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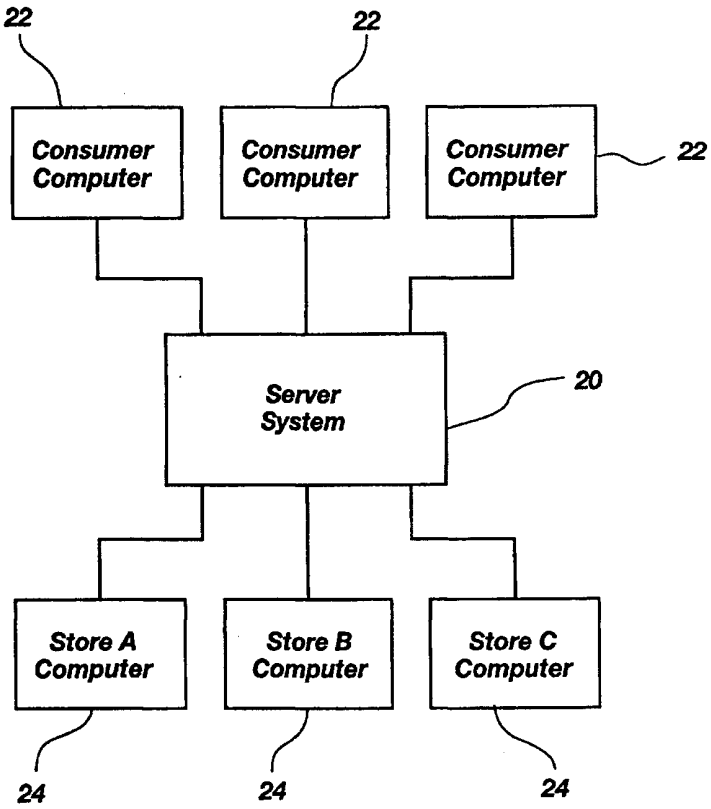

(57) Abstract: Systems and methods are disclosed for facilitating electronic commerce over a global communications network. A method of providing electronic commerce over a global communications network includes the step of browsing a first web site where the first web site is offering items for sale. The first web site is operated by a first company that also is affiliated with a physical store. The method includes the step of a consumer or user selecting an option to shop the physical store via the global communications network. In addition, the method includes the step of offering to the user, by a server system, the ability to search for the availability of a certain item at the physical store. As a result, the server system performs the step of searching a database of items available at the physical store for the certain item requested. The method for providing electronic commerce also includes the step of offering to the user, by the server system, the ability to purchase the certain item from the physical store. The method further includes the step of communicating to the physical store information describing the certain item. The information may include the method of payment and means of fulfillment.

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ELECTRONIC COMMERCE SYSTEM AND METHODS WITH GLOBAL INFORMATION ACCESSIBLE AND WITH SPECIFIC INFORMATION AND CONTROL AVAILABLE

BACKGROUND

The Field of the Invention

This invention relates to computer technology and commerce and, more particularly, to novel systems and methods for providing electronic commerce.

The Background Art

In recent years there has been a great increase in the amount of computer technology that is involved in daily life. In today's world, computer technology is involved in many aspects of a person's day. Many devices being used today by consumers have a small computer inside of the device. These small computers come in varying sizes and degrees of sophistication. These small computers include everything from one microcontroller to a fully-functional complete computer system. For example, these small computers may be a one-chip computer, such as a microcontroller, a one-board type of computer, such as a controller, a typical desktop computer, such as an IBM-PC compatible, etc.

The computers, (which can be small or large computers depending on the particular need which is being met by the computer), almost always have one or more processors at the heart of the computer. The processor(s) usually are interconnected to different external inputs and outputs and function to manage the particular device. Computer software runs the processors of these computers and tells the processors what to do to carry out certain tasks.

With the explosion of computer technology, communications technology and the Internet, there has been a great increase in the amount of business being conducted electronically. The World Wide Web portion of the Internet is an example of the increase of business being conducted electronically. Many businesses now have web

sites for purchasing products. Some of these businesses do not even have conventional stores that a consumer could physically visit, but only have an electronic presence on the Internet. Other businesses, which are usually the older and more established businesses, have vast networks of conventional stores that consumers can physically visit. A number of these businesses with many conventional stores have attempted to establish electronic storefronts, but find it difficult to effectively implement electronic commerce without hurting the sales of its conventional stores and damaging relationships with these stores and/or its distribution channels.

BRIEF SUMMARY AND OBJECTS OF THE INVENTION

In view of the foregoing, it is an object of the present invention to provide systems and methods for effectively utilizing the benefits of electronic commerce while also using the existing and conventional stores.

Consistent with the foregoing object, and in accordance with the embodiments as embodied and broadly described herein, systems and methods are disclosed for providing electronic commerce over a global communications network. A method for providing electronic commerce over a global communications network may include the step of browsing a first web site where the first web site is offering items for sale. The first web site may be operated by a first company that also is affiliated with a physical store. The method may also include the step of a consumer or user selecting an option to shop the physical store via the global communications network. In addition, the method may include the step of offering to the user, by a server system, the ability to search for the availability of a certain item at the physical store. As a result, the server system may perform the step of searching a database of items available at the physical store for the certain item requested. The method for providing electronic commerce may also include the step of offering to the user, by the server system, the ability to purchase the certain item from the physical store. The method may further include the step of communicating to the physical store information describing the certain item. The information may include the method of payment and means of fulfillment.

The embodiments herein provide systems and methods for effectively utilizing the benefits of electronic commerce while also using the existing and conventional stores.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects and features of the present embodiments will become more fully apparent from the following description and appended claims, taken in conjunction with the accompanying drawings. Understanding that these drawings depict only typical embodiments and are, therefore, not to be considered limiting of the invention's scope, the embodiments will be described with additional specificity and detail through use of the accompanying drawings in which:

Figure 1 is block diagram of the major hardware components included in the embodiments;

Figure 2 is block diagram of the major components included in the embodiments that utilize the Internet;

Figure 3 is a block diagram illustrating various electronic communication means used with embodiments disclosed;

Figure 4 is a block diagram illustrating an embodiment's topology;

Figure 5 is a block diagram illustrating an embodiment's topology;

Figure 6 is block diagram of the major hardware components included in an embodiment of a computer;

Figure 7 is block diagram of the major software components included in an embodiment of a consumer computer;

Figure 8 is block diagram of the major software components included in an embodiment of a server computer;

Figure 9 is block diagram of the major software components included in an embodiment of a store computer;

Figure 10 is block diagram illustrating the fields used by an embodiment of a database;

Figure 11 is a flow diagram illustrating steps followed in an embodiment;

Figure 12 is a flow diagram illustrating steps followed in an embodiment;

Figure 13 is a flow diagram illustrating steps followed in an embodiment and illustrating optional steps of either having a product shipped or reserved;

Figure 14 illustrates an embodiment where a particular company has a web site and one or more physical store locations;

Figure 15 illustrates an embodiment of the enabling system shown in Figure 14;

Figure 16 illustrates an embodiment of a store location including an embodiment of a store computer; and

Figure 17 is a hybrid block diagram and flow diagram illustrating overall operation of an embodiment used to facilitate a transaction.

DETAILED DESCRIPTION

It will be readily understood that the components of the embodiments, as generally described and illustrated in the Figures herein, could be arranged and designed in a wide variety of different configurations. Thus, the following more detailed description of the embodiments of the systems and methods disclosed, as represented in the Figures, is not intended to limit the scope of the invention, as claimed, but is merely representative of the presently preferred embodiments.

The presently preferred embodiments will be best understood by reference to the drawings, wherein like parts are designated by like numerals throughout.

Systems and methods are disclosed for providing electronic commerce over a global communications network. The global communications network may be the Internet, the Internet 2 or any other large public-access computer network. A method for providing electronic commerce over a global communications network may include the step of browsing a first web site where the first web site is offering items for sale. The first web site may be operated by a first company that also is affiliated with a physical store. The method may also include the step of a consumer or user selecting an option to shop the physical store via the global communications network. In addition, the method may include the step of offering to the user, by a server system, the ability to search for the availability of a certain item at the physical store. As a result, the server system may perform the step of searching a database of items

available at the physical store for the certain item requested. The method for providing electronic commerce may also include the step of offering to the user, by the server system, the ability to purchase the certain item from the physical store. The method may further include the step of communicating to the physical store information describing the certain item. The information may include the method of payment and means of fulfillment.

A method practiced in accordance with the disclosed embodiments may optionally include the step of instructing the physical store to decrement the item from the physical store's inventory. In addition, the method may include the step of instructing the physical store to prepare the certain item for the user.

A method is also disclosed for facilitating commerce for a first company through use of a global communications network, where the first company operates a plurality of stores at various locations, and where a facilitator will facilitate the commerce. The facilitator is a person, company, organization or the like that enables the sale of items from the stores to a consumer via the global communications network. The facilitator provides at least one of the systems and methods as described herein to provide electronic communication between a consumer and a store or stores. This method may include the step of arranging with the first company to provide that the facilitator will interact with the first company on the global communications network. In addition, the method may also include the step of arranging with the first company to provide that the facilitator will have electronic communication with the plurality of stores. A first company web site may be coordinated with a facilitator web site such that commerce involving the plurality of stores may be achieved through use of the facilitator web site. Further, the method may include the step of installing a store computer for a store of the plurality of stores. When installing the store computer, communications may be established between the store computer and a point of sale system in the store. In addition, communications between the store computer and a server system may also be established. Further, the method may include the step of communicating inventory data from the store computer to the server system.

A method practiced in accordance with the disclosed embodiments may optionally include the step of initiating a search of the inventory data for a certain item. The initiation of the search causes a search of the inventory data for the certain item to be performed. Methods may also include the step of offering the ability to purchase the certain item from the store. Further, information describing the certain item may be communicated to the store.

The facilitator may generate revenue from facilitating sales and commerce. For example, methods practiced in accordance with the disclosed embodiments may optionally include the step of determining a commission for facilitating each sale and of deducting the commission from a purchase price of each sale. The first company may be regularly billed for the commission.

Referring to Figure 1, as shown, generally, an embodiment includes a server system 20 that facilitates electronic commerce between consumers and stores. The consumers use computers 22 to communicate with the server system 20. The consumer computers 22 may be any computer capable of communication with the server system 20 to allow useful transactions, as disclosed herein.

The server system 20 is in electronic communication with the consumer computers 22 to allow useful transactions to take place. The consumer computers 22 may be in various kinds of communication with the server system 20. For example, a consumer computer 22 may use a modem to directly dial the server system 20, it 22 may use a modem to connect to the Internet, which may also be in communication with the server system 20, it 22 may be connected to a LAN that is also connected to the server system 20, etc. It will be appreciated by one skilled in the art that there are a number of ways to achieve communication between two computers, and that these various ways could be implemented in the embodiments disclosed herein.

The electronic communication between the consumer computer 22 and the server system 20 need not be continuous. Typically, a consumer will establish electronic communication with the server system 20 when he or she desires. Thus, a consumer may only be connected for short periods of time when he or she is actually requesting information from and interacting with the server system 20. However, it

will be appreciated that consumers may also be in situations where their computer is in constant electronic communication with the server system 20 and/or a computer network. For example, a consumer computer 22 connected to a LAN may always be in electronic communication with the server 20 if the server 20 were also continuously connected to the LAN.

The server system 20 is also in electronic communication with store computers 24 to allow useful transactions to take place. The store computers 24 may be in various kinds of communication with the server system 20. For example, a store computer 24 may use a modem to directly dial the server system 20, it 24 may use a modem to connect to the Internet, which may also be in communication with the server system 20, it 24 may be connected to a LAN that is also connected to the server system 20, etc. It will be appreciated by one skilled in the art that there are a number of ways to achieve communication between two computers, and that these various ways could be implemented in the embodiments disclosed herein.

The electronic communication between the store computer 24 and the server system 20 need not be continuous. Typically, a store will systematically establish electronic communication with the server system 20 to update its status and to receive communication from the server system 20. Thus, a store computer 24 may only be connected for short periods of time when it is actually updating the server system 20, requesting information from and interacting with the server system 20. It will be appreciated that there may be situations where the store computers 24 would be in constant electronic communication with the server system 20 and/or a computer network. For example, a store computer 24 may be connected to a WAN which may always be in electronic communication with the server 20 if the server 20 were also continuously connected to the WAN.

Referring to Figure 2, an embodiment is illustrated that uses the Internet in its implementation. Figure 2 also illustrates that various kinds of consumer computers 22 may be used with the embodiment. For example, a consumer may use an in-store kiosk 22a to interact with the server system 20. As shown, the in-store kiosk 22a may be connected to the Internet 28 to facilitate communication between the consumer at

the in-store kiosk 22a and the server system 20. In-store kiosks 22a are well known in the art, and commercially available kiosks have the hardware needed to establish an Internet connection.

Figure 2 also illustrates that personal computers 22b may be used with these embodiments. Many businesses and homes already have the necessary hardware, software and services to connect to the Internet 28. Accordingly, those skilled in the art will appreciate that establishing an Internet connection with personal computers 22b is well known in the art.

Recently several companies have introduced cellular phones capable of accessing the Internet. These phones are commonly referred to as web phones 22c. A consumer may use a web phone 22c to interact with the server system 20. As illustrated, almost any computer capable of establishing electronic communication could be used with the embodiments disclosed herein. For example, a personal digital assistant (not shown) capable of establishing electronic communication with another computer could also be used with the embodiments. A Web TV (not shown) could also be used with the embodiments herein.

As shown, the consumer computers 22 include client software 26 capable of interacting with the server system 20. Typically with an embodiment using the Internet 28 as a means of communication, a web browser would be used as the client software 26. However, proprietary programs and other programs could also be used as the client software 26. It will be appreciated by those skilled in the art that there are a number of client-server packages and/or systems available for implementing and establishing a client-server communication network. The client software 26c used with web phones 22c is not a typical web browser, although the web-phone client 26c has been programmed to behave similarly to a web browser.

As shown, the server system 20 facilitates electronic commerce between consumers and stores. In the embodiment of Figure 2, the server system 20 includes a number of components. These components will be more fully disclosed herein. Briefly, however, the server system 20 may include a server computer 30. Computers capable of acting as server computers 30 are well known in the art. The server

computer 30 includes server software 32 for receiving and processing requests received from the consumer computers 22 client software 26. The server computer 32 also includes collection software 34 for managing the data being transmitted to and received from the store computers 24.

This embodiment illustrates the server computer 30 being in electronic communication with the consumer computers 22 via the Internet 28. It will be appreciated that other kinds of communications methods may be used between the consumer computers 22 and the server computer 30.

The electronic communication between the consumer computer 22 and the server computer 30 need not be continuous. In the embodiment shown in Figure 2, the in-store kiosk 22a is usually connected to the Internet 28. However, the personal computer 22b may only establish communication via the Internet 28 when the consumer, using its Internet service provider, establishes a connection. Another personal computer 22b may have the luxury of being continually connected to the Internet 28. For example, a personal computer 22b may be connected to a LAN which is continuously connected to the Internet 28. The web phone 22c typically only establishes connections with the Internet 28 when the user of the web phone 22c so desires.

It is preferred that the server computer 30 be continuously connected to the Internet 28, when possible. To service the many requests that will be received by consumers, the server computer 30 should normally be connected to the Internet 28. However, the embodiments as shown herein will also perform their functions if the server computer 30 establishes its connections periodically. It is desired that the server computer 30 connect to the Internet 28 often enough to adequately service consumers requesting information. It will be appreciated by those skilled in the art that consumers may not be willing to wait for long periods of time for information to arrive at their computers 22. In the embodiment of Figure 2, the server computer 30 is continually on the Internet 28 via a high-speed communications line.

The store computers 24 may be in various kinds of communication with the server computer 30. For example, a store computer 24 may use a modem to directly

dial the server computer 30, it 24 may use a modem to connect to the Internet 28, which may also be in communication with the server computer 30, it 24 may be connected to a LAN that is also connected to the server computer 30, etc. It will be appreciated by one skilled in the art that there are a number of ways to achieve communication between two computers, and that these various ways could be implemented in the embodiments disclosed herein.

The embodiment of Figure 2 illustrates various stores 23 being connected to the Internet 28. As shown, store A 23a may include a store A computer 24a on its premises. The store A computer 24a may include the necessary communication hardware and software to establish an Internet connection. There are commercially available computers equipped to act as a store computer 24. For example, the Netra T-1 computer, available from Sun Microsystems, can be used as the store computer. Another computer that may be used as a store computer 24 is a Hewlett Packard 9000 Series A-Class server. The store computer 24 will be more fully discussed herein. Store B 23b also includes a computer 24b for connecting to the Internet.

There may be situations where the actual computer 24 being used by the store 23 is off site. As shown in Figure 2, store C's computer 24c is off-site. Store C 23c may have all of its computer needs provided by an off-site facility. In the embodiment of Figure 2, store C 23c is in electronic communication with the store C computer 24c to update various pieces of data being stored thereon.

Now referring to Figure 3, an embodiment is illustrated that uses several kinds of electronic communication to establish connections with consumers and stores. The embodiment of Figure 3 uses the Internet 28 to communicate with some computers, which may be either store computers 24 or consumer computers 22. In addition, Figure 3 illustrates that the server system 20 may also be connected to a gateway computer 36 that allows access to an intranet 38. The intranet 38 may be the intranet 38 of a particular business or organization. By being in communication with the intranet 38, users of the intranet 38 will typically have access to the server system 20.

Also shown in Figure 3 is a LAN 40. The server system 20 is also in electronic communication with the LAN 40 thereby facilitating electronic

communication between the server system 20 and the users of the LAN 40. The server system 20 may also include a modem bank 42 allowing users to dial in directly to the server system 20. Figure 3 has thus illustrated that there are a number of ways that consumers and stores may establish electronic communication with the server system 20.

The server system 20 may comprise a plurality of computers. Figure 4 illustrates a server system 20 comprised of a number of computers. It will be appreciated by those skilled in the art that, depending upon the demands placed on the present embodiments, it may be necessary to increase the capacity of the server system 20 by using a number of computers to achieve the functions of the server system 20.

In the embodiment shown in Figure 4, a dispatch server 44 first receives communications from the consumer computers 22. The dispatch server 44 locates a server computer 30a to receive and process the request from the consumer computers 22. A number of factors may be considered by the dispatch server 44 to decide on which server computer 30 should be chosen. For example, the traffic being handled by the server computer 30, the geographic area of the server computer 30, the history of the particular consumer and the availability of the server computer 30 are all factors that may be considered. Using several servers to service requests is well known in the art.

The embodiment of Figure 4 includes a plurality of store manager computers 46. Each store manager computer 46 is in electronic communication with a number of store computers 24 and operates to send, receive and process information to and from the store computes 24. Each store manager computer 46 stores the information received from the store computers 24 in a database 48.

A master database computer 50 has access to all the databases 48, database 1 48a through N 48c. Accordingly, to access information from store computers 24, a server computer 30 may query the database master 50. The database master computer 50 may then query the plurality of database computers 48 to access the desired information.

A store master computer 52 may also be used to send and receive information and commands to the store managing computers 46, which in turn may send and receive information and commands to the store computers 24.

Now referring to Figure 5, an embodiment may a include plurality of dispatch servers 44a, 44b. In addition, back-up dispatch servers 44c, 44d, or redundant dispatch servers 44c, 44d, may also be used to act as a back up to the dispatch servers 44a, 44b.

The dispatch servers 44a, 44b may receive the first request from the consumer computers 22 and may then select an appropriate server 30 to interact with and service the consumer computer 22 requests. In the embodiment of Figure 5, web servers 31 may be employed and used. Once the dispatch server 44a, 44b selects an appropriate web server 31, the consumer then interacts with the particular web server 31.

A plurality of web servers 31 are in electronic communication with a database server and disk farm 54. The database server and disk farm 54 stores various pieces of information being received from and sent to the store computers 24.

The embodiment of Figure 5 may be divided into regions 56. Each region 56 may include dispatch servers 44 and a plurality of web servers 31. As shown, the plurality of web servers 31 may be in electronic communication with a database server and disk farm 54.

The regions 56 may be chosen in a way that best suits the business needs of the provider. For example, the regions 56 may be chosen based on geographic area. For example, one region 56a may be implemented to serve the needs of the United States, while another region 56b may be chosen and implemented to serve the needs of Europe. On a more refined scale, regions 56 may be chosen based on product types, brand names, costs, etc. It will be appreciated by those skilled in the art that the embodiments herein may be configured in a variety of ways to best serve the needs of the consumers and of the businesses.

Figure 6 illustrates an embodiment of the major components of a computer that may be used with the embodiments disclosed herein. The computer of Figure 6 may be used as either a consumer computer 22, a store computer 24, a server

computer 30, or the like. Computers are well-known in the art and are readily available for purchase. The computer typically includes a processor 58, a memory 60 (e.g., RAM), a long-term storage device 62 (e.g., hard drive, CD-RW drive, etc.), input devices 64 (e.g., keyboard, mouse, keypad, switches, touch screens, etc.), output devices 66 (e.g., monitors, printers, speakers, LCDs, etc.), a sound card 68 for driving any speakers, a video card 70 for driving any output displays and communications components 72 (e.g., modem, network card, communications port, etc.) As discussed many different kinds of computers can be used with the present invention, including personal computers, workstations, personal digital assistants, cellular phones, web TVs, in-store kiosks, etc.

The computers herein are broadly defined digital computers. A computer, as used herein, is any device that includes a digital processor capable of receiving and processing data. A computer includes the broad range of digital computers including microcontrollers, hand-held computers, personal computers, servers, mainframes, supercomputers, and any variation, combination or related device thereof.

The input and output devices include any component, element, mechanism, appliance, or the like capable of receiving and/or generating an electronic signal.

Figure 7 illustrates the software components that may be used with the embodiments herein on a consumer computer 22. An operating system 74 may be installed and running on the consumer computer 22. The consumer computer 22 may also be running client software 76 to communicate with the server computer 30. The client software 76 may access various other data/software components when used, such as, for example, configuration data 78, client libraries 80, client plug-ins 82, history data 84, etc.

In an embodiment, the client software 76 may be a web browser, such as Microsoft's Internet Explorer or Netscape Navigator. As known in the art, these browsers can use and call libraries 80 and plug-ins 82. In addition, a browser accesses configuration 78 to configure itself for the particular user. In addition, the browser may store history data 84 to indicate where the user has been on the Internet 28 and what activities have taken place.

It will be appreciated by those skilled in the art that other client software 76 may be used with the embodiments herein and that the Internet 28 and world wide web are not the only means for communications with the present invention. Although other means of communication are available and can be used, it is preferred that the Internet 28 be used.

Figure 8 illustrates software components that may be used with the server computer 30. An operating system 86 will be installed on the server computer 30. Various operating systems 86 may be used with the computer herein, including Microsoft Windows 95 98/2000, Microsoft Windows NT, Linux, UNIX, MacOS, etc. Virtually any operating system 86 capable of running the necessary components thereon may be used with the computer disclosed herein. XXX In current design, the server computer 30 is typically an IBM-compatible personal computer running the Microsoft Windows NT operating system 86. In addition, the server computer 30 may also be running the Microsoft Windows 95/98/2000 operating system.

In the embodiment of Figure 8, web server software 88 is used to receive and service requests from the consumers. A number of web servers 88 are currently and commercially available and can be used with the embodiments herein. For example, the Apache Web Server could be used.

Figure 8 discloses database software 90 for managing the databases 48 on or in communication with the server computer 30. A number of database programs are currently available and can be used with the embodiments herein. For example, an Informix database may be used.

The server computer 30 also includes software 92 to interface with the store computers 24. The store interface software 92 operates to send and receive data to and from one or more store computers 24. The store interface software 92 may receive and/or request data from a store computer 24 and then enter the data into the database 48.

As shown herein, the software components shown in the server computer 30 of Figure 8 need not all be on one computer, and in many contexts the software components illustrated in Figure 8 will actually be installed and running on a number

of computers. The software components illustrated in Figure 8 would be accomplished by and distributed among the various computers serving as the server system 20. Accordingly, the components shown in Figure 8 need not all be resident on the same computer.

Figure 9 illustrates software components that may be used with the store computers 24. An operating system 94 will be installed on the store computer 24. Various operating systems 94 may be used with the store computers 24 herein, including Microsoft Windows, Microsoft Windows NT, Linux, UNIX, MacOS, etc. Virtually any operating system 94 capable of running the necessary components thereon may be used with a store computer 24 disclosed herein.

Figure 9 discloses database software 96 for managing the databases 48 on the store computer 24. A number of database programs are currently available and can be used with the embodiments herein. In addition, a custom database may be used with the embodiment in Figure 9.

The database software 96 on the store computer 24 may be used to store inventory data, sales data, customer data, product data and the like. The embodiment of Figure 9 includes an inventory database 48m which includes information about the various items available at the store, including price, product type, brand, sales data, etc. A customer database 48n may also be used to track information about customers. Similarly, a consumer database 48o may be used to track information about consumers.

The store computer 24 also includes software for input processing 98 to the store computers 24. For example, typical cash registers include an interface for a scanner for scanning items being sold. A similar scanner may be used with the store computer 24 to record products entering into and exiting the store. Of course, it will be appreciated that input into the store computer 24 may be entered via keypad, a mouse, by voice, etc.

The store computer 24 may also include a payment processing component 100. The payment processing component 100 may be a conventional cash register as in commonly used today. Such payment processing components 100 would include

the necessary functionality to process credit card payments, to compute the total money due, to calculate change, etc. The payment processing component 100 may be accomplished on a separate device that is in electronic communication with the store computer 24. For example, the payment processing component 100 may be a conventional cash register that is connected via a parallel or serial cable to the store computer 24. Payment processing systems and devices are well known in the art.

The store computer 24 may be accomplished by a number of computers connected via a computer network. For example, there may be a plurality of payment processing systems (e.g, cash registers) networked together to a central store computer 24 that holds the database information. In addition, input processing computer means may be located at the dock of a particular store to quickly enter what products are entering the store. It will also be appreciated that the database and/or components of the store computer 24 in Figure 9 could be distributed across a number of computers and could also be distributed to computers off-site. Thus, those skilled in the art will appreciate that a variety of means may be used to accomplish the functions required by a store computer 24 or store computers 24. The store computer 24 may include communications software 102 for communicating with other computers and/or devices in the store and for communicating with the server system 20.

Now referring to Figure 10, a data structure 104 is illustrated that may be used with the embodiments shown herein. For example, the data structure 104 of Figure 10 may illustrate records 104 stored in the databases 48 at the store computer 24 or at the server computer 30. The embodiment of Figure 10 includes a product type field 104a. The product type field 104a may be used to indicate what type of product it is, for example, clothing, electronics, etc. A product I.D. field 104b may identify the particular product being identified by the record 104. A location available field 104c may identify the particular geographic location(s) at which the item is available. A cost field 104d may include the cost of the item. An availability field 104e may indicate whether the item is available.

A reservation possible field 104f may indicate whether the item may be reserved by a consumer. A brand name field 104g may store the brand name or manufacturer of the particular item. A number items field 104h may include the number of items available. A discount field 104i may indicate whether discounts or coupons are accepted, and if so, what particular discounts or coupons are accepted. A shipping method 104j field may indicate what shipping methods are available to mail or send the particular items. A number of other fields may be included in the database record 104. In addition, other records may be used with the embodiments herein for the storing and accessing of data.

Figure 11 illustrates a flow diagram of the general steps involved in embodiments disclosed herein. In embodiments disclosed herein, a consumer accesses the server system 20 to search for and/or purchase consumer items. When connecting to and interacting with the server system 20, the steps illustrated in Figure 11 may be accomplished. A consumer may input 106 selection data. The selection data comprises a product identification. For example, the user may select a particular retail software package. The server system 20 receives 108 this selection data and then queries 110 the inventory database(s) 48 regarding the selection data. In embodiments disclosed herein, this step may include accessing one or more databases 48 at one or more locations through a database front end.

After the server system 20 has queried 110 for the inventory data available, the server system 20 will receive 112 the results of its search request. The server system 20 then sends 114 the results, in whole or in part, to the consumer at the consumer computer 22. The consumer computer 22 then provides 116 the results to the consumer.

The consumer may then either order the item, continue refining his or her search, or may begin a new search. If the consumer wishes to order the item, the embodiments illustrated herein may provide 118 order processing.

In embodiments disclosed herein, the World Wide Web portion of the Internet 28 may be used to practice the embodiments. Figure 12 illustrates steps that may be accomplished in practicing an embodiment using the World Wide Web. A consumer

may first access 120 a search page. Search pages are well known in the art and examples of the same can be seen at a variety of web sites, including www.yahoo.com, www.snap.com, www.lycos.com, etc. The consumer enters in a search at the search page. Search results are then displayed 122 to the consumer. If using the world wide web, the search results will typically be displayed using a web browser.

The consumer may then select and identify 124 a product to purchase. The product will typically be in the list of search results being displayed to the user. The product selected by the consumer may then be entered 126 into an electronic shopping cart. Shopping carts are well known in the art and can be seen at a number of web sites offering electronic commerce services. In addition, off-the-shelf development tools are available that include tools to implement and use an electronic shopping cart for use with the web.

The server system 20, or web server in this embodiment, may then cause to be displayed to the consumer a personal information page wherein the consumer is asked to enter 128 his or her personal information. Much of this information may be used to confirm any orders and for credit card processing.

Once the consumer has ordered an item, the system may confirm 130 the order, and may even provide a confirmation number. Embodiments disclosed herein may also send 132 a notification to the user confirming the order. The notification may also include additional information, such as a hyperlink to check on the order status, shipping status, reservation status, a phone number to call for status information, etc.

Embodiments herein allow the consumer to fulfill 134 or consummate any transactions. Fulfillment 134 may be accomplished in a several ways, for example, a consumer may receive the item through the mail or by a courier service, the consumer may go to a particular store and pick up the item, etc.

Figure 13 illustrates an embodiment where a consumer order may either have a product shipped to an address or may have the product reserved at a particular store for pickup. Once an order has been initially placed, the consumer may be prompted

136 to indicate whether the product will be shipped to an address. If the product is to be shipped to an address, the server computer(s) may then receive 138 the order. The embodiment of Figure 13 may then process 140 payment for the order. After the payment has been processed, the order and payment indication may be sent 142 to the seller of the item. For example, if a consumer orders a book, the server computer(s) may send this order to a particular bookstore and may also send payment or payment information to the bookstore.

The embodiment of Figure 13 also processes 144 shipping information. For example, the consumer may be asked whether he or she would like the item shipped via U.S. Mail, using UPS, or using Federal Express. The consumer may also be prompted to indicate the type of shipping method, for example, regular, 3-day, overnight, etc. The embodiment of Figure 13 may then notify the seller of the shipping information and/or may also notify the shipping entity of the shipment order.

Finally, the embodiment of Figure 13 may send 146 a notification to the consumer confirming the order and including status information. The notification may be sent in a variety of ways. The notification may be sent via e-mail, by facsimile, by voice mail, by pager, etc. The consumer may then continue on with any other processing 148. If no other processing is to be accomplished, the consumer will typically be done using the facilities and services being provided and may exit 150 the service.

If the consumer does not wish to have the order shipped, the consumer may then be prompted 152 as to whether he or she would like to reserve the item. If the consumer wishes to reserve the item, the server computer(s) may then receive the order 138. The embodiment of Figure 13 may then process 140 payment for the order. Alternatively, the particular store that will be holding the item may process payment at pickup. The order and possibly the payment indication (if it was taken) may be sent 142 to the seller of the item. Similar to the example above, if a consumer orders a book, the server computer(s) may send this order to a particular bookstore and may also send payment or payment information to the bookstore. Along with the

order information, the embodiment of Figure 13 also sends an indication that the consumer would like the product to be reserved or placed on hold for pickup.

The particular store involved may receive the order, the reservation request, and possibly the payment information. The store may then process 154 the order, reservation request and/or the payment. The store may then send 156 a notification including confirmation information and pickup information. In some embodiments herein, the notification and pickup information will be sent from the store to the server computer(s) and then to the consumer computer 22. In some embodiments, pickup information and the like may already be stored in a database accessible by the server computer(s). In these embodiments, the server computer(s) may access the database for this information and then send it to the consumer.

The notification may be sent to the consumer confirming the order and including status information in a variety of ways. As discussed, the notification may be sent via e-mail, by facimile, by voice mail, by pager, etc. The consumer may then continue on with any other processing 148. If no other processing is to be accomplished, the consumer will typically be done using the facilities and services being provided and may exit 150 the service.

Figure 14 illustrates an embodiment where a particular company has a web site 158 and one or more physical store locations 160. An embodiment as described herein may enable communication and cooperation between a particular store's web site 158 and its physical stores 160 and enable consumers to find what is available at a particular store 160 and to also purchase items or products from that particular physical store 160. Consumers may browse the web and visit a particular store's web site 158. Accessible via the store's web site 158 may be an enabling system 20 that enables specific items to be found and or purchased at specific locations 160. A user may be given an opportunity to shop at specific locations or areas. In an embodiment, the system may facilitate the user's searching of specific items and also the user's purchase of specific items.

An embodiment of the enabling system 20 of Figure 14 is illustrated in Figure 15. One or more web servers 31 may be used to service requests from consumers

browsing the web and to service other requests for data and/or information. One or more database servers 54 may be used for storing, searching and/or accessing the data of the embodiment. The one or more database servers 54 may be used in conjunction with one or more databases 48.

Information gathering tools 162 may be used by the system 20. These information gathering tools 162 may gather information from across the web, or they may gather information from the various store computers 24 in electronic communication with the system, or both. The information gathering tools 162 may comprise web crawlers, web spiders, robots (or "bots") and the like for searching and gathering information from the web and store computers 24. The programs used as part of the tools 162 may search the various pieces of information available to it and index the information found based on certain criteria. Conventional web crawlers, web spiders and bots are known in the art. The information gathered by the information gathering tools 162 may be entered into one or more databases 48. A collection server 164 may be used to collect the information from the various tools 162 and enter them into the databases 48. One or more communications managers 166 may be used to communicate with the store computers 24 Communications software and packages are readily available that may be used with communications managers 166 to achieve communications with the store computers 24. The communication managers 166 may also be used manage queries to the store computers 24 and to manage updates received from the store computers 24.

Figure 16 illustrates an embodiment of a store location 160 including an embodiment of a store computer 24. The store computer 24 may be in electronic communication with one or more point of sale systems 168. Point of sale systems 168 are well known in the art and used by stores on a daily basis. Point of sale systems 168 that may be used with the embodiments herein include systems 168 from companies like IBM, NCR, Siemens and Micros. These systems 168 typically include a communications port for connecting to a computer or another electronic device. Typical connection methods include parallel connections, serial connections

or a network connection. When a transaction is confirmation, the point of sale system 168 may generate a confirmation ticket 170 for the consumer and/or for the store.

The store computer 24 includes a point of sale ("POS") interface 172. Typically POS systems 168 simply generate data and send it over a communications port when some action or event takes place at the POS 168. For example, if an item is purchased, the POS 168 typically sends data indicating what item was purchased and for what price across its communications channels. The POS interface 172 receives any such data from the POS 168 and sends it to a store manager component 174. The store manager software 174 then enters any necessary data into the local database 176 and updates the local database 176. Communications software 178 enables communications between the store computer 24 and the server system 20. Through the communications software 178 and the store managing software 174 on the store computer 24, the server system 20 may access/modify any data in the local database 176 and may also record transactions that have been facilitated via the server system 20.

Figure 17 is a hybrid block diagram and flow diagram illustrating overall operation of an embodiment used to facilitate a transaction. The server system 20 allows a user to conduct a product search 180. In accomplishing the product search 180, information from multiple retailers 182 is accessed and searched. As shown, each retailer 182 may have one or more retail outlets 184 at various locations. In the embodiment of Figure 17, not only is information from multiple retailers 182 accessed and searched, but information from multiple outlets 184 of each retailer 182 is accessed and searched. Thus, information from a number of electronic sources and from a number of separate physical store locations is accessed and searched to produce search results 186.

Once the consumer has viewed the search results 186, he or she may then make a product selection 188. The product selection 188 may be ordered from a specific retail outlet location 184, or it may be placed on hold, or it may be ordered from a store not having any physical presence other than on the Internet. Thus, a consumer has not only opportunities to order an item online, but can locate the item in

a specific geographic area, place the item on hold and then pick the item up in person. The consumer may be given availability and verification information 190. Finally, the transaction 192 may occur.

An embodiment herein may include a geographic pricing module (not shown). The geographic pricing module may allow a merchant to determine the geographic location of the Internet based shopper and then set pricing criteria accordingly. By use of this module a retailer or merchant can determine and implement a competitive pricing module for a specific market and present to the consumer pricing that is relevant to his or her location market. In addition, a merchant can localize catalogs for display. The geographic pricing module places a cookie on the consumer's computer 22 that is based upon his or her home zip code. Later than cookie can be used by the geographic pricing module to determine the proper catalog and pricing model to display for that specific consumer.

Implementers of the embodiments herein may generate revenue in a variety of ways. For example, implementers of the system 20 may simply take a percentage off of the price of each item sold through the system 20 as a commission. The system 20 may simply take the corresponding amount off of the total amount paid by the consumer before forwarding on the rest of the amount of the merchant. This mode of operation is similar to the way several credit card companies generate revenue when consumers use their particular credit card.

Implementers of the present systems may also set up a flat fee structure for each merchant where a certain fee is due for particular amounts of volume facilitated by the system. In this embodiment, periodically implementers of the embodiments herein may bill the merchant(s) for the appropriate amounts based on the transactions facilitated. Another way that users of the embodiments herein may generate revenues is through banner advertising on web pages. This method of generating revenue is also well known in the art. It will be appreciated by those skilled in the art that there are a variety of ways in which revenue can be generated using the present embodiments.

From the above discussion. it will be appreciated that the embodiments disclosed provide systems and methods for effectively utilizing the benefits of electronic commerce while also using the existing and conventional stores.

The present embodiments may be embodied in other specific forms without departing from their spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative, and not restrictive. The scope of the invention is, therefore, indicated by the appended claims, rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. A method for providing electronic commerce over a global communications network, the method comprising the steps of:

browsing a first web site, where the first web site is operated by a first company that also is affiliated with a physical store;

selecting, by a user, an option to shop the physical store via the global communications network;

offering to the user, by a server system, the ability to search for the availability of an item at the physical store;

searching, by the server system, a database of items available at the physical store for the item requested;

offering to the user, by the server system, the ability to purchase the item from the physical store; and

communicating to the physical store information describing the item.

2. The method of claim 1 further comprising the step of instructing the physical store to decrement the item from the physical store's inventory.

3. The method of claim 1 further comprising the step of instructing the physical store to prepare the item for the user.

4. The method of claim 1 wherein the information includes the method of payment and means of fulfillment.

5. The method of claim 1 further comprising the step of instructing the physical store to decrement the item from inventory and to physically prepare the item for the user.

6. The method of claim 1 further comprising the step of instructing the physical store to ship the item to the user.

7. The method of claim 1 further comprising the step of instructing the physical store to generate a confirmation ticket.

8. A method for facilitating commerce for a first company through use of a global communications network, wherein the first company operates a plurality of stores at various locations, and wherein a facilitator will facilitate the commerce, the method comprising the steps of:

arranging with the first company to provide that the facilitator will interact with the first company on the global communications network;

arranging with the first company to provide that the facilitator will have electronic communication with the plurality of stores;

coordinating a first company web site with a facilitator web site such that commerce involving the plurality of stores may be achieved through use of the facilitator web site:

installing a store computer for a store of the plurality of stores;

establishing communications between the store computer and a point of sale system in the store;

establishing communications between the store computer and a server system; and

communicating inventory data from the store computer to the server system.

9. The method of claim 8 further comprising the step of initiating a search of the inventory data for an item.

10. The method of claim 9 further comprising the step of searching the inventory data for the item.

11. The method of claim 10 further comprising the step of offering the ability to purchase the item from the store.

12. The method of claim 11 further comprising the step of communicating to the store information describing the item.

13. The method of claim 12 further comprising the step of determining a commission for facilitating sales.

14. The method of claim 13 further comprising the step of deducting the commission from a purchase price of each sale.

15. The method of claim 13 further comprising the step of regularly billing the first company for the commission.

16. A method for facilitating commerce for a plurality of different physical stores located at various and distinct locations through use of a global communications network, wherein the stores are owned by a plurality of different companies, and wherein a facilitator will facilitate the commerce, the method comprising the steps of:

installing a store computer for each physical store;

establishing electronic communications between each store computer installed for a particular physical store and a point of sale system of the particular physical store;

installing first computer program instructions on each store computer that the store computer is capable of receiving data generated at the point of sale system in communication with the store computer;

establishing electronic communications between each store computer and the global communications network;

installing second computer program instructions on each store computer such that the store computer is capable of communicating over the global communications network;

establishing electronic communications between the store computers and a server system through the global communications network, wherein the server system comprises:

database software for storing inventory data, the inventory data being created from store inventory data that is received from the store computers;

database search software for searching the inventory data;

server software for servicing requests sent by consumer computers; and

collection software for receiving the store inventory data from the store computers and for relaying the store inventory data to the database software;

communicating the store inventory data from the store computers to the collection software of the server system:

relaying the store inventory data from the collection software to the database software; and

storing the store inventory data in a database.

17. The method of claim 16 further comprising the step of initiating a search of the inventory data for an item.

18. The method of claim 17 further comprising the step of searching the inventory data for the item.

19. The method of claim 18 further comprising the step of offering the ability to purchase the item from one of the physical stores.

20. The method of claim 19 further comprising the step of communicating to one of the physical stores information describing the item.

21. The method of claim 20 further comprising the step of determining a commission for facilitating each sale and deducting the commission from a purchase price of each sale.

22. The method of claim 21 further comprising the step of regularly billing the first company for the commission.

23. The method of claim 21 further comprising the step of arranging with the companies to provide that the facilitator will interact with the companies on the global communications network.

24. The method of claim 23 further comprising the step of browsing a first web site, where the first web site is offering items for sale through the first web site, and where the first web site is operated by a first company of the plurality of companies.

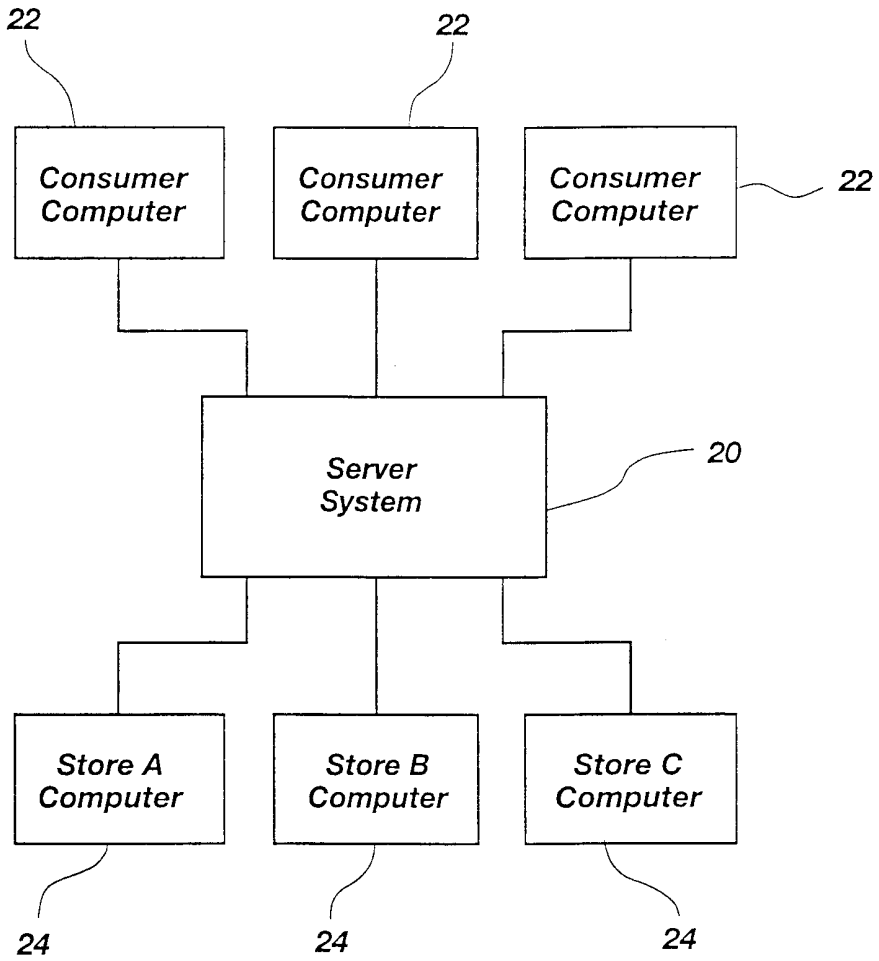
22
22
Consumer Computer
Consumer Computer
Consumer Computer
22
Server System
20
Store A Computer
Store B Computer
Store C Computer
24
24
24

Fig. 1

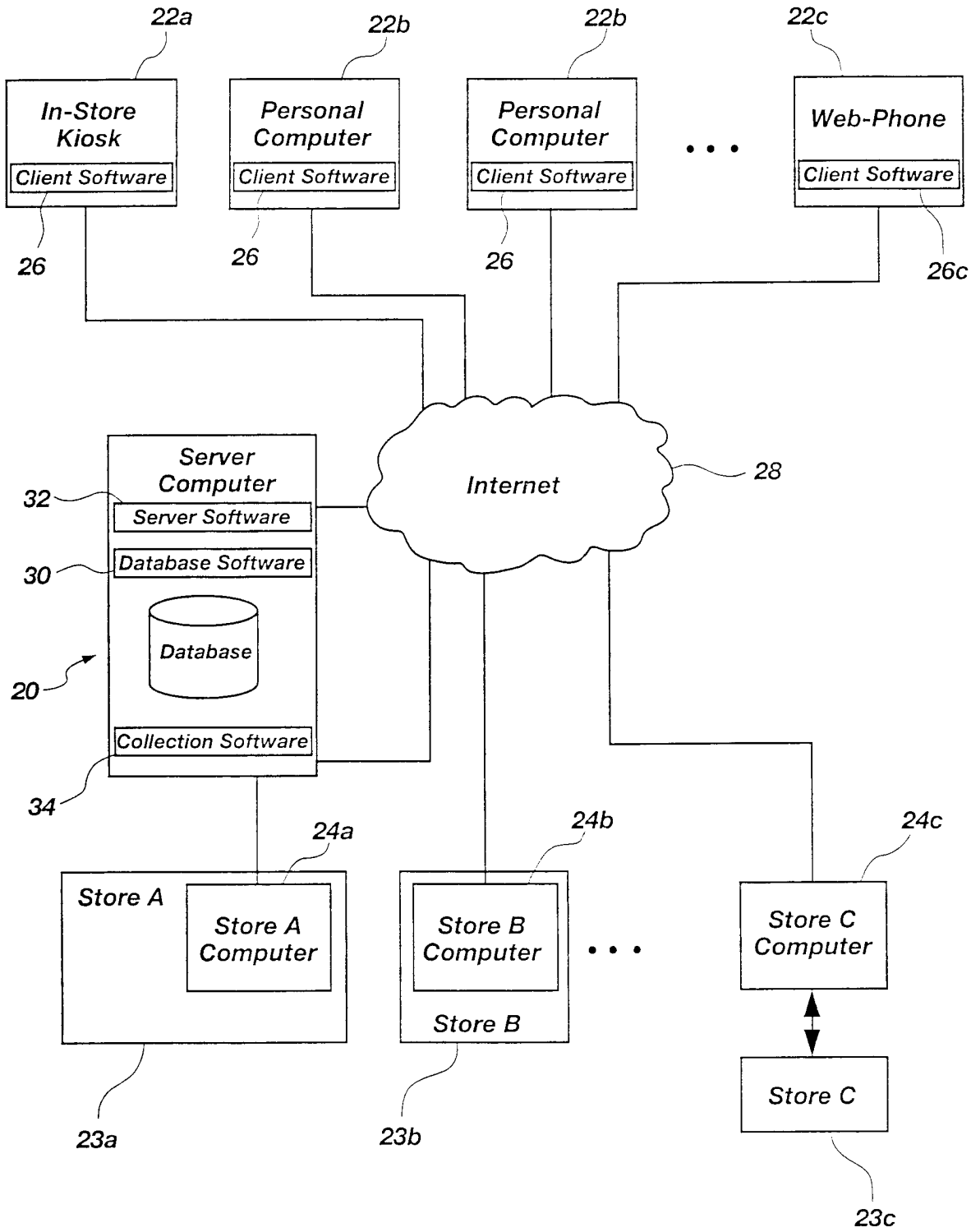
22a
22b
22b
22c
In-Store Kiosk
Client Software
Personal Computer
Client Software
Personal Computer
Client Software
Web-Phone
Client Software
26
26
26
26c
Server Computer
Server Software
Database Software
Database
Collection Software
32
30
20
34
Internet
28
24a
24b
24c
Store A
Store A Computer
Store B Computer
Store B
Store C Computer
Store C
23a
23b
23c

Fig. 2

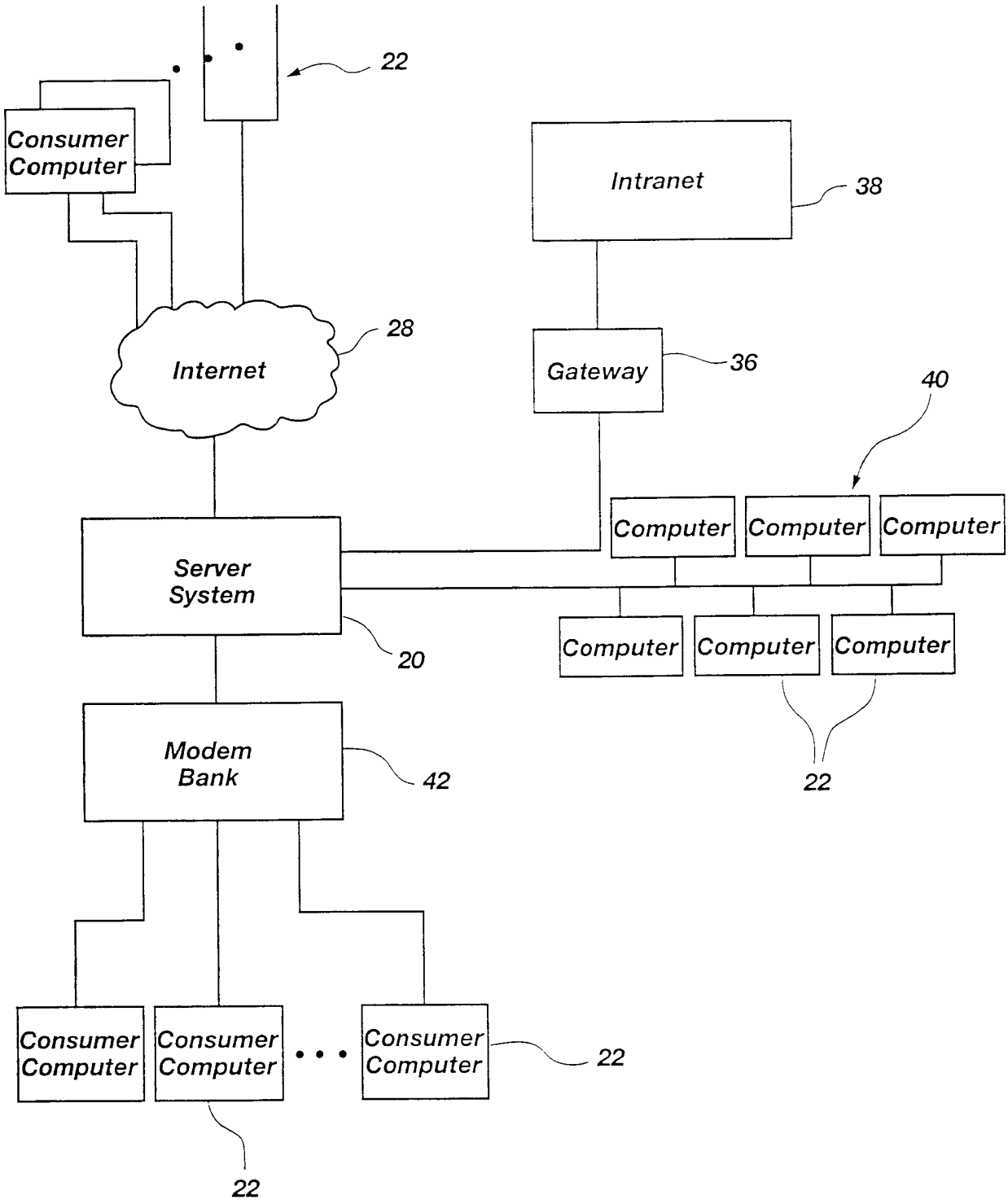
22
Consumer Computer
Intranet
38
Internet
28
Gateway
36
40
Computer
Computer
Computer
Server System
20
Computer
Computer
Computer
Modem Bank
42
22
Consumer Computer
Consumer Computer
Consumer Computer
22
22

Fig. 3

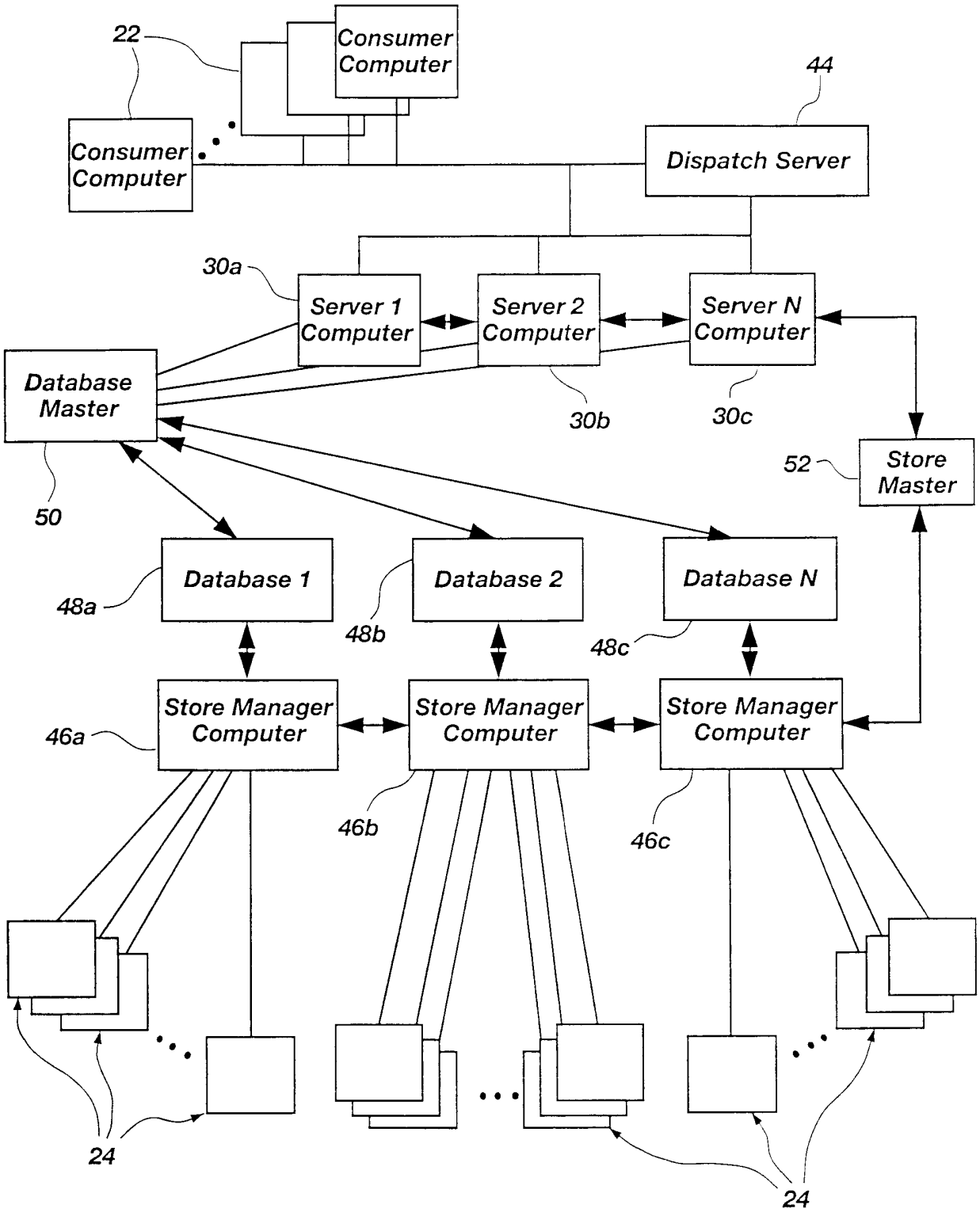
22
Consumer Computer
Consumer Computer
44
Dispatch Server
30a
Server 1 Computer
Server 2 Computer
Server N Computer
30b
30c
Database Master
50
52
Store Master
Database 1
Database 2
Database N
48a
48b
48c
Store Manager Computer
Store Manager Computer
Store Manager Computer
46a
46b
46c
24
24

Fig. 4

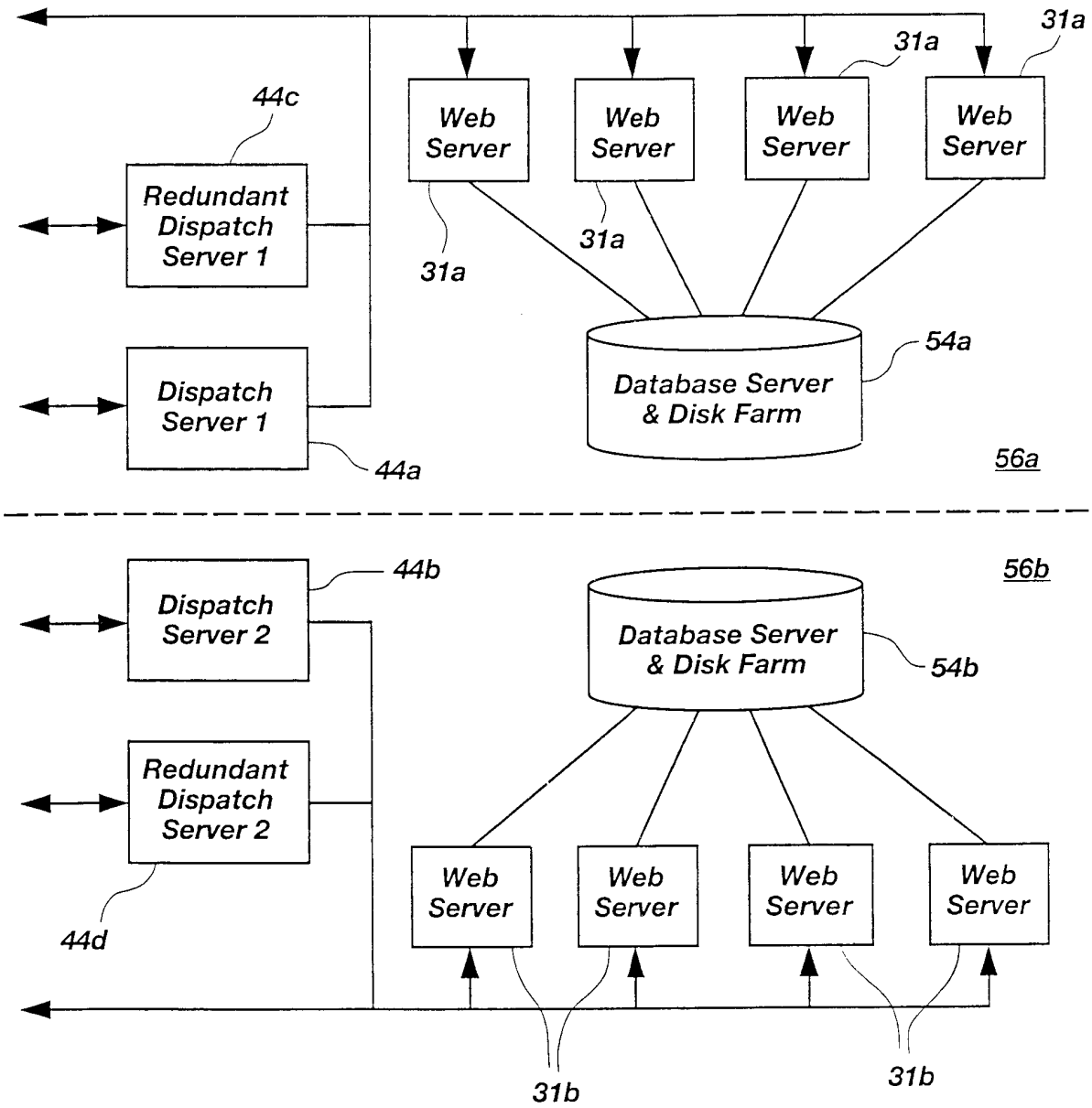
31a
31a
44c
Web Server
Web Server
Web Server
Web Server
Redundant Dispatch Server 1
31a
31a
54a
Database Server & Disk Farm
Dispatch Server 1
44a
56a
44b
56b
Dispatch Server 2
Database Server & Disk Farm
54b
Redundant Dispatch Server 2
Web Server
Web Server
Web Server
Web Server
44d
31b
31b

Fig. 5

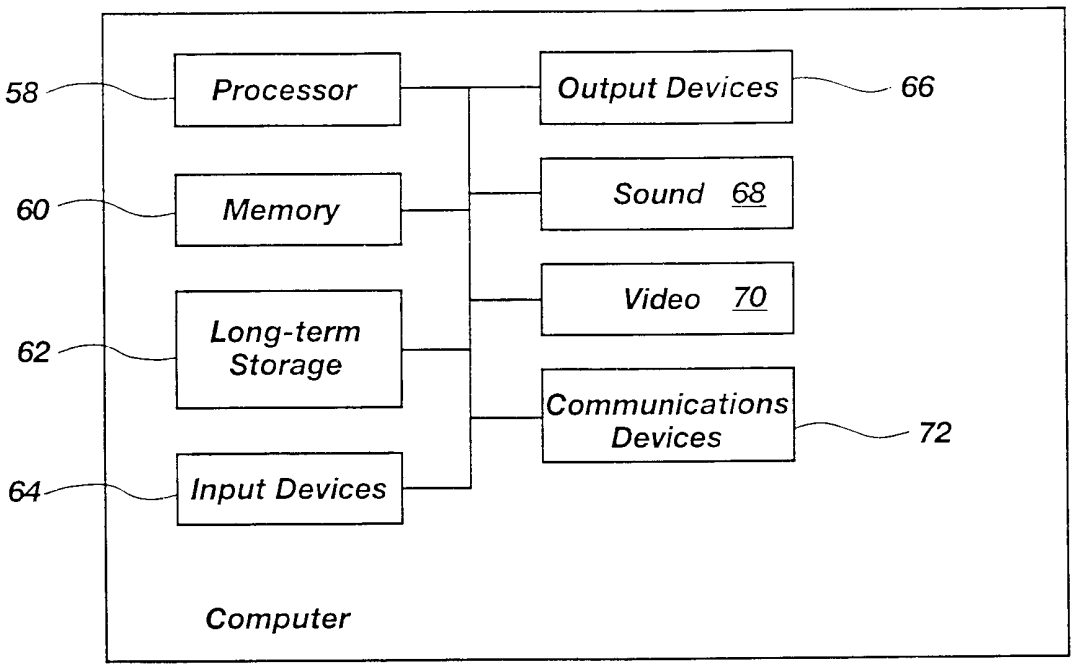
58
Processor
60
Memory
62
Long-term Storage
64
Input Devices
Output Devices
66
Sound 68
Video 70
Communications Devices
72
Computer

Fig. 6

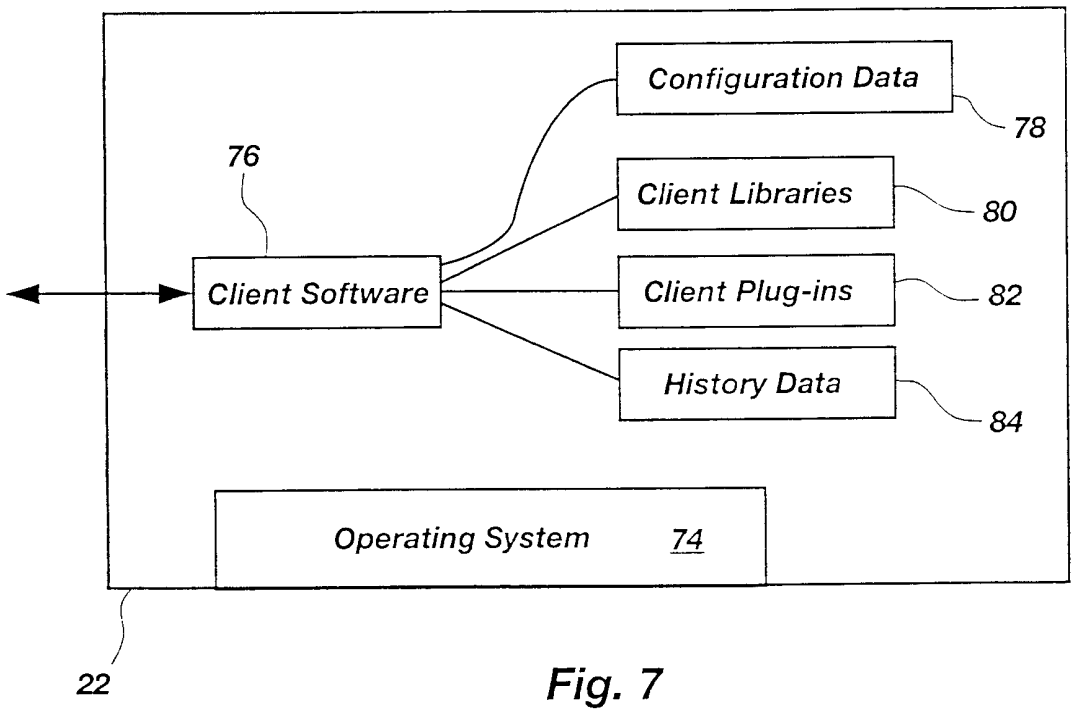
Configuration Data
78
76
Client Libraries
80
Client Software
Client Plug-ins
82
History Data
84
Operating System 74
22

Fig. 7

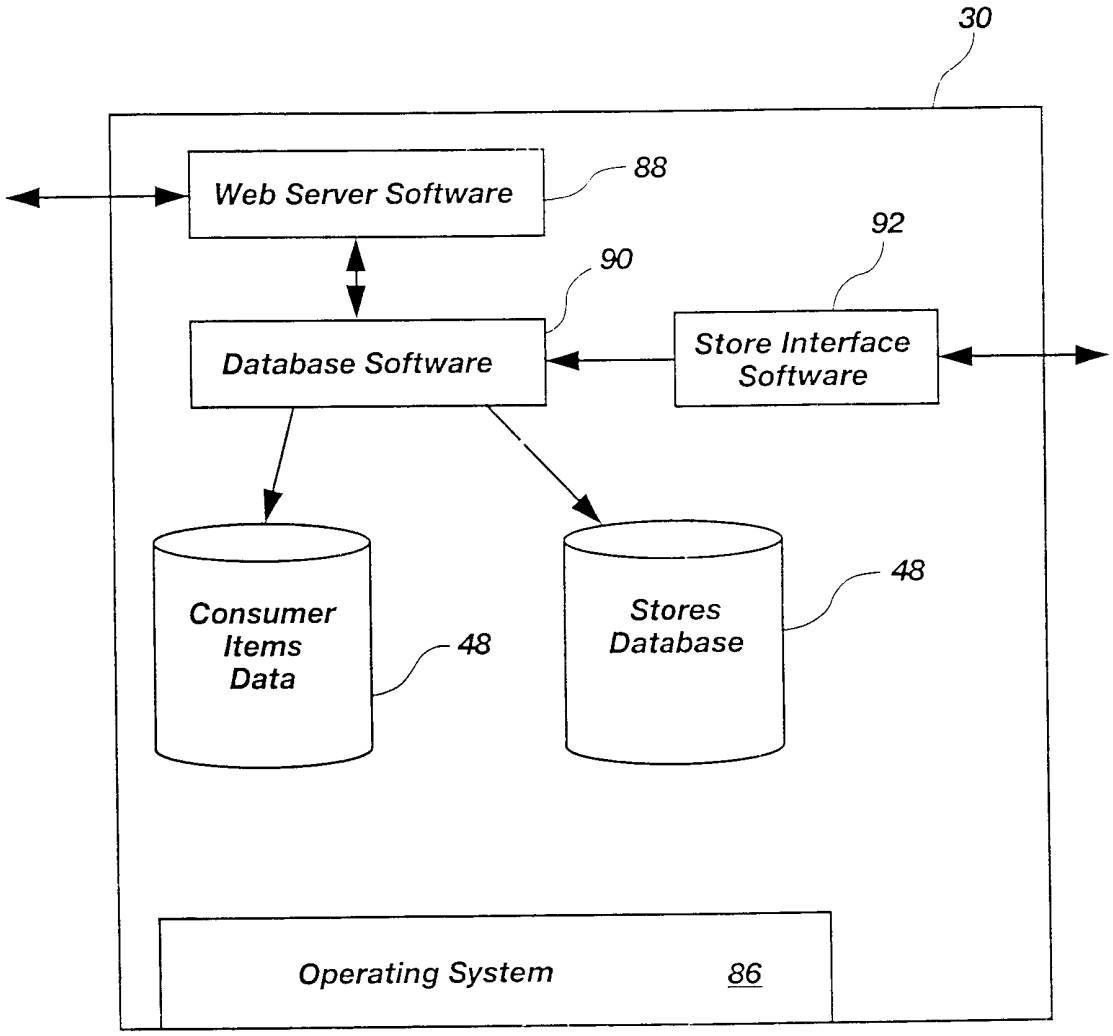
30
Web Server Software
88
92
90
Database Software
Store Interface Software
Consumer Items Data
48
Stores Database
48
Operating System
86

Fig. 8

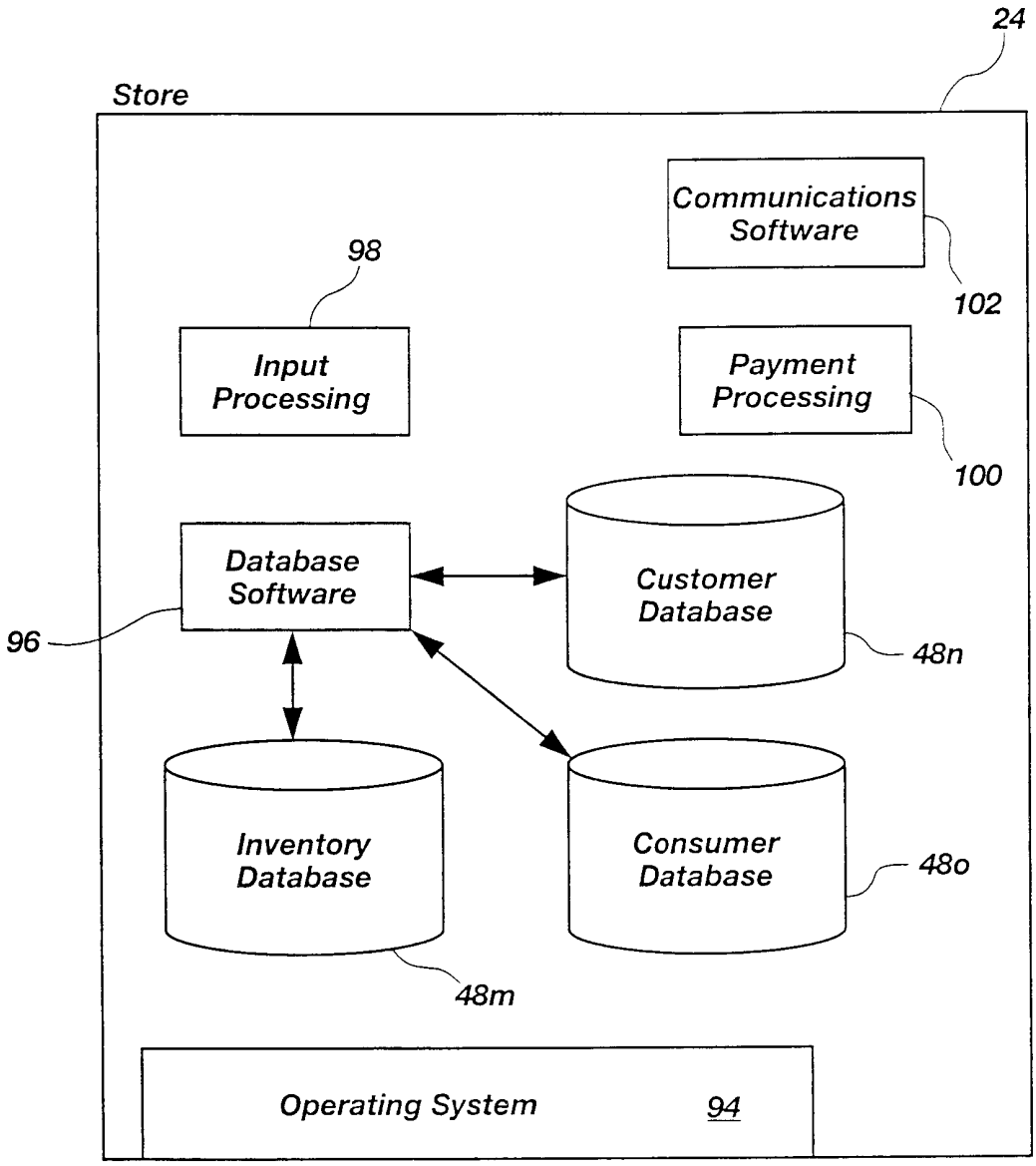
24
Store
Communications Software
102
98
Input Processing
Payment Processing
100
Database Software
96
Customer Database
48n
Inventory Database
Consumer Database
48o
48m
Operating System
94

Fig. 9

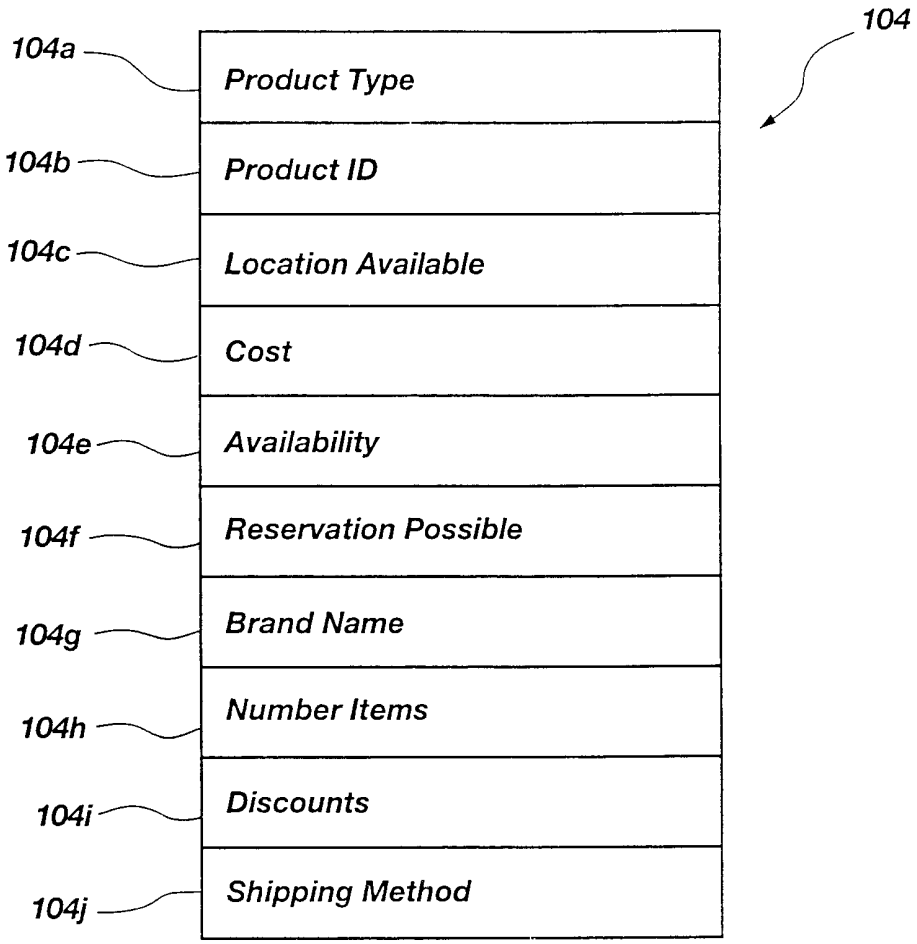
104
104a
Product Type
104b
Product ID
104c
Location Available
104d
Cost
104e
Availability
104f
Reservation Possible
104g
Brand Name
104h
Number Items
104i
Discounts
104j
Shipping Method

Fig. 10

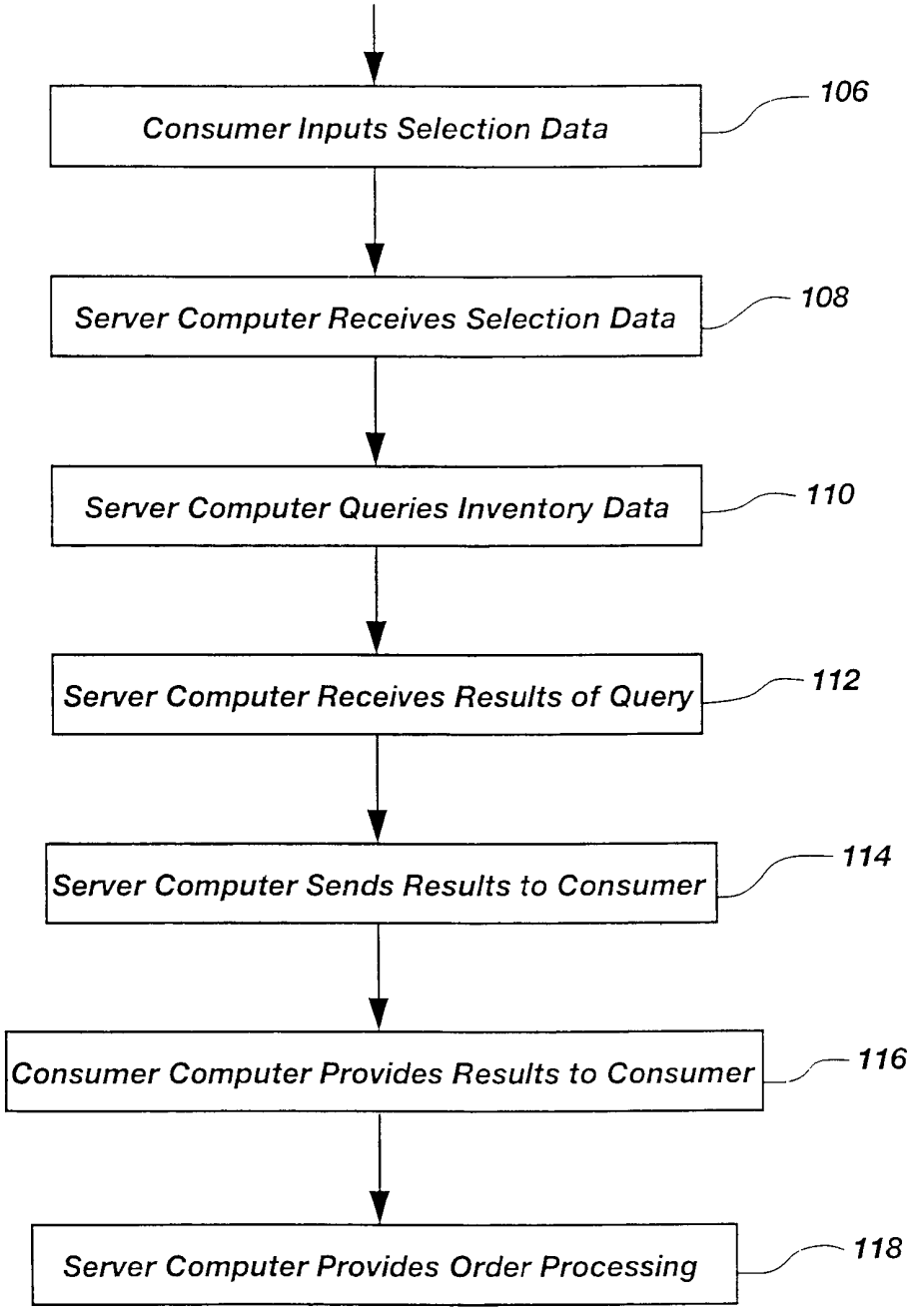
Consumer Inputs Selection Data
106
Server Computer Receives Selection Data
108
Server Computer Queries Inventory Data
110
Server Computer Receives Results of Query
112
Server Computer Sends Results to Consumer
114
Consumer Computer Provides Results to Consumer
116
Server Computer Provides Order Processing
118

Fig. 11

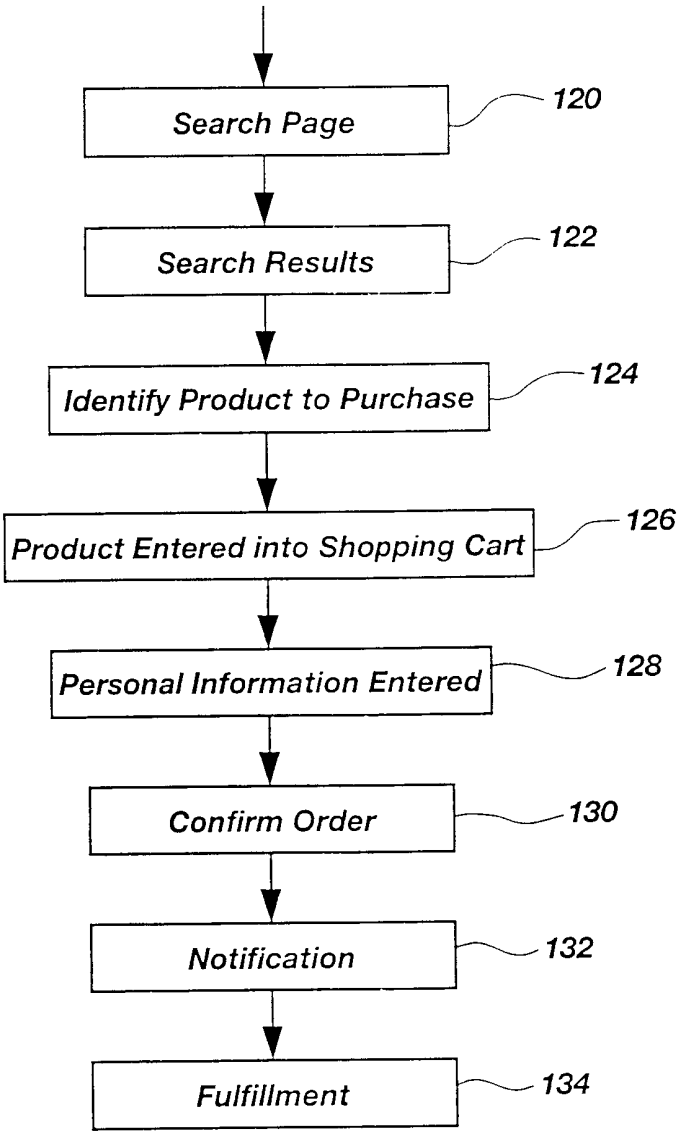
Search Page
120
Search Results
122
Identify Product to Purchase
124
Product Entered into Shopping Cart
126
Personal Information Entered
128
Confirm Order
130
Notification
132
Fulfillment
134

Fig. 12

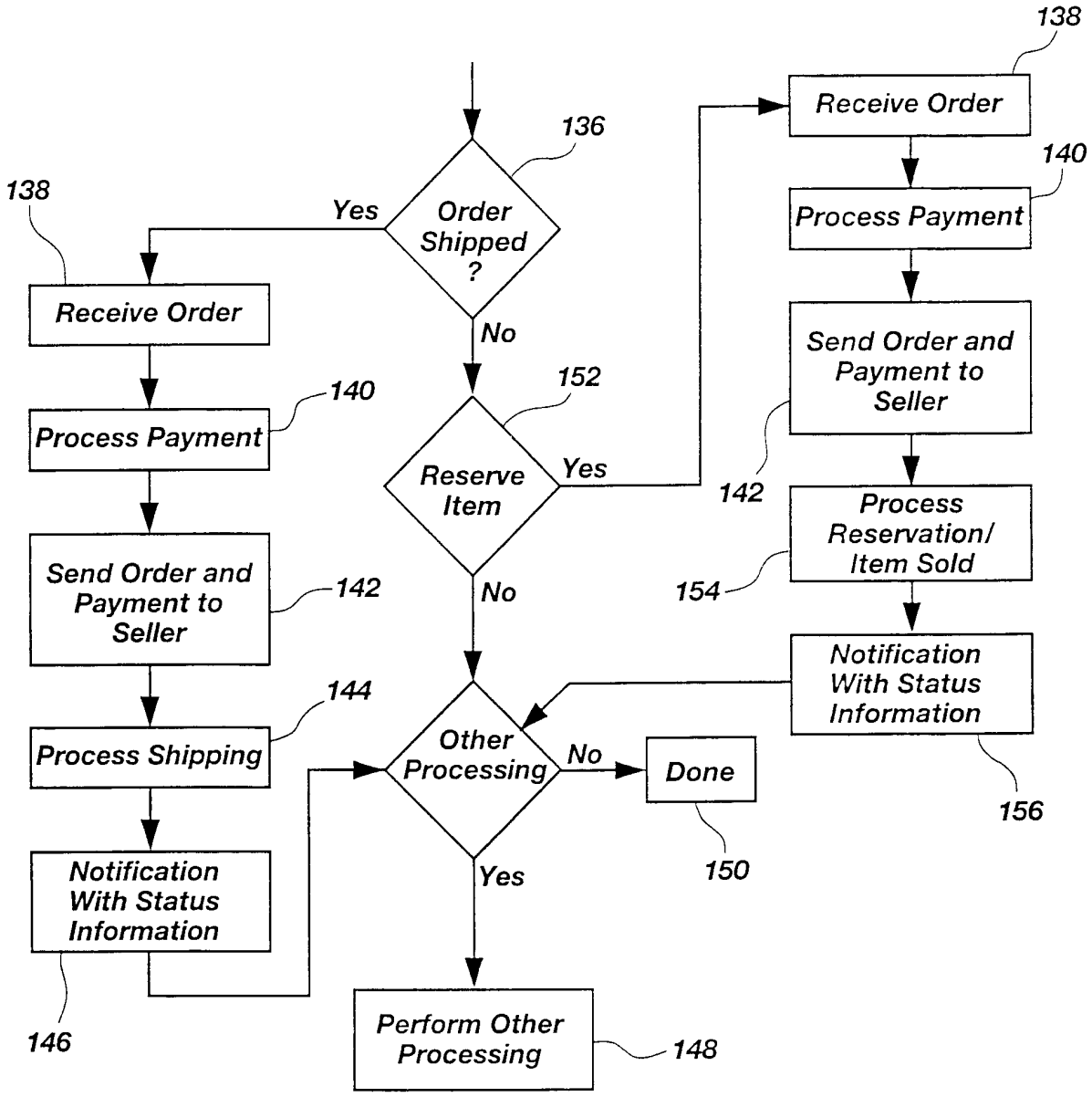
Receive Order
138
Process Payment
140
Send Order and Payment to Seller
142
Process Reservation/ Item Sold
154
Notification With Status Information
156
Order Shipped ?
136
Yes
No
Reserve Item
152
Yes
No
Other Processing
No
Done
150
Yes
Perform Other Processing
148
Receive Order
138
Process Payment
140
Send Order and Payment to Seller
142
Process Shipping
144
Notification With Status Information
146

Fig. 13

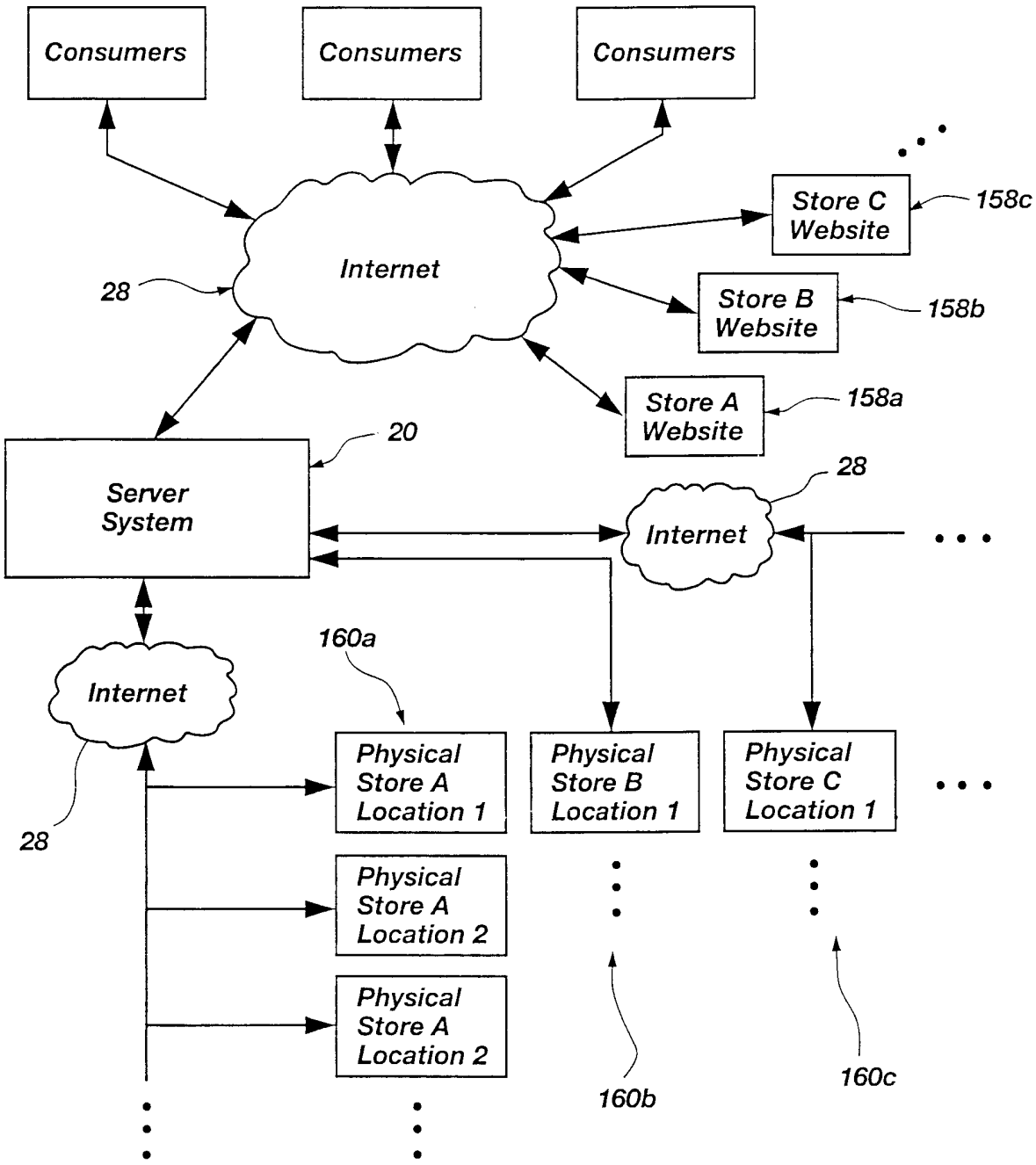
Consumers
Consumers
Consumers
Internet
28
Store C Website
158c
Store B Website
158b
Store A Website
158a
20
Server System
28
Internet
Internet
28
160a
Physical Store A Location 1
Physical Store B Location 1
Physical Store C Location 1
Physical Store A Location 2
Physical Store A Location 2
160b
160c

Fig. 14

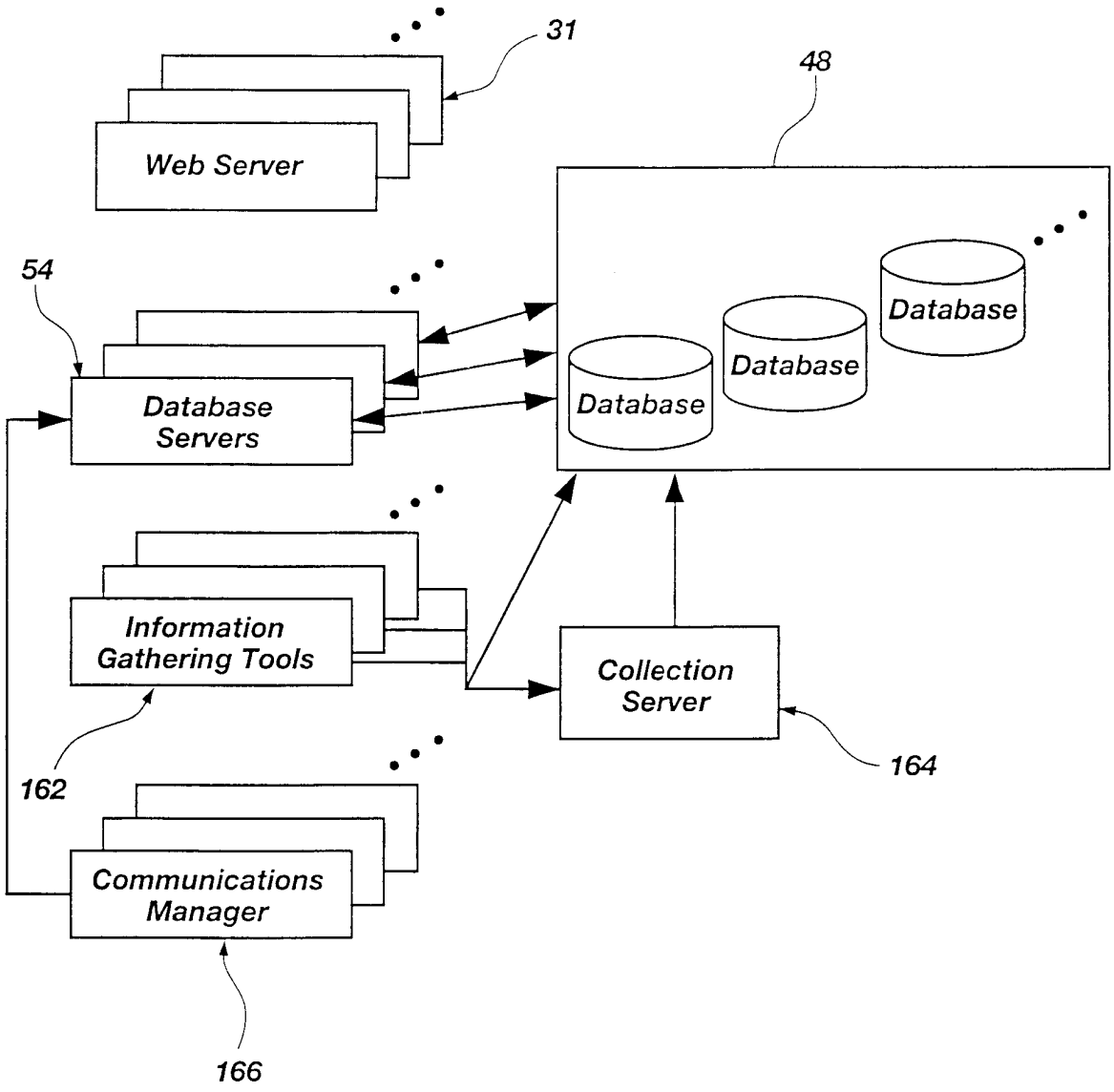
31
48
Web Server
54
Database
Database
Database
Database Servers
Information Gathering Tools
Collection Server
164
162
Communications Manager
166

Fig. 15

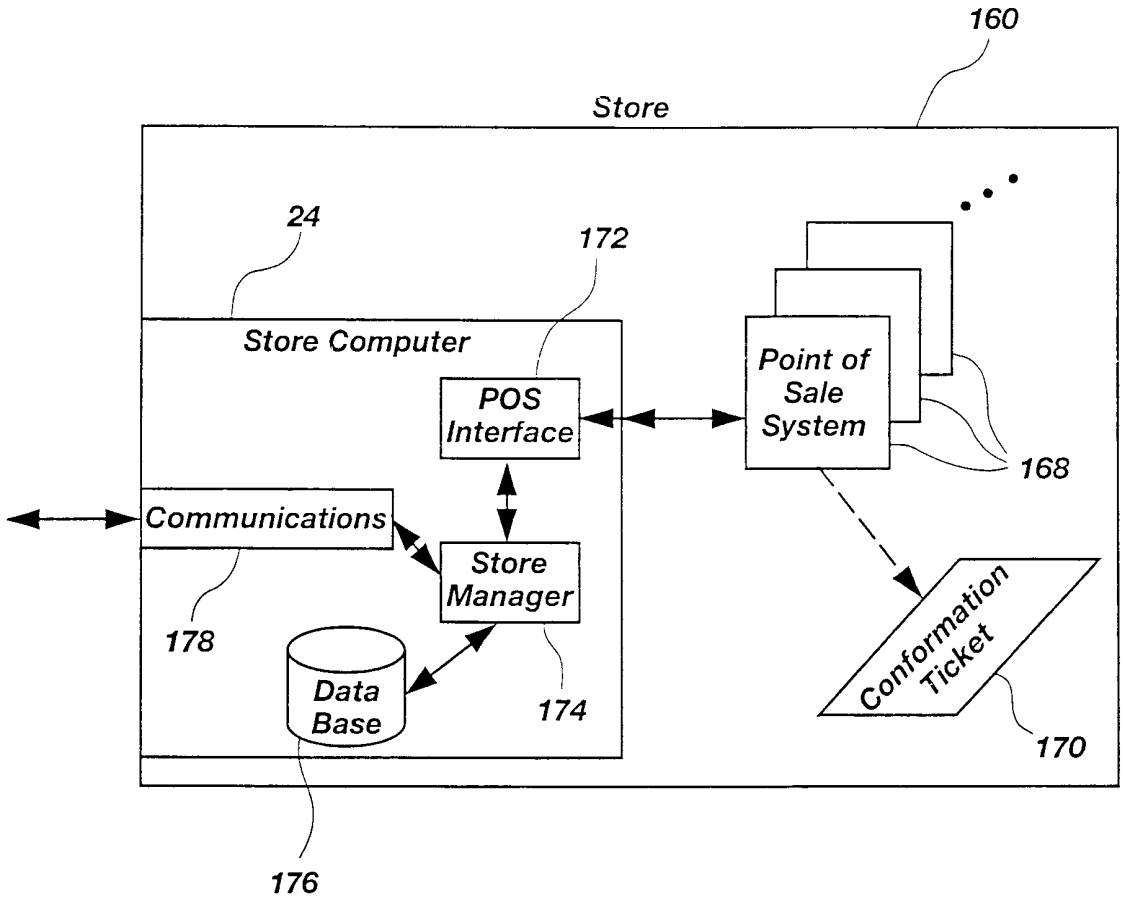
160
Store
24
172
Store Computer
POS Interface
Point of Sale System
168
Communications
Store Manager
178
Data Base
174
Conformation Ticket
170
176

Fig. 16

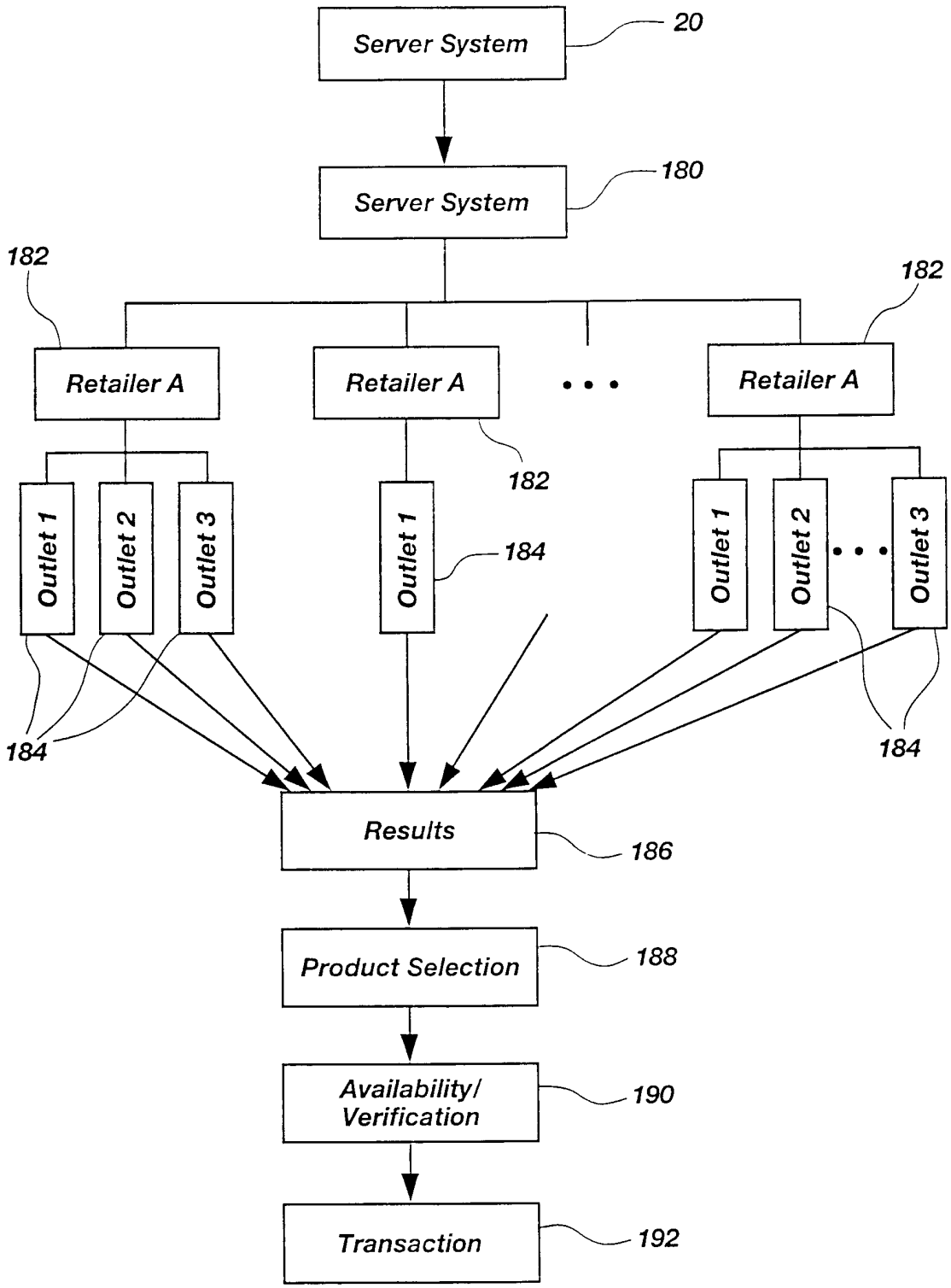
Server System
20
Server System
180
182
182
Retailer A
Retailer A
Retailer A
182
Outlet 1
Outlet 2
Outlet 3
Outlet 1
184
Outlet 1
Outlet 2
Outlet 3
184
184
Results
186
Product Selection
188
Availability/
Verification
190
Transaction
192

Fig. 17