONAL AND/OR MULTILINGUAL EMAIL?
THANKS
JERRY, CAN WE HANDLE INTERNATIONAL IN ALL THE CALL CENTERS OR JUST LOCALLY?

FIG. 16

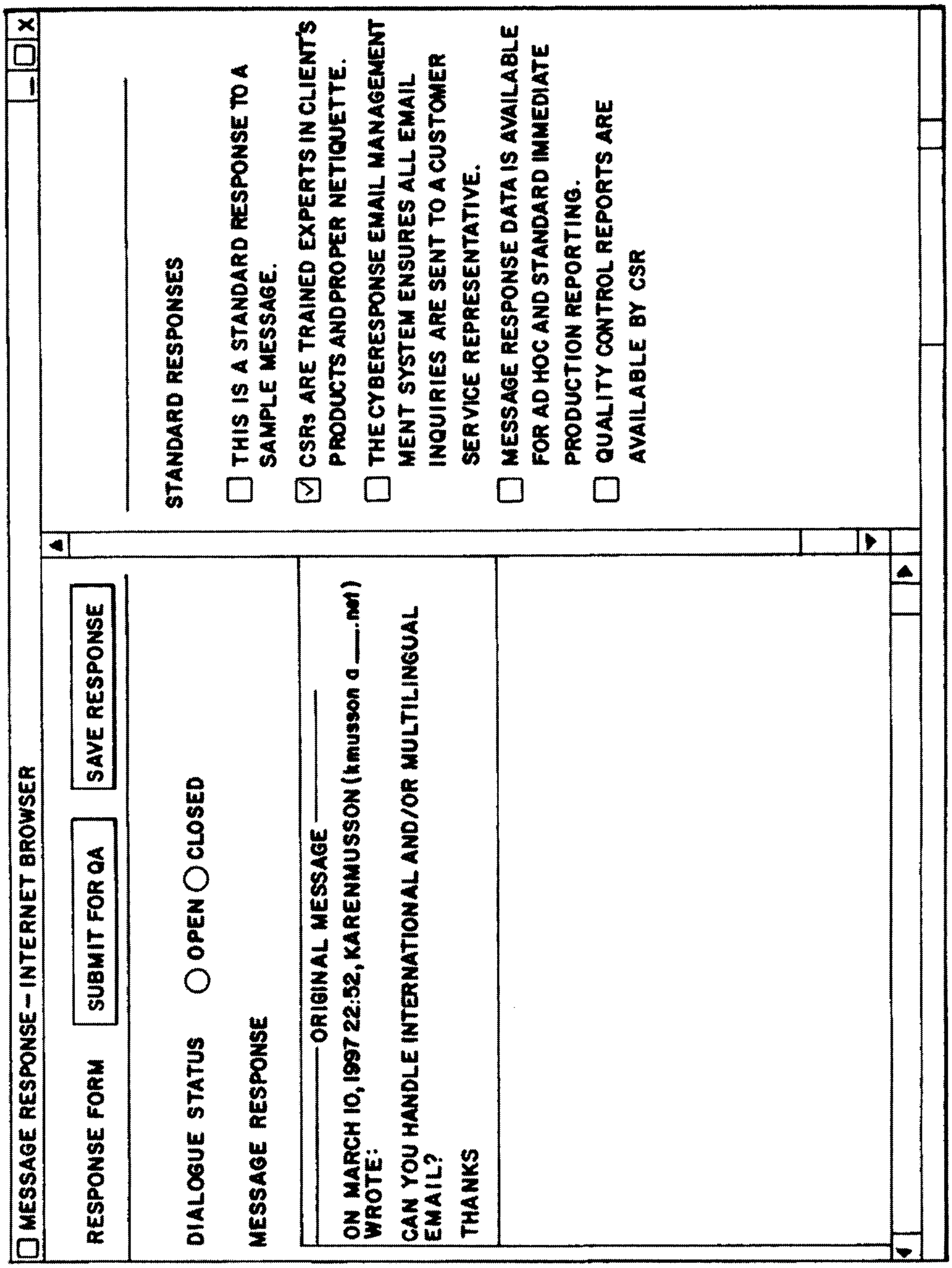

MESSAGE RESPONSE – INTERNET BROWSER
RESPONSE FORM
SUBMIT FOR QA
SAVE RESPONSE
DIALOGUE STATUS
OPEN
CLOSED
MESSAGE RESPONSE
STANDARD RESPONSES
THIS IS A STANDARD RESPONSE TO A SAMPLE MESSAGE.
CSRs ARE TRAINED EXPERTS IN CLIENT'S PRODUCTS AND PROPER NETIQUETTE.
THE CYBERESPONSE EMAIL MANAGEMENT SYSTEM ENSURES ALL EMAIL INQUIRIES ARE SENT TO A CUSTOMER SERVICE REPRESENTATIVE.
MESSAGE RESPONSE DATA IS AVAILABLE FOR AD HOC AND STANDARD IMMEDIATE PRODUCTION REPORTING.
QUALITY CONTROL REPORTS ARE AVAILABLE BY CSR
ORIGINAL MESSAGE
ON MARCH 10, 1997 22:52, KARENMUSSON (kmusson a ___.net) WROTE:
CAN YOU HANDLE INTERNATIONAL AND/OR MULTILINGUAL EMAIL?
THANKS

FIG. 17

GROUP ADDRESS: cyberesponse a _____.net

MESSAGE	RESPONSE	STATUS	ASSIGNED	RECEIVED	ORIGINATOR SUBJECT
○ 15	15	PENDING QA	SHERRI	3/11/1997	JENNYBOTTS(jbotts@____.com) RESPONSE TIME
○ 65	74	PENDING QA	DWILSON	3/27/1997	JENNYBOTTS(jbotts@____.net) TEST32
○ 68	77	PENDING QA	KARENMUSSON	3/27/1997	JENNYBOTTS(jbotts@____.net) TEST35
○ 73	82	PENDING QA	DWILSON	3/27/1997	JENNYBOTTS(jbotts@____.net) TEST 40
○ 75	85	PENDING QA	DWILSON	4/9/1997	DWILSON(dwilson@____.net) TEST
○ 76	86	PENDING QA	DWILSON	4/9/1997	DWILSON(dwilson@____.net) TEST 2
○ 77	87	PENDING QA	DWILSON	4/9/1997	DWILSON(dwilson@____.net) TEST 3
○ 148	158	PENDING QA	ISD	5/1/1997	BOB EXAM(bexam@____.net) TEST
○ 149	159	PENDING QA	ISD	5/1/1997	BOB EXAM(bexam@____.net) TEST

FIG. 18

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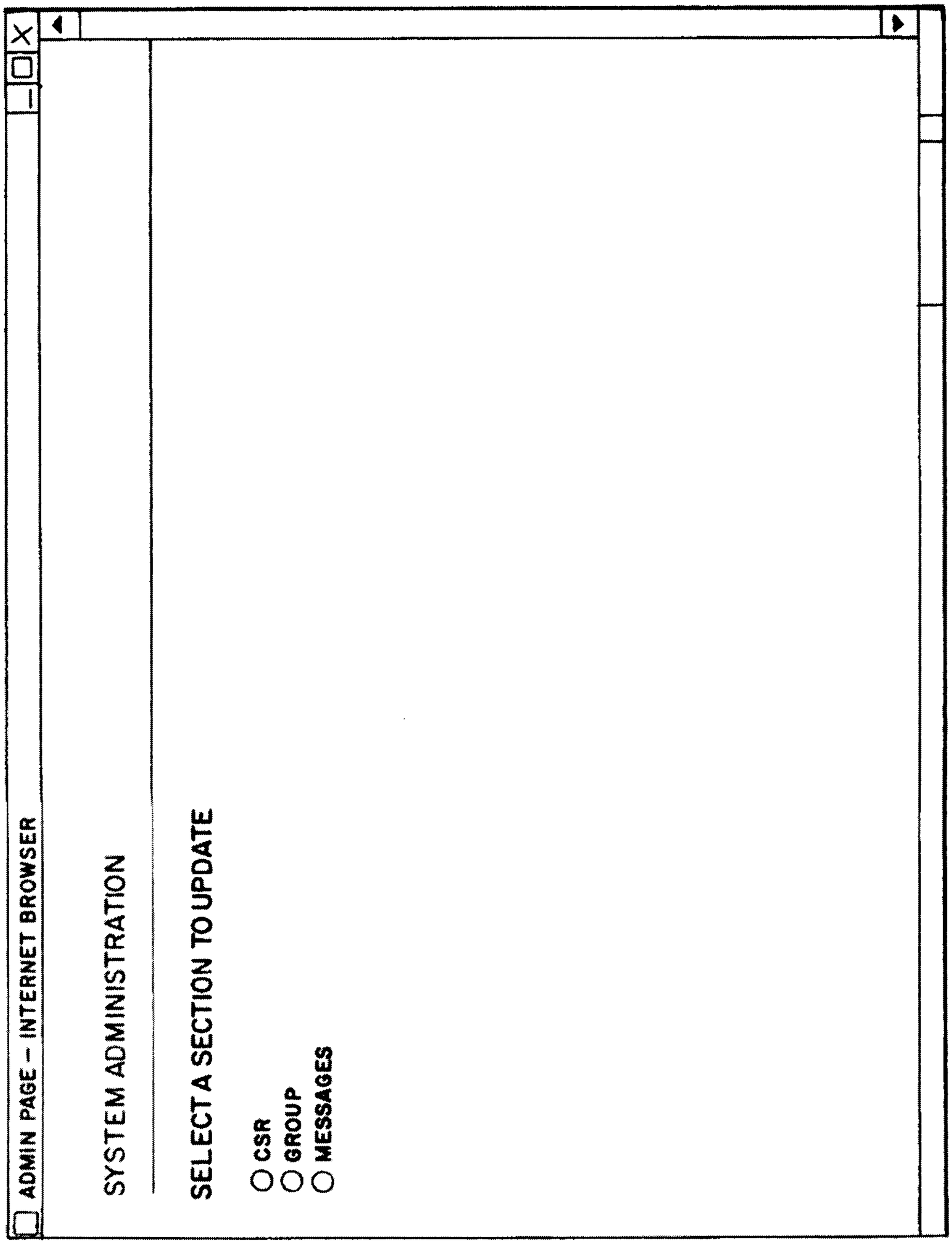
ADMIN PAGE – INTERNET BROWSER
SYSTEM ADMINISTRATION
SELECT A SECTION TO UPDATE
CSR
GROUP
MESSAGES

FIG. 19

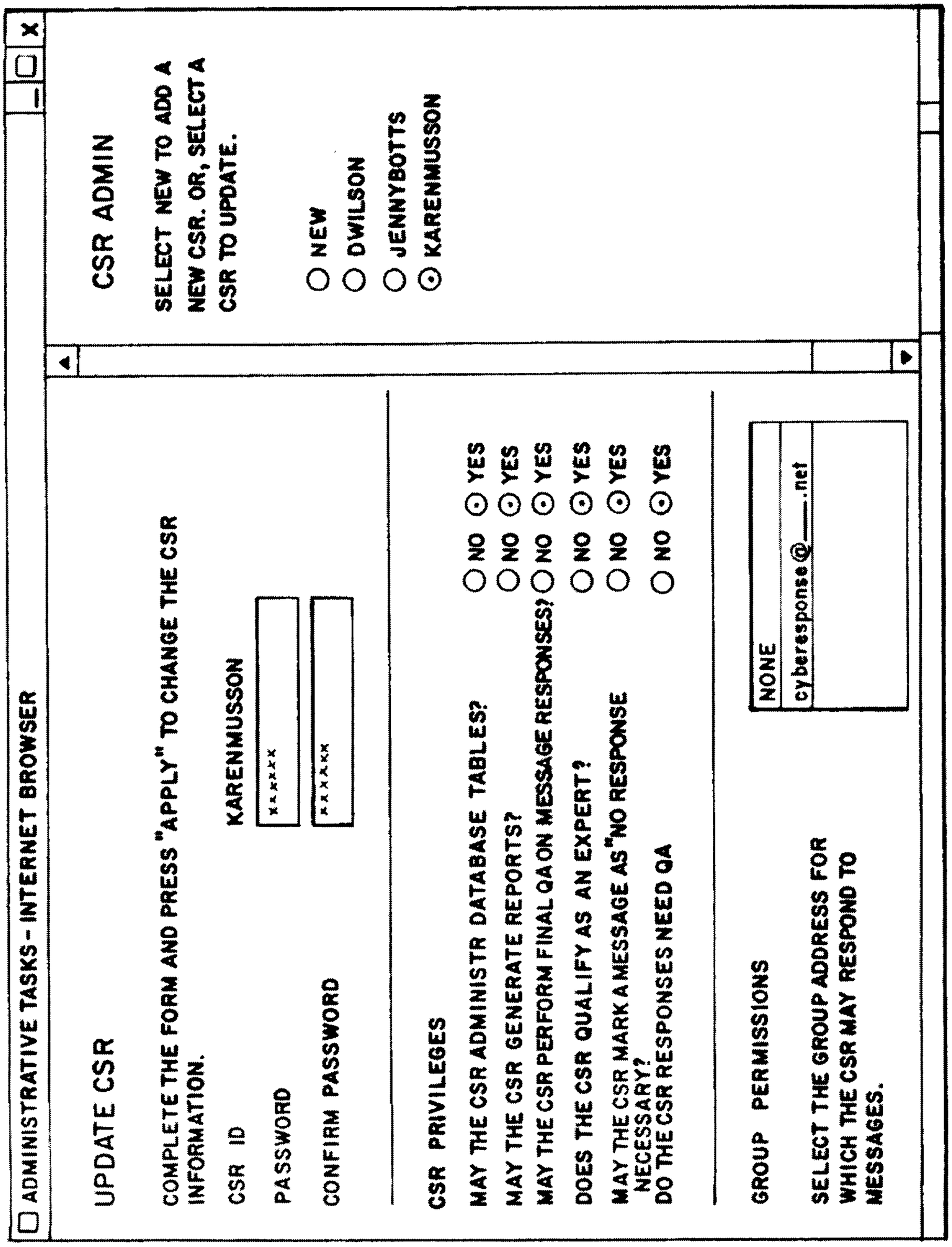
ADMINISTRATIVE TASKS – INTERNET BROWSER
UPDATE CSR
COMPLETE THE FORM AND PRESS "APPLY" TO CHANGE THE CSR INFORMATION.
CSR ID
KARENMUSSON
PASSWORD
CONFIRM PASSWORD
CSR PRIVILEGES
MAY THE CSR ADMINISTR DATABASE TABLES?
MAY THE CSR GENERATE REPORTS?
MAY THE CSR PERFORM FINAL QA ON MESSAGE RESPONSES?
DOES THE CSR QUALIFY AS AN EXPERT?
MAY THE CSR MARK A MESSAGE AS "NO RESPONSE NECESSARY?
DO THE CSR RESPONSES NEED QA
GROUP PERMISSIONS
SELECT THE GROUP ADDRESS FOR WHICH THE CSR MAY RESPOND TO MESSAGES.
NONE
cyberesponse@____.net
CSR ADMIN
SELECT NEW TO ADD A NEW CSR. OR, SELECT A CSR TO UPDATE.
NEW
DWILSON
JENNYBOTTS
KARENMUSSON

FIG. 20

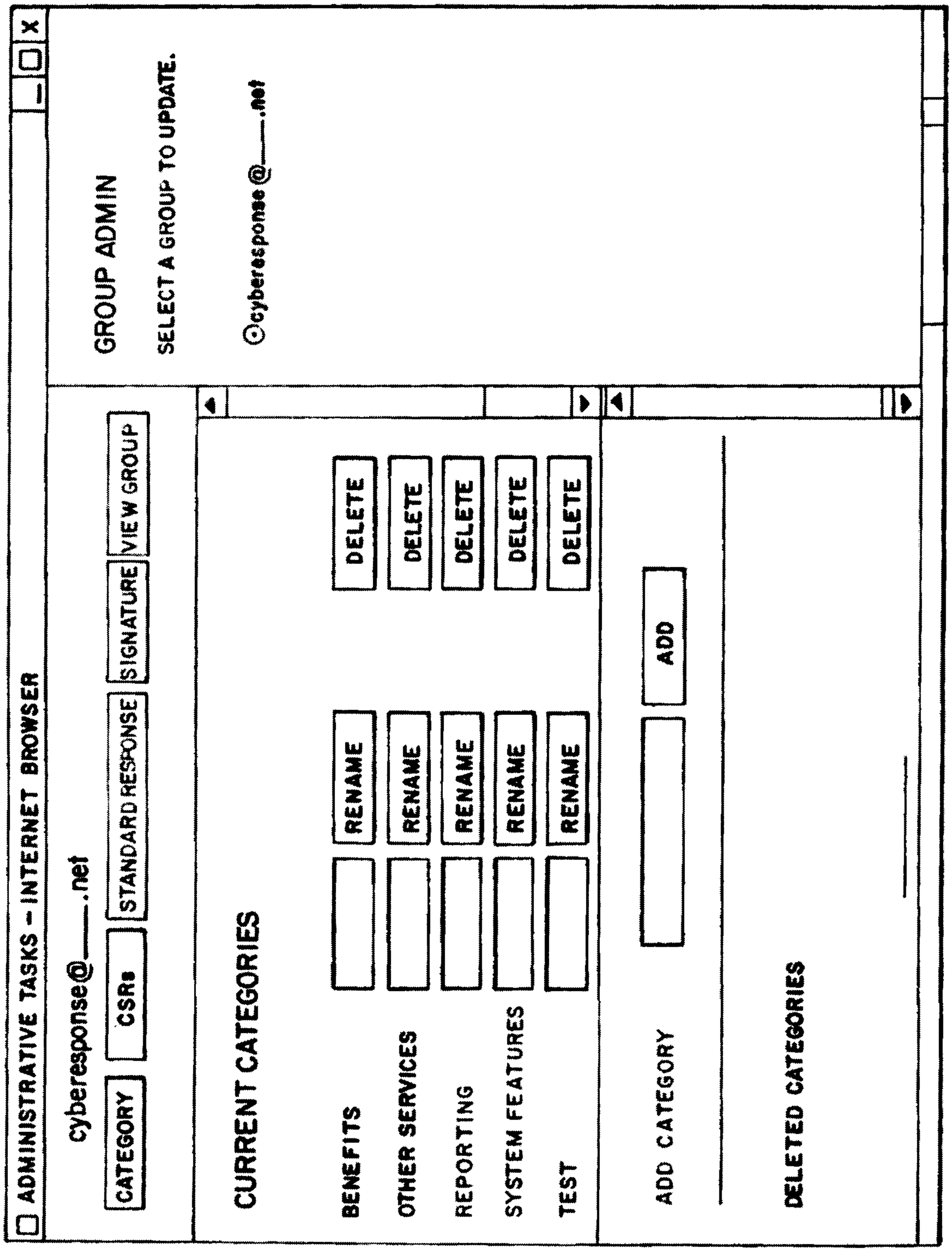
GROUP ADMIN
SELECT A GROUP TO UPDATE.
©cyberesponse @___.net
VIEW GROUP
SIGNATURE
STANDARD RESPONSE
DELETE
RENAME
ADD
ADMINISTRATIVE TASKS – INTERNET BROWSER
cyberesponse@___.net
CATEGORY
CSR
CURRENT CATEGORIES
BENEFITS
OTHER SERVICES
REPORTING
SYSTEM FEATURES
TEST
ADD CATEGORY
DELETED CATEGORIES

FIG. 21

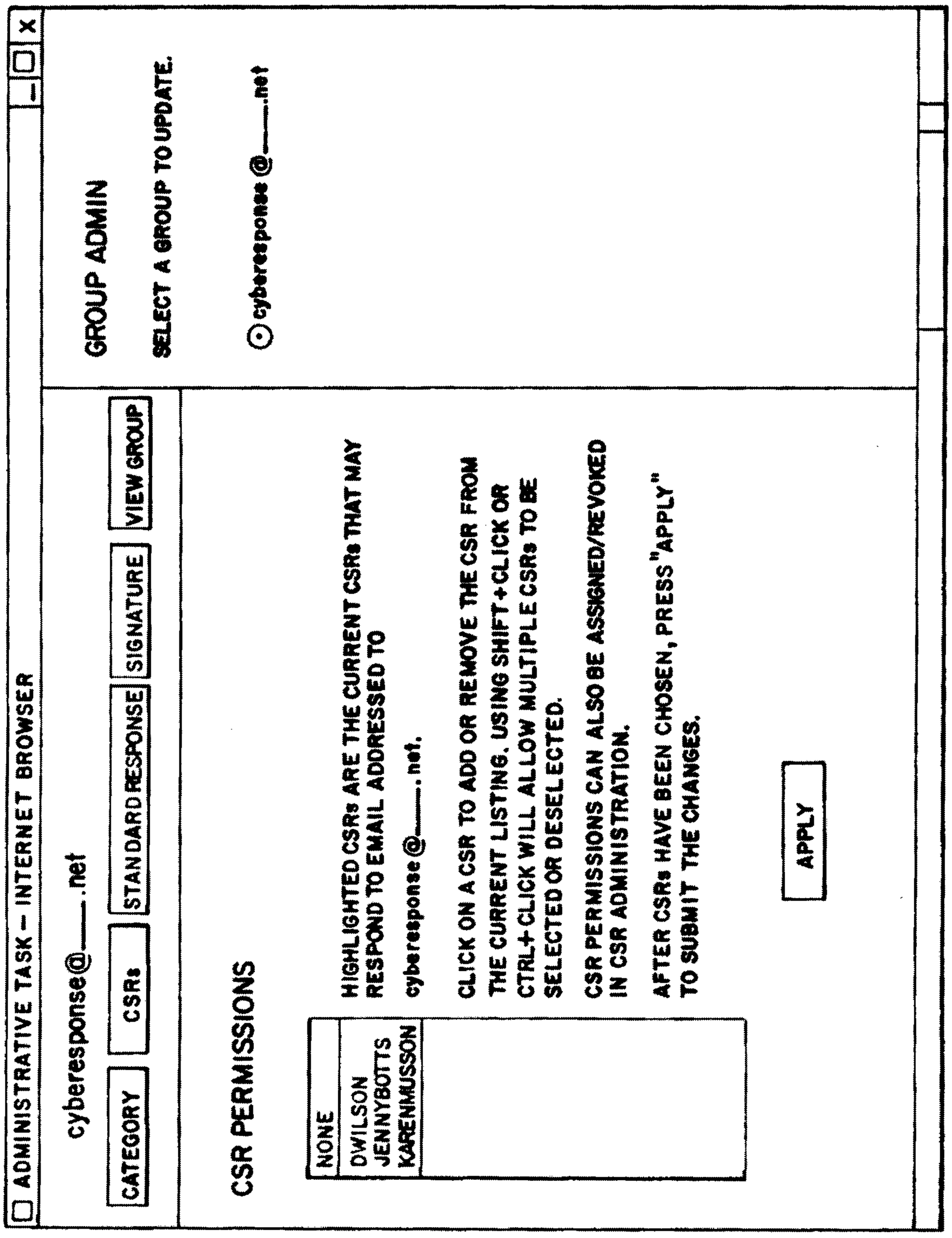
GROUP ADMIN
SELECT A GROUP TO UPDATE.
⊙ cyberesponse@____.net
ADMINISTRATIVE TASK – INTERNET BROWSER
cyberesponse@____.net
CATEGORY
CSRs
STANDARD RESPONSE
SIGNATURE
VIEW GROUP
CSR PERMISSIONS
HIGHLIGHTED CSRs ARE THE CURRENT CSRs THAT MAY RESPOND TO EMAIL ADDRESSED TO
cyberesponse@____.net.
CLICK ON A CSR TO ADD OR REMOVE THE CSR FROM THE CURRENT LISTING. USING SHIFT+CLICK OR CTRL+CLICK WILL ALLOW MULTIPLE CSRs TO BE SELECTED OR DESELECTED.
CSR PERMISSIONS CAN ALSO BE ASSIGNED/REVOKED IN CSR ADMINISTRATION.
AFTER CSRs HAVE BEEN CHOSEN, PRESS "APPLY" TO SUBMIT THE CHANGES.
NONE
DWILSON
JENNYBOTTS
KARENMUSSON
APPLY

FIG. 22

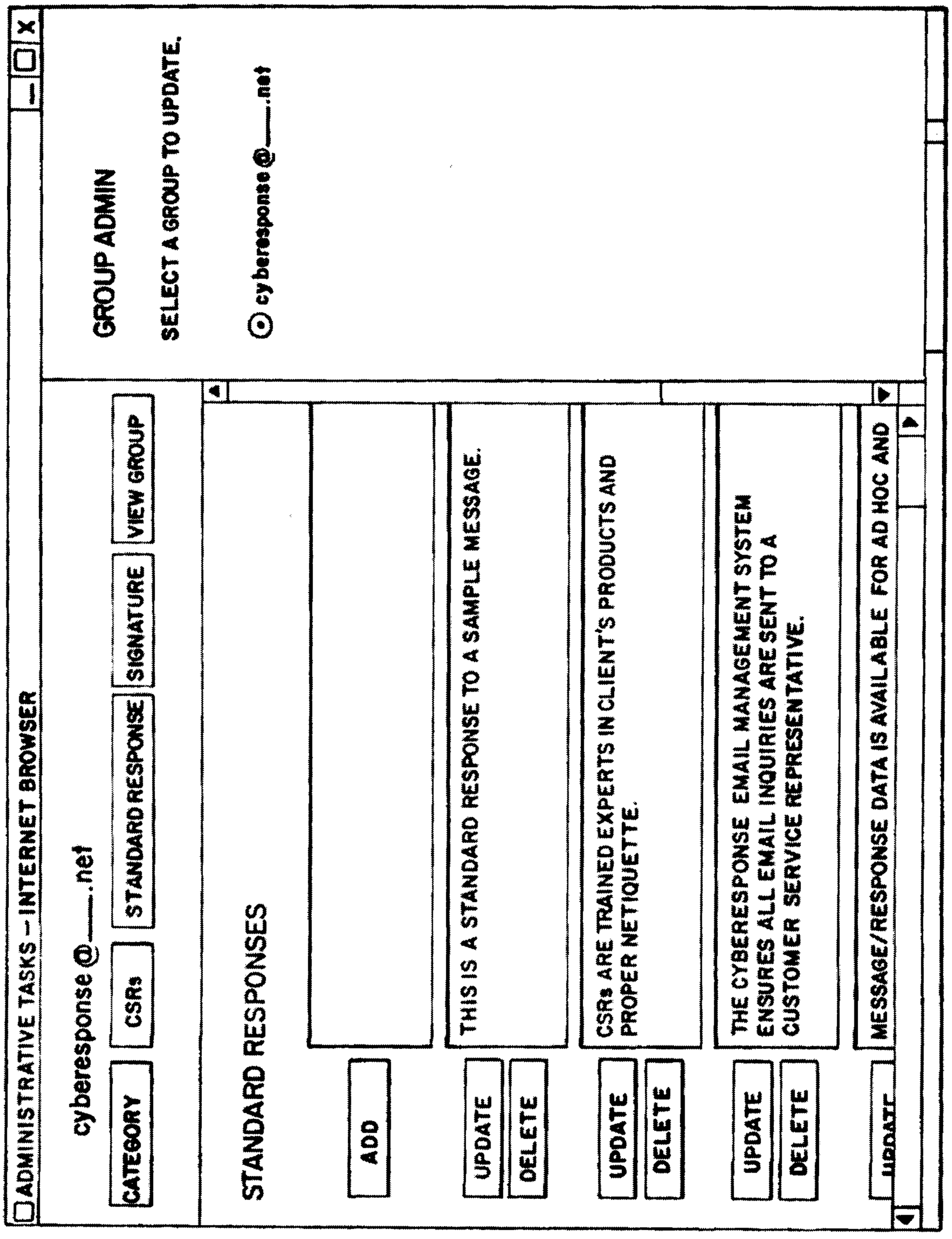
GROUP ADMIN
SELECT A GROUP TO UPDATE.
cyberesponse @___.net
ADMINISTRATIVE TASKS – INTERNET BROWSER
cyberesponse @___.net
CATEGORY
CSRs
STANDARD RESPONSE
SIGNATURE
VIEW GROUP
STANDARD RESPONSES
ADD
UPDATE
DELETE
THIS IS A STANDARD RESPONSE TO A SAMPLE MESSAGE.
CSRs ARE TRAINED EXPERTS IN CLIENT'S PRODUCTS AND PROPER NETIQUETTE.
THE CYBERESPONSE EMAIL MANAGEMENT SYSTEM ENSURES ALL EMAIL INQUIRIES ARE SENT TO A CUSTOMER SERVICE REPRESENTATIVE.
MESSAGE/RESPONSE DATA IS AVAILABLE FOR AD HOC

FIG. 23

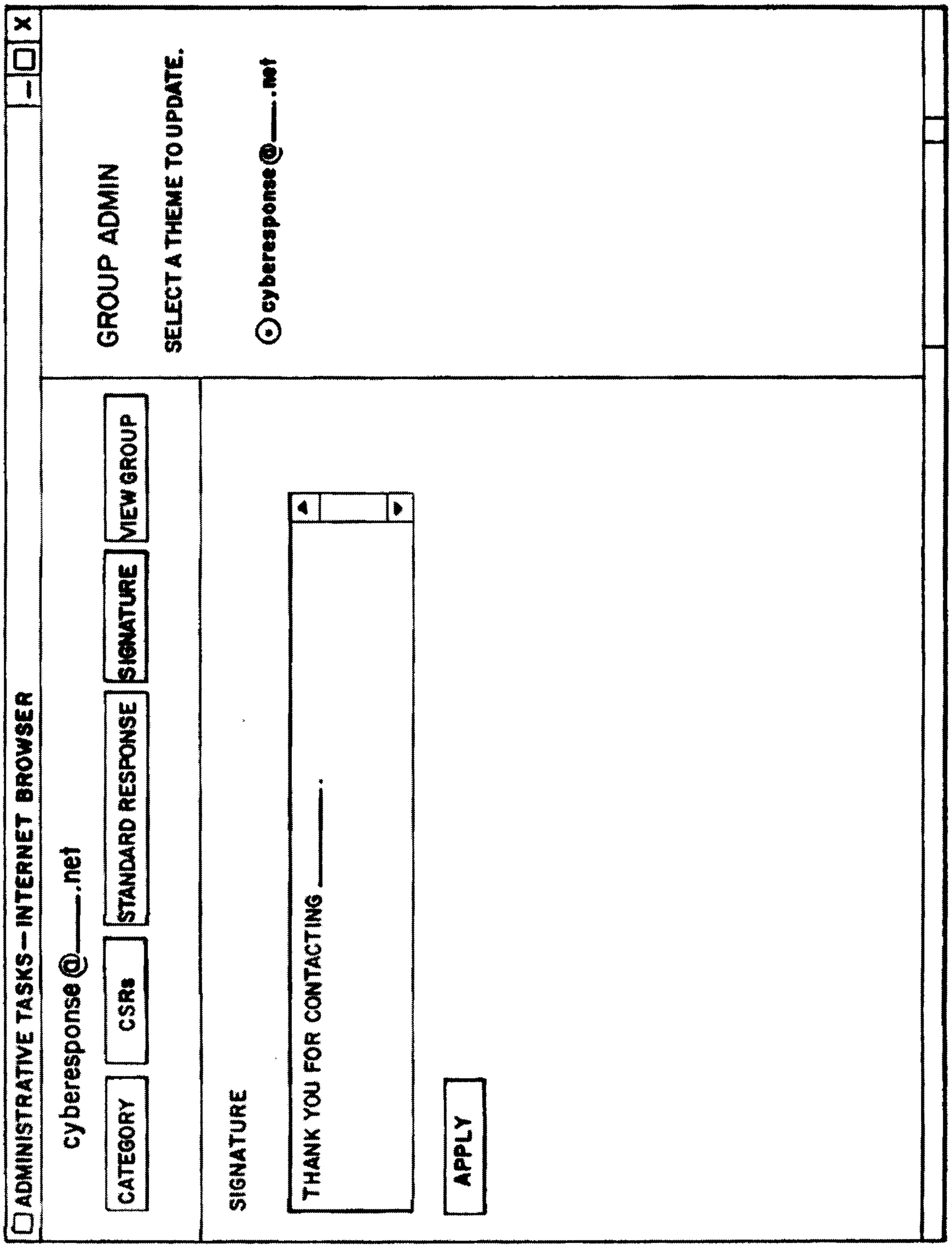
GROUP ADMIN
SELECT A THEME TO UPDATE.
cyberesponse@___.net
ADMINISTRATIVE TASKS — INTERNET BROWSER
cyberesponse @___.net
CATEGORY
CSRs
STANDARD RESPONSE
SIGNATURE
VIEW G
SIGNATURE
THANK YOU FOR C
R CONTACTING ___.
APPLY

FIG. 24

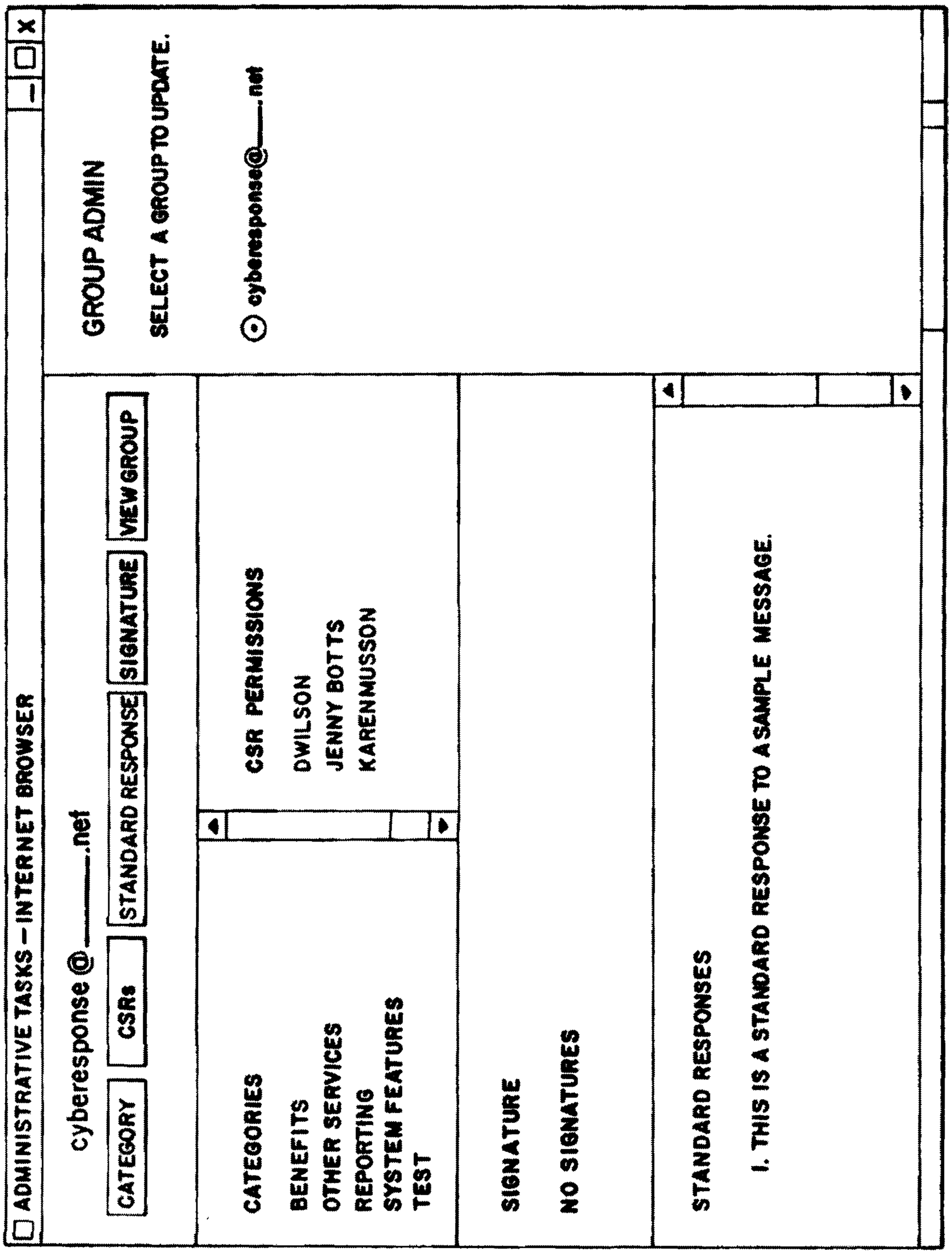
ADMINISTRATIVE TASKS – INTERNET BROWSER
cyberesponse@____.net
CATEGORY
CSRs
STANDARD RESPONSE
SIGNATURE
VIEW GROUP
CATEGORIES
BENEFITS
OTHER SERVICES
REPORTING
SYSTEM FEATURES
TEST
CSR PERMISSIONS
DWILSON
JENNY BOTTS
KARENMUSSON
SIGNATURE
NO SIGNATURES
STANDARD RESPONSES
1. THIS IS A STANDARD RESPONSE TO A SAMPLE MESSAGE.
GROUP ADMIN
SELECT A GROUP TO UPDATE.
cyberesponse@____.net

FIG. 25

REPORTS PAGE – INTERNET BROWSER

GENERATE REPORTS

SELECT A REPORT

REPORT NAME	REPORT CONTENTS
CATEGORY	• THE NUMBER OF RESPONSES PER CATEGORY
DAILY	• NUMBER OF MESSAGES RECEIVED AND RESPONSES SENT DURING A DAY. • NUMBER OF MESSAGES WITHIN AND EXCEEDING QUALITY ASSURANCE STANDARDS
NO RESPONSE NEEDED	• MESSAGES THAT HAVE BEEN MARKED AS NO RESPONSE NECESSARY
OPEN MESSAGE	• MESSAGES THAT HAVE AN OPEN DIALOGUE STATUS
QA	• MESSAGES TO CSRs REGARDING QA
REPLIES	• AN EMAIL MESSAGE

FIG. 26

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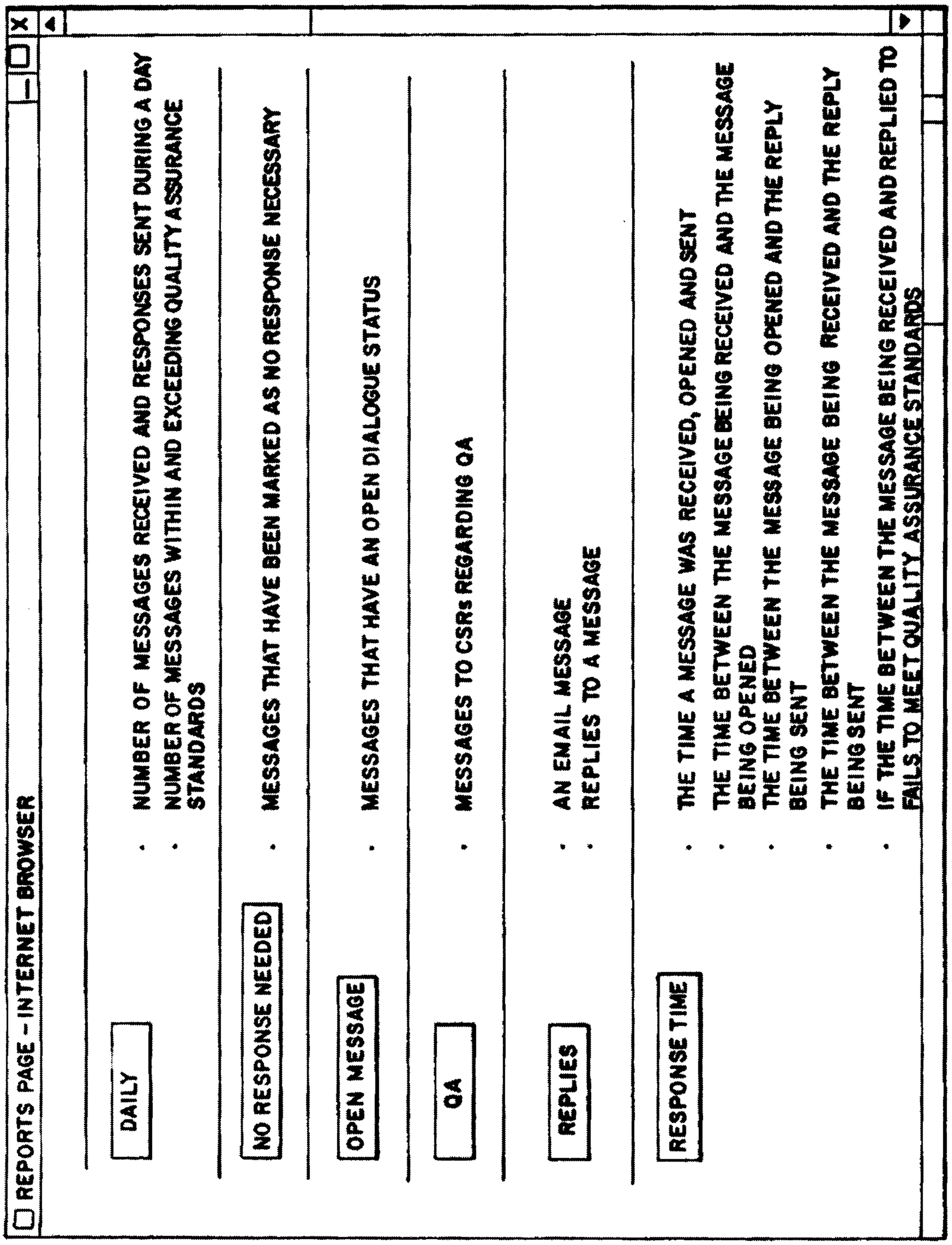
REPORTS PAGE – INTERNET BROWSER
DAILY
NUMBER OF MESSAGES RECEIVED AND RESPONSES SENT DURING A DAY
NUMBER OF MESSAGES WITHIN AND EXCEEDING QUALITY ASSURANCE STANDARDS
NO RESPONSE NEEDED
MESSAGES THAT HAVE BEEN MARKED AS NO RESPONSE NECESSARY
OPEN MESSAGE
MESSAGES THAT HAVE AN OPEN DIALOGUE STATUS
QA
MESSAGES TO CSRs REGARDING QA
REPLIES
AN EMAIL MESSAGE
REPLIES TO A MESSAGE
RESPONSE TIME
THE TIME A MESSAGE WAS RECEIVED, OPENED AND SENT
THE TIME BETWEEN THE MESSAGE BEING RECEIVED AND THE MESSAGE BEING OPENED
THE TIME BETWEEN THE MESSAGE BEING OPENED AND THE REPLY BEING SENT
THE TIME BETWEEN THE MESSAGE BEING RECEIVED AND THE REPLY BEING SENT
IF THE TIME BETWEEN THE MESSAGE BEING RECEIVED AND REPLIED TO FAILS TO MEET QUALITY ASSURANCE STANDARDS

FIG. 27

NO RESPONSE NEEDED REPORT QUERY FORM — INTERNET BROWSER

NO RESPONSE NEEDED REPORT

COMPLETE THE FORM TO INDICATE THE GROUP ADDRESS AND THE TIME FRAME FOR THE REPORT TO BE GENERATED

1. SELECT A GROUP ADDRESS

⊙ cyberesponse @_____.net

2. SELECT A DATE RANGE (DATE RECEIVED)

FROM: MARCH 10 1997

TO: MARCH 11 1997

SUMMARY REPORT

FIG. 28

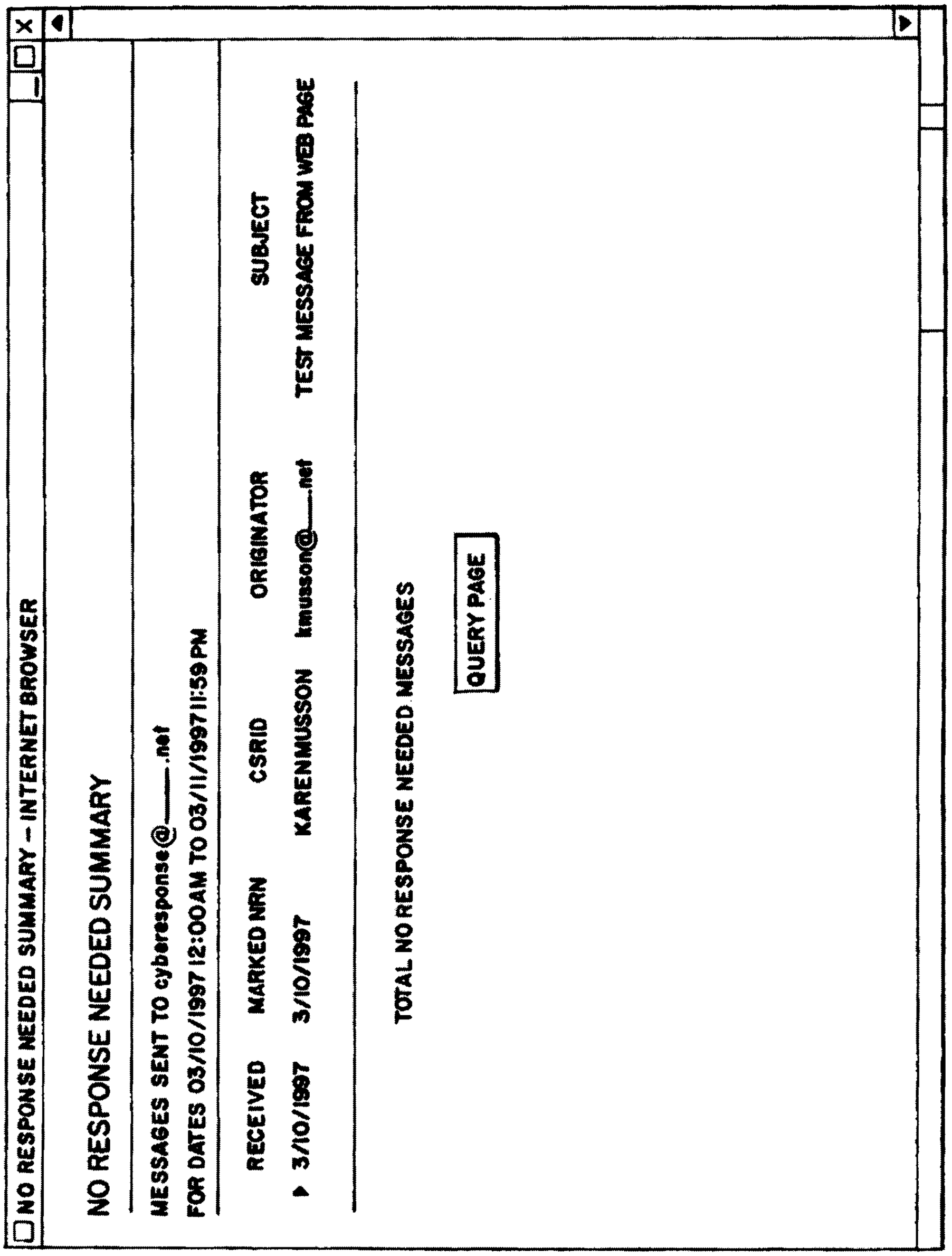
NO RESPONSE NEEDED SUMMARY -- INTERNET BROWSER
NO RESPONSE NEEDED SUMMARY
MESSAGES SENT TO cyberesponse@____.net
FOR DATES 03/10/1997 12:00AM TO 03/11/1997 11:59 PM
RECEIVED
MARKED NRN
CSRID
ORIGINATOR
SUBJECT
3/10/1997
KARENMUSSON
kmusson@____.net
TEST MESSAGE FROM WEB PAGE
TOTAL NO RESPONSE NEEDED MESSAGES
QUERY PAGE
NO RESPONSE NEEDED

FIG. 29

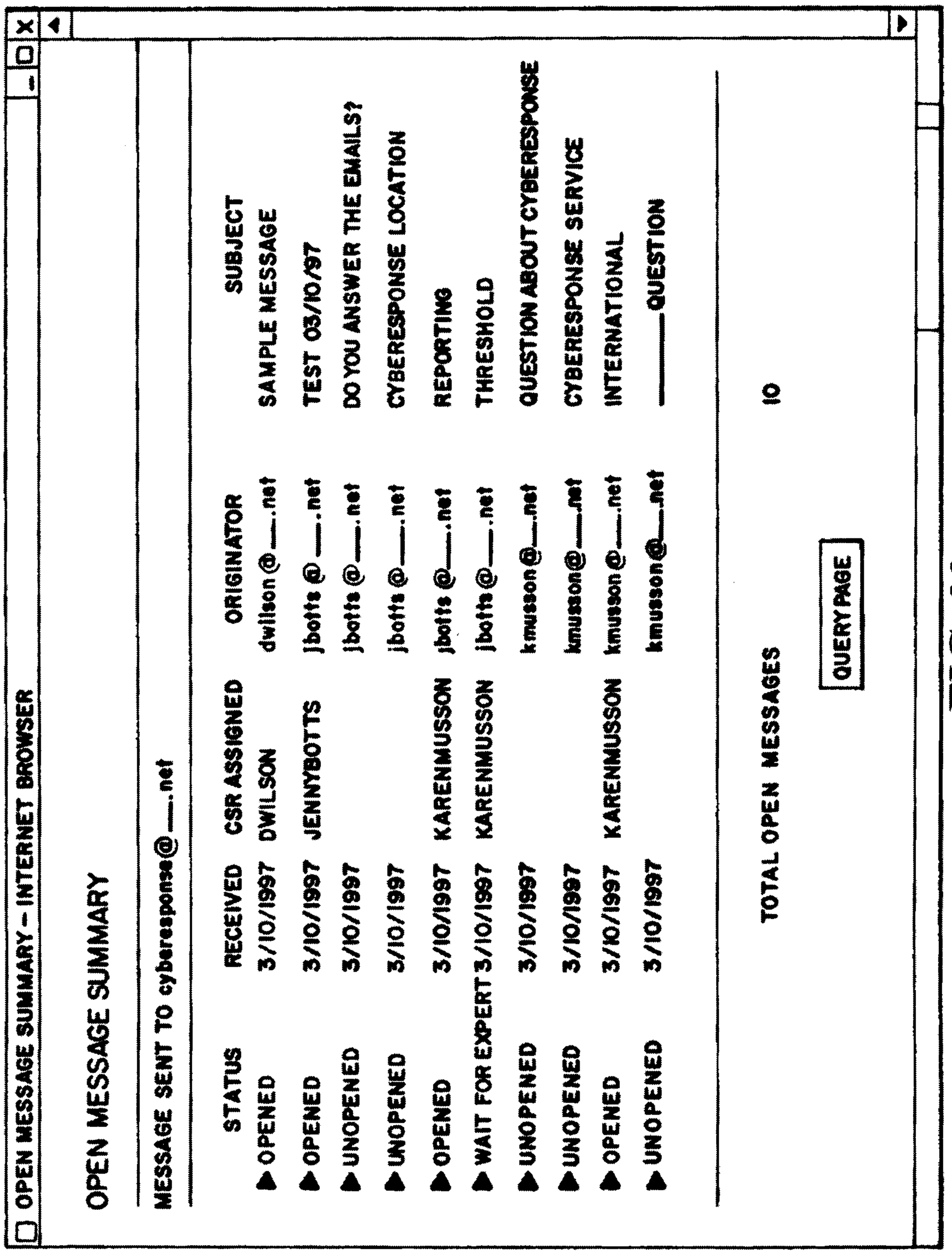
OPEN MESSAGE SUMMARY – INTERNET BROWSER
OPEN MESSAGE SUMMARY
MESSAGE SENT TO cyberesponse@___.net
STATUS
RECEIVED
CSR ASSIGNED
ORIGINATOR
OPENED 3/10/1997 DWILSON dwilson@___.net
OPENED 3/10/1997 JENNYBOTTS jbotts@___.net
UNOPENED 3/10/1997 jbotts@___.net
UNOPENED 3/10/1997 jbotts@___.net
OPENED 3/10/1997 KARENMUSSON jbotts@___.net
WAIT FOR EXPERT 3/10/1997 KARENMUSSON jbotts@___.net
UNOPENED 3/10/1997 kmusson@___.net
UNOPENED 3/10/1997 kmusson@___.net
OPENED 3/10/1997 KARENMUSSON kmusson@___.net
UNOPENED 3/10/1997 kmusson@___.net
TOTAL OPEN MESSAGES
QUERY PAGE
SUBJECT
SAMPLE MESSAGE
TEST 03/10/97
DO YOU ANSWER THE EMAILS?
CYBERESPONSE LOCATION
REPORTING
THRESHOLD
QUESTION ABOUT CYBERESPONSE
CYBERESPONSE SERVICE
INTERNATIONAL
QUESTION
10

FIG. 30

REPLIES REPORT

COMPLETE FORM TO INDICATE THE MESSAGE ADDRESSES, THE CSR, THE TIME FRAME FOR WHICH THE REPORT IS TO BE GENERATED. PRESS "GET REPORT" TO RETRIEVE THE REPORT.

MESSAGES SENT TO

ALL ADDRESSES
cyberesponse@_____.com

CSR

ALL CSRs
JENNYBOTTS
KARENMUSSON

FOR DATES:

⊙ RANGE (THE DATE(S) MESSAGE WAS RECEIVED)

FROM: SEPTEMBER 1 1996

TO: SEPTEMBER 30 1996

○ CUMULATIVE

GET REPORT

FIG. 31

RESPONSE TIME REPORT

COMPLETE THE FORM TO INDICATE THE MESSAGE ADDRESS AND THE TIME FRAME FOR THE REPORT TO BE GENERATED.

MESSAGES SENT TO

⊙ cyberesponse@_____.com

FOR DATES:

⊙ RANGE (THE DATE(S) THE MESSAGE WAS RECEIVED)

FROM: AUGUST 1 1996

TO: SEPTEMBER 30 1996

○ CUMULATIVE

QA STANDARD

ENTER THE ACCEPTABLE NUMBER OF HOURS BETWEEN A MESSAGE BEING RECEIVED AND A REPLY BEING SENT:

48

GET REPORT

FIG. 32

RESPONSE TIME REPORT

MESSAGES SENT TO cyberesponse@____.com
QA STANDARD: MORE THAN 48 HOURS BETWEEN MESSAGE RECEIPT AND REPLY EXCEEDS STANDARD
ALL DATES

SUMMARY

QA STANDARD

31 OF 31 RECORDS (100%) WITHIN QA STANDARD
0 OF 31 RECORDS (0%) EXCEED QA STANDARD

TIME BETWEEN RECEIVED AND OPENED

AVERAGE: 8 HOURS
TOTAL: 236 HOURS
MAXIMUM: 93 HOURS
MINIMUM: 0 HOURS

TIME BETWEEN OPENED AND REPLIED

AVERAGE: 0 HOURS
TOTAL: 1 HOURS
MAXIMUM: 1 HOURS
MINIMUM: 0 HOURS

TIME BETWEEN RECEIVED AND REPLIED

AVERAGE: 1 HOURS
TIME: 28 HOURS
MAXIMUM: 3 HOURS
MINIMUM: 0 HOURS

FIG. 33

DETAIL

MESSAGE NUMBER	RECEIVED	OPENED	REPLIED	TIME (IN HOURS) BETWEEN RECEIVED & OPENED	OPENED & REPLIED	RECEIVED & REPLIED
54	Sep 23 1996 16:43					
57	Sep 25 1996 15:56	Sep 25 1996	Sep 25 1996	1	0	1
58	Sep 25 1966 17:38	Sep 25 1996	Sep 25 1996	1	0	1
59	Sep 25 1996 18:41	Sep 25 1996	Sep 25 1996	0	0	0
60	Sep 25 1996 18:51	Sep 25 1996	Sep 25 1996	1	0	1
61	Sep 25 1996 19:04	Sep 25 1996	Sep 25 1996	0	0	0
62	Sep 25 1996 19:10	Sep 25 1996	Sep 25 1996	0	0	0
63	Sep 26 1996 08:19	Sep 26 1996	Sep 26 1996	1	1	2
64	Sep 26 1996 08:19	Sep 26 1996	Sep 26 1996	0	0	0
65	Sep 26 1996 10:05	Sep 26 1996	Sep 26 1996	0	0	0
66	Sep 26 1996 10:24	Sep 26 1996	Sep 26 1996	0	0	0
67	Sep 26 1996 13:39	Sep 26 1996	Sep 26 1996	2	0	2
68	Sep 26 1996 13:40	Sep 30 1996		91		
69	Sep 26 1996 13:42	Sep 26 1996	Sep 26 1996	2	0	
70	Sep 26 1996 13:45	Sep 26 1996	Sep 26 1996	2	0	
71	Sep 26 1996 13:46	Sep 27 1996		19		
72	Sep 26 1996 13:52	Sep 26 1996	Sep 26 1996	2	0	
73	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	
74	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	3	0	
75	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	
76	Sep 26 1996 13:56	Sep 26 1996		2		
77	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	
78	Sep 26 1996 13:56	Sep 30 1996		93		
79	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	
80	Sep 26 1996 13:56	Sep 26 1996	Sep 26 1996	2	0	

FIG. 34

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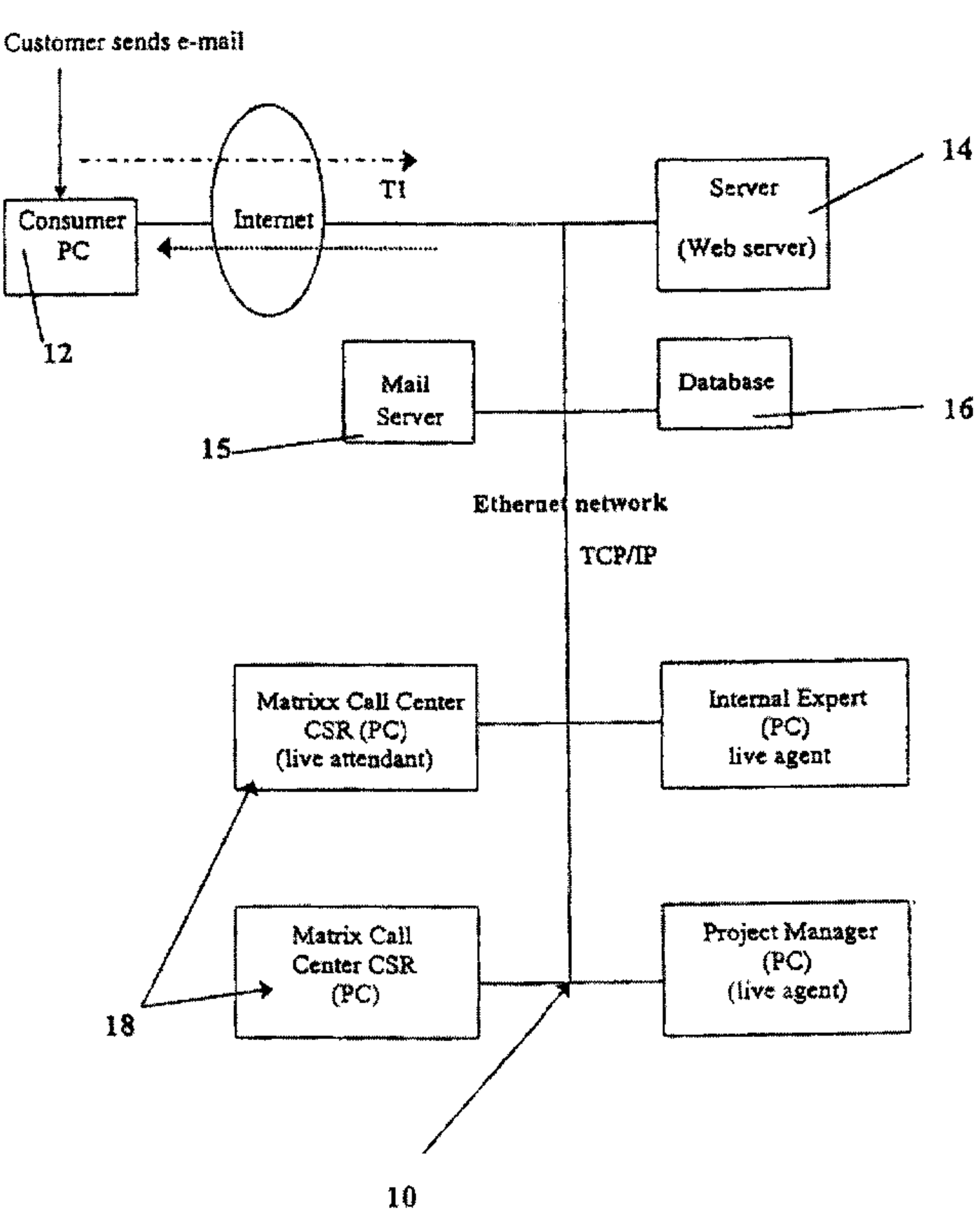
Customer sends e-mail
T1
Consumer PC
Internet
Server (Web server)
14
12
Mail Server
15
Database
16
Ethernet network
TCP/IP
Matrixx Call Center CSR (PC) (live attendant)
Internal Expert (PC) live agent
Matrix Call Center CSR (PC)
Project Manager (PC) (live agent)
18
10