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(71) Applicant: **SINGLESHOP.COM** [US/US]; 500 Huntmar Park Drive, Herndon, VA 20170 (US).

(72) Inventors: **NEELY, Bill, Gareth**; Apt. #202, 1505 Lincoln Circle, McLean, VA 22102 (US). **BRUCE, Michael, George, Sr.**; 401 Saylor Way, SW, Leesburg, VA 20175 (US).

(74) Agents: **GATTO, James, G.** et al.; Hunton & Williams, 1900 K Street, N.W., Washington, DC 20006 (US).

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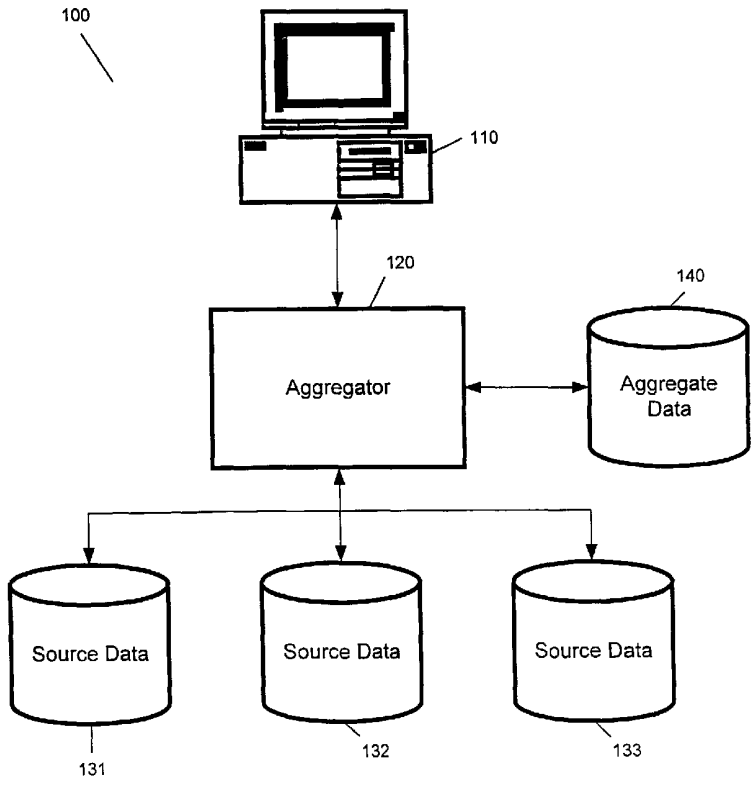


(57) Abstract: A system and method of aggregate electronic transactions with multiple sources (131, 132, 133). The aggregator system (100) may include a user interface (110) server for allowing users to select and purchase offerings from multiple sources (131, 132, 133) through a single interface and execute a single transaction for the selected offerings.

WO 01/33458 A1

SYSTEM AND METHOD OF AGGREGATE ELECTRONIC TRANSACTIONS WITH MULTIPLE SOURCES

FIELD OF THE INVENTION

The invention relates to the field of aggregate electronic transactions with multiple sources.

BACKGROUND OF THE INVENTION

The number of businesses and individuals offering goods and services over the Internet is large and ever increasing. A growing number of those businesses and individuals provide Web sites on the World Wide Web that enable purchase transactions to be consummated electronically. Many of these e-commerce Web sites also provide customer service, some form of order and/or shipment tracking, various electronic payment options, a variety of shipping options, discounts and special offers, product updates, purchase incentive programs, and product related content. Some Web sites, both e-commerce enabled and otherwise, provide consumer oriented services such as search and comparison engines, electronic banking and currency, third party electronic incentives, coupons, and discounts, and electronic organizers for coupons, payment methods, shipping addresses, shopping lists, etc. For most of the Web site based services noted above, user specific accounts are generally required. Many of these accounts may include associated user names, passwords, preferences, and personal information, such as street and post office addresses, electronic mail addresses, phone numbers, credit card numbers, purchase histories, and other information.

Consumers and businesses looking to the Internet for their shopping needs may be overwhelmed by the number of e-commerce enabled Web sites and associated services. Navigating the many e-commerce options and services and taking advantage of the benefits of e-commerce may be difficult and confusing for many consumers and businesses at present. Completing separate transactions with multiple merchants, paying for, tracking, receiving, and handling errors in multiple orders, maintaining multiple accounts, searching for and comparing competing merchants, organizing and using incentives programs, coupons, discounts, and shopping lists, and other shopping related tasks may be difficult or impossible to manage safely and efficiently with existing systems.

These and other drawbacks exist with present systems.

SUMMARY OF THE INVENTION

An object of the invention is to overcome these and other drawbacks in existing systems and methods.

It is an additional object of the invention to provide systems and methods of enabling aggregate transactions for offerings (*e.g.*, products and services) from a number of sources (*e.g.*, merchant Web sites, product databases, individual sellers, auctions, group buy services, or other sources).

The invention may include a networked system enabling aggregate transactions for offerings from multiple sources. The system may include an aggregator system connected to multiple source systems via a communication network (*e.g.*, the Internet, a satellite broadcast system, cellular network, or other

communication network). The multiple source systems may include computer systems for executing a transaction for the offerings of that system, such as a Web server with an e-commerce engine for purchasing goods and/or services. Some or all of the multiple source systems may include an offering database, a transaction server, and an interface server. The aggregator system may include a user interface server, a source interface server, an aggregator transaction server, and one or more data sources. The user interface server may include a Web server, wireless application server, interactive television server, or other system. The source interface server may include a business-to-business server with protocols for data scraping, proprietary data transfer, and/or direct database access. The data sources may include a system data source, a source interface data source, and an offering data source. The offering data source may be an aggregate offering database, including data related to offerings from the multiple source systems. The system may include a plurality of end user devices for accessing the aggregator system, such as personal computers, Internet appliances, wireless devices, interactive televisions, and other devices.

The invention may include a method for purchasing offerings from multiple sources. One method of the invention allows a user to identify one or more desired offerings from the offerings of multiple sources, select one or more offerings for purchase, and execute a single transaction for the selected offerings. The method may additionally include accessing aggregate transaction management services (e.g., order tracking, customer service, etc.).

Identifying offerings from multiple sources may include searching or browsing one or more data sources of offering descriptions through a single interface. In one

embodiment, the user may perform a search for a desired offering, view one or more search results, and select an offering for purchase from the search results. Identifying offerings may include comparing related offerings available from multiple sources, in order to facilitate competitive selection of offerings and sources. Comparison may include evaluation of a single offering available from multiple sources according to one or more factors, such as price, shipping costs, availability, taxes, return policy, payment methods, delivery methods, merchant ratings, special offers, and other factors. Comparison may include selection of comparison criteria by the user.

Selecting one or more offerings for purchase may include identifying a purchase item (i.e., a desired offering) and may include identifying a source for the purchase item. A number of purchase items may be selected and deposited in an electronic shopping cart for later purchase.

Executing a single transaction for selected purchase items may include aggregating the selected purchase items, providing purchase details for the purchase items, and verifying transaction related data. Where a purchase item is available from multiple sources, purchase item aggregation may include evaluating a number of alternatives for purchasing the selected purchase items. The alternatives may be compared according to purchase priorities or an alternative may be automatically selected based upon predefined purchase preferences. Providing purchase details may include item-by-item designation of delivery method, payment method, destination, delivery schedule, and other details. Purchase details may be provided automatically according to predefined preferences. Purchase items may be grouped according to purchase details or some other scheme for convenient monitoring by the user.

Transaction verification may include verification of price, availability, user account status, payment information, or other information at the time of execution for the transaction.

Transaction management may include access to summaries of purchase items ordered, pre-ordered items, scheduled purchases, order history, and price protection, independent of source. Purchase item summaries may include date ordered, expected ship date, date shipped, date charged, tracking number, cancellation, and other details. Transaction management may also include handling of messages from source systems, order status updates, and/or customer service. Handling of messages from source systems may include message forwarding, message data mining, and message archiving. Order status updates may be customized as to update conditions, update content, and update method. Customer service may include service request forwarding, customer advocates, and customer complaint records and profiling.

The invention may include a method for providing a single interface for purchasing one or more offerings from multiple sources. In one embodiment, one or more sources for offerings may be identified, data retrieval protocols may be defined for each source, one or more navigation engines may be provided, offering presentation protocols may be defined, and purchase fulfillment protocols may be defined. Comparison protocols may also be defined. Identification of sources may include prescreening of sources according to predetermined evaluation criteria. Identification of sources may include defining offering categories and identifying sources providing those offering categories. Providing navigation engines may include providing an aggregate offering data source and protocols for navigating the

aggregate offering data source. Providing navigation engines may also include defining protocols for utilizing one or more source navigation engines of the multiple sources. Defining data retrieval protocols may include defining modules customized for the data formats, transaction protocols, and/or communication protocols of the multiple sources. Defining presentation protocols may include defining protocols for generating an aggregate offering description including offering related data from multiple sources. Purchase fulfillment protocols may be defined for each source. Purchase fulfillment protocols may include instantaneous protocols, asynchronous protocols, and batch processing protocols. Defining comparison protocols may include defining protocols for evaluating a single offering available from multiple sources according to one or more factors, such as price, shipping costs, availability, taxes, return policy, payment methods, delivery methods, merchant ratings, special offers, and other factors. Comparison protocols may include comparison of multiple offering description fields, universal identifiers (including partial universal identifiers) and/or other verification logic to verify the comparability of offerings from multiple sources.

The invention may also include a system for providing multiple services in support of aggregate purchase transactions. The system may include a search and compare module, a shopping cart module, a checkout module, and a transaction management module. Additional services may be provided by a content module, an advertising module, an account maintenance module, an incentive maintenance module, an address book module, a payment methods module, a purchase analysis module, a shopping lists module, a calendar module, and a user access module. The

content module may present content to the user that is conceptually related to one or more product categories and/or targeted at a common audience. The advertising module may present advertising and promotions to users based upon aggregate navigation and purchase data (e.g., profile based advertising, custom incentives, cross-selling, product recommendations, warranty upgrades, etc.). The account maintenance module may present aggregate account summaries for accounts with different source systems, provide access to account details, store new account profiles for automatically creating new accounts, and provide access to source system details. Source system details may include source descriptions, terms of use, order policies, source reviews, source ratings, customer service access, and source links. The incentive maintenance module may present an aggregate incentive summary, provide access to incentive account details, present incentive updates, provide purchase recommendations based on incentives, recommend use of incentives in purchase aggregation, and provide for incentive exchange. Incentives may include merchant incentives, manufacturer incentives, incentive account rewards, and incentives from other incentive sources. The address book module may store multiple addresses for use in user transactions. The address book module may also store delivery method preferences, special handling instructions, and other delivery preferences. The address book may be accessed through the checkout module and/or may be compatible with personal information management software and devices. The payment methods module may store details for multiple payment methods for access through the checkout module. User payment methods may include aggregate wallets for organizing credit cards, bank cards, debit cards, e-currency, third party wallets,

electronic funds transfer from user financial accounts, and other payment methods. User payment methods may also include a currency exchange module for use in conjunction with the checkout module, including foreign currency exchange, e-currency exchange, and exchange of other instruments of value. The purchase analysis module may include tools for analyzing purchase history and other purchase data. The purchase analysis module may provide access to spending history analysis, provide access to tax information, and provide access to budgeting tools. The purchase analysis module may be compatible with personal finance software and devices. The shopping lists module may include tools for organizing shopping lists and other shopping related information. The shopping lists module may provide access to shopping lists from multiple sources, provide shopping lists organizers, provide access to price monitoring, and present product updates and notices. Shopping lists may include personal shopping lists, want lists, gift registries, third party lists, and other offering lists. The calendar module may include tools for organizing transaction related dates and events and providing notice to users of such dates and events. The calendar module may be compatible with calendar software and related hardware. The multiple user module may providing access to multiple sub-accounts. Each sub-account may include user specific identification and security, preferences and personalization, and user restrictions. User restrictions may include limited access to payment methods, enforced spending limits, product and category restrictions, and personal and limited access shopping lists.

The invention may also include a system and method for distribution of transactions executed through multiple sources. An aggregate purchase system may

receive an order for offerings from a number of sources from a user, and direct an order to each of the sources for at least one item to fulfill the order. Each order to the sources may include shipping information for directing items that fulfill the user order to a distribution system. The aggregate purchase system may also communicate delivery details for the user order to the delivery system. The delivery system may handle items received to fulfill the user order according to the delivery details. The delivery details may include distribution by a delivery method other than that used by at least one of the sources. The delivery details may include combining items received from multiple sources into a single distribution unit for distribution to the user. The delivery details may include a delivery schedule for distributing the items received from the multiple sources according to a predefined schedule. The distribution system may include at least one of central, regional, and local distribution centers. The delivery details may include holding at least one received item at a distribution center for pickup. The distribution system may receive returned items from users. The distribution system may combine returns from multiple users to a particular source into a single shipment to the source. The distribution system may communicate descriptions of the returned items to the aggregate purchase system for reallocation to users. Reallocation to users may include at least one of resale and promotions.

The invention may also include systems and methods for providing an aggregator system for use by third parties. The aggregator system may include a customer interface, a source interface, and a transaction system. The customer interface may communicate with a third party interface system (e.g., destination Web site, interactive television channel, wireless Web site, or other system). The customer

interface may include tools for customizing the aggregator systems. The customer interface may include a user interface. The user interface may be customized to compliment the look and feel of the third party interface system. The customer interface may include at least one of data analysis, reporting, and data mining for transaction directed through the aggregator system. The source interface may be customized for communication with customer selected sources. The transactions system may be customized to execute identification and purchase transactions for customer selected product categories. The customer interface, source interface, and transaction system may be distributed over multiple host systems. The aggregator system may communicate with a plurality of interface systems.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a schematic diagram of a system in accordance with an embodiment of the invention.

Figure 2 is a schematic diagram of a system architecture for a transaction system in accordance with an embodiment of the invention.

Figure 3 is a flow chart of a shopping aggregator method in accordance with an embodiment of the invention.

Figure 4 is a flow chart of a method of providing for product search and comparison in accordance with an embodiment of the invention.

Figure 4a is a flow chart of an item selection method in accordance with an embodiment of the invention.

Figure 5 is a schematic diagram of an example electronic shopping cart in accordance with an embodiment of the invention.

Figure 6 is a flow chart of a purchase aggregation method in accordance with an embodiment of the invention.

Figure 7 is a schematic diagram of the operation of a purchase fulfillment engine in accordance with an embodiment of the invention.

Figure 8 is a schematic diagram of an aggregate transaction management system in accordance with an embodiment of the invention.

Figure 9 is a schematic diagram of an aggregate services system in accordance with an embodiment of the invention.

Figure 10 is a schematic diagram of an account data source of a transaction system in accordance with an embodiment of the invention.

Figure 11 is a schematic diagram of a transaction system in accordance with an embodiment of the invention.

Figure 12 is a schematic diagram of an aggregate distribution system in accordance with an embodiment of the invention.

Figure 13 is a schematic diagram of a system architecture of an embodiment of the invention incorporating a portal system.

Figure 14 is a flow chart of a method of providing a customized aggregate service system according to an embodiment of the invention.

DETAILED DESCRIPTION

According to an embodiment of the invention, a system and method of providing aggregated electronic transactions with multiple sources is provided. In a preferred embodiment, the system includes a single Web site which users can use for purchasing items from multiple e-commerce enabled merchant systems on the Internet. The Web site allows users to browse, search for, and compare items from various merchant systems, without ever leaving the Web site. The Web site provides a shopping cart for aggregating purchase items from the various merchant systems and allows the user to execute a single purchase transaction for items in the shopping cart, even if the items are from different merchant systems. The Web site verifies purchase information from the merchant systems and identifies payment and delivery information for each item in the shopping cart, either from consumer input during the transaction or from stored information at the Web site or merchant systems. The Web site then stores the user's order information and asynchronously sends orders for the items selected to the respective merchant systems for fulfillment. Alternatively, the Web site could send out the orders synchronously with the completion of the transaction.

The Web site may also provide other centralized user services for the merchant systems, such as maintaining transaction histories, providing order status, handling correspondence between the user and the merchant systems, providing customer support, providing account maintenance, and other services. The Web site may provide additional user services and/or aggregate access to the services of multiple other related service providers, such as consumer protection, trade association,

product, and merchant information, shopping lists, contact lists (e.g. delivery addresses), payment information lists (e.g. wallets), calendars (e.g. date reminders), purchase incentives and incentive programs, access privileges and procurement authorization, money management, financial services, distribution services, personal information security, and other services. The Web site may also incorporate intelligent agents for providing multiple purchase configurations, or product and incentive bundles with specific merchants, to take advantage of the purchase options available through the various merchant systems.

The aggregator system may be maintained as a destination site for users with its own interface(s) or may be provided as a back end system for integration into the Web sites (or other interface systems) of third parties. For example, a single aggregator system back end may support a plurality of third party customers with varying interfaces (e.g., Web sites, interactive television programs, wireless services, etc.), target users, preferred product categories, preferred sources, and associated functions and services. An aggregator system may be hosted on one or more customer specific servers or its components may be distributed among a number of servers maintained by a variety of different parties.

These and other embodiments of the invention are described below with regard to Figures 1-14. Several of the figures described below depict multiple functional and data modules according to one or more embodiments of the invention. The modules contain a combination of software and hardware for performing a task or set of tasks. A data processor, memory, and an instruction set (i.e., computer code) may be all that are needed to carry out the tasks for a given embodiment of each module. More

commonly, however, multiple input and output devices, short term and long term memory systems, layers of computer code (i.e., operating system, application software, etc.), communication devices, and multiple processors may be used. Further, multiple modules may share the same hardware and portions of a software library. In some cases, a module may contain one or more other modules. As will be understood by those of ordinary skill in the art, the modules described herein may be embodied in a large number of equivalent combinations of code objects and hardware. The units represented by the modules described are conceptual and should not be construed as a limiting structure for the hardware and software combinations capable of executing the modules' tasks.

Figure 1 is a schematic diagram of a system 100 for providing aggregate services to a user. User terminal device 110, such as a personal computer, is connected to an Aggregator 120, such as a Web site and associated back-end applications. User terminal device 110 may include any input/output device for communicating data over a network, such as a personal computer, telephone, personal digital assistant, wireless device, Internet appliance, interactive television, network game console, or other device. Aggregator 120 may be any system, device, or application which collects comparable data or services from multiple data sources, such as electronic service providers of all kinds, and presents the collected data or services through a combined interface to an end user. Aggregator 120 is connected to a number of data sources, such as data sources 131, 132, 133, and 140. In one embodiment, data sources 131, 132, and 133 are each source systems, such as source Web sites offering transactions for goods and services and associated applications. In

one embodiment, data source 140 is a system database associated with Aggregator 120. Data source 140 may include a database of offering data from data sources 131, 132, and 133. Aggregator 120 collects data from, or otherwise uses the resources of, each of data sources 131, 132, and 133 in order to provide a combined interface to the data and/or services provided by data sources 131, 132, and 133. Aggregator 120 increases user efficiency by allowing the user to access the services of multiple service providers (e.g., multiple Web sites) through a single interface (e.g., an aggregator Web site).

For example, Alex wants to purchase a few CDs on the Internet. Alex tries to be an educated consumer and prefers to comparison shop when time allows. He sits down at his computer (terminal device 110) and directs his browser to a shopping aggregator Web site (Aggregator 120). The shopping aggregator Web site provides access to Barnes&Noble.com™, CDUniverse™, and CDNow™ (data sources 131, 132, and 133). Alex enters an album title into an aggregate search engine that retrieves purchase information for the album from all three Web sites and displays the information for side-by-side comparison. Alex selects a CD from one of the merchants and adds it to his aggregate shopping cart (data source 140). After searching for several CDs, Alex's shopping cart now contains a CD or two from each merchant. Alex decides to check out and purchases all of the CDs from the respective merchants through an aggregate checkout transaction. Alex has searched for, compared, selected, and purchased goods from three different merchants without ever leaving the aggregate shopping site.

Figure 2 is a schematic diagram of a network system 200 in accordance with an embodiment of the invention. In a preferred embodiment, a computer system 210 may communicate with multiple user systems incorporating terminal devices, such as a personal computers 201, 202, and 203. Computer system 210 may host an aggregator Web site available to personal computers 201, 202, and 203 over a network, such as the Internet. Computer system 210 may also communicate with multiple source systems, such as Merchant Systems 220 and 230, and Other Source System 240. Consumers using personal computers 201, 202, and 203 may utilize the e-commerce functions and consumer resources of source systems 220, 230, and 240 through the Web site hosted on computer system 210.

Personal computers 201, 202, and 203 may be disposed in homes, businesses, public clusters, retail locations, and other locations. Other terminal devices for system 200 may include interactive televisions, specialized Internet appliances, kiosks or automatic teller machines (ATMs), Internet enabled wireless telephones and personal digital assistants (PDAs), and other networkable devices having computer processors and input/output capabilities. In a preferred embodiment, a consumer may use any Web enabled terminal device and standard or custom Web browsing software to access computer system 210.

Computer system 210 includes a system of servers and data sources for enabling a consumer service system. Computer system 210 may act as a gateway between user systems, such as personal computers 201, 202, and 203, and source systems, such as Merchant Systems 220 and 230 and Other Source System 240. Data flow between Computer system 210 and user systems, source systems, and other

systems may be directed through a network, such as the Internet, or another data communication system. Computer system 210 may include multiple servers, such as Interface Server 211, Source Interface server 212, or Transaction Server 213. The functions of these servers may be combined in a single server or distributed over any number of interconnected servers. Computer system 210 may support queries from and data exchange with any number of different user systems and source systems at the same time, so that multiple different consumers may simultaneously access the information and functions of computer system 210. Computer system 210 may also include multiple data sources, such as System Data source 214, Source Interface Data source 215, and Account Data source 216. Any number and form of data sources may be used. In one embodiment, the data sources may be integrated in a single database for organization, modification, and retrieval, such as an Oracle® database. The data sources may be integrated with the server system, provided in interconnected data repositories, or provided through network access to a remote storage facility. The division of servers and data sources depicted in Figure 2 is illustrative only and should not be viewed as limiting the operable configurations for enabling the embodiments of the invention.

The servers, User Interface Server 211, Source Interface Server 212, and Transaction Server 213, may cooperate as operative hardware and host the software for enabling an integrated service system. The data sources, System Data source 214, Source Interface Data source 215, and Account Data source 216, provide structured data for enabling at least a portion of the content and functions of the integrated consumer service system. Web Server 211 provides a user interface for consumers

and/or businesses, such as users of personal computers 201, 202, and 203, to access the service system for utilizing the information and services of service providers 220, 230, and 240. Web Server 211 may present a Web site for access over the Internet at a particular Universal Resource Locator address, or URL. Web server 211 may host multiple Web pages containing both static and dynamic content, such as a home page and multiple hierarchical Web pages for selectively providing and receiving information. Web page documents and associated program code may be stored in System Data source 214. Background operations related to Web site functions, such as user log in, new account generation, browsing and selecting purchase items, executing a user order transaction, order status inquiries, and other services, may be provided by Transaction Server 212. Functions in Transaction Server 212 may be executed through a plurality program code files in a programming platform such as Java®. Some functions may include data validation, data formatting, query formatting, data handling, data processing, and other functions. User account data, including log in names, passwords, contact information, transaction histories, merchant account information, and other information may be stored in Account Data source 216. Data for submission to and retrieval from the service provider systems may be handled through Source Interface Server 212. Source Interface server 212 may by a business-to-business (B2B) server using customized protocols, such as data queries and submissions, data scraping agents (e.g. Web Interface Developer Language (WIDL) agents), Electronic Data Interface (EDI), or any other form of data submission and retrieval compatible with a particular service provider system, to interact with each source system. The customized protocols may navigate a user

interface, such as a source system's Web site, or may use direct data transfer protocols to back-end transaction servers and data repositories. Source system specific protocols and other source information may be stored in Provider Data source 215.

Source systems, such as Merchant Systems 220 and 230 and Other Source System 240, may be any network accessible system providing user oriented services. Merchant Systems 220 and 230 may include systems enabled for offering goods or services and accepting binding purchase transactions over a network, such as Egghead.com™, Barnes&Noble.com™, CDUniverse™, and other Internet retailers. Merchant Systems 220 and 230 may also include auctions and exchanges for conducting transactions with individual sellers, group buy services, distributors, manufacturers and other sellers of goods and services. Other Source system 240 may include any system providing user oriented services which provides additional user convenience by being integrated into a single interface for electronic shopping, such as e-centives™, America Online™ wallets, and other service providers. Service provider systems may include servers and data sources, such as Merchant Server 221 and Merchant Data source 222 in Merchant System 220, Merchant Server 231 and Merchant Data source 232 in Merchant System 230, and Service Server 241 and Service Data source 242 in Service Provider System 240. Computer system 210 may communicate with any part of a source system providing functions and information useful to the service system, such as by direct data query to a data source or through a server based transaction.

In one embodiment, computer system 210 utilizes a plurality of protocols customized for interacting with each merchant and service provider system. A library

of such customized protocols may allow computer system 210 to interact with a large number of merchant and other service provider systems for a wide variety of data retrieval and data submission transactions within standardized operating procedures. The use of a library of custom protocols that may be modularly inserted into a larger operational routine may allow computer system 210 to interact with a plurality of systems with highly variable data storage and retrieval and transactional systems. For example, merchant A may have a particular configuration for accepting a user name and password through its Web site for initiating a search request. Merchant B, on the other hand, allows direct access to its product search engine through an EDI interface that is more efficient than accessing Merchant B's search engine through its Web site. Computer system 210 may have a specific "Search Merchant A" protocol and a specific "Search Merchant B" protocol which use different communication protocols and data formats appropriate to the respective merchant systems. Both protocols may be initiated by computer system 210's operational routine for conducting product searches. Modularity provides added expandability which may allow existing transactions to be supplemented with new protocols for additional transaction types (such as the addition of a protocol to access a new wish list function within an existing merchant system) or new protocols for additional service providers (such as the addition of a new merchant system). In one embodiment, search, comparison, price verification, order submission, transaction monitoring, account maintenance, content retrieval, and other transaction types may be represented by a custom protocol for each service provider system. In one embodiment, functional protocol types may be further subdivided into sub-categories for product type, organizer type, payment

method type, incentive type, and similar functional/conceptual subdivisions for promoting added modularity and customizability.

Figures 3-8 depict various aspects of one or more shopping aggregator systems and methods in accordance with an embodiment of the invention. Shopping aggregators are aggregators for providing a combined interface to the systems of multiple merchant service providers.

Figure 3 is a flow chart of a method 300 of purchasing multiple items from multiple sources through a shopping aggregator. In step 310, a desired offering is located from a plurality of merchants. For example, a user may access a shopping aggregator and search or browse in order to locate a desired offering. Purchase data, such as price, tax, shipping, and availability, may be provided for each merchant offering the product for sale. The user may select which merchant she desires to purchase the offering from and add the offering to an aggregate shopping cart. In step 320, selected offerings from a plurality of merchants are accumulated for purchase. For example, the user repeatedly browses and/or searches through the offerings available through the shopping aggregator. Each new offering is added to the user's aggregate shopping cart. The user accumulates a variety of offerings from a number of different merchant systems within the aggregate shopping cart. In step 330, a single purchase transaction is placed through the shopping aggregator. A plurality of orders to the plurality of merchants for purchase items corresponding to the selected offerings are executed based upon the single purchase transaction. For example, the user elects to checkout and selects a delivery and payment method for each offering in the shopping cart. The shopping aggregator may verify offeirng price and availability

and any tax and shipping charges for the user when the user checks out. In step 340, aggregate transaction management may be provided. Transaction management may include access to purchase summaries, delivery tracking, customer service, and other transaction related support. For example, the user may access an aggregate list of orders placed and the fulfillment or shipping status of each item purchased in each order or the user may direct an inquiry regarding any item purchased in an order or any merchant to which the an order was placed through a single customer service inquiry pathway. A variety of options for carrying out each step of method 300 in accordance with one or more embodiments of the invention will be explained and/or understood from the descriptions below regarding Figures 4-8.

Figure 4 shows a method of providing search and comparison for a shopping aggregator. In step 410, one or more offering categories are identified. In step 420, one or more sources are identified for each offering category. In step 430, one or more data access modules are defined for each source system. In step 440, an offering navigation method is provided for locating products carried by each source (e.g., a search engine and/or hierarchical offering listing). In step 450, purchase data is retrieved for each merchant carrying the offering category in response to a user offering search. In step 460, purchase data for each merchant is compared. Locating offering data may include searching an aggregate database for relatively static purchase data (step 455) and or searching source data sources for more dynamic purchase data or purchase data not included in the aggregate database. In step 470, aggregate product data is provided to the user.

Identification of offering categories (step 410) allows more efficient identification of merchants and more efficient searching or browsing for desired products and services by the users. Example product categories may include music, books, movies, software, toys, home electronics, clothing, etc. Product categories may be helpful for determining the types of product data relevant to the product category for searching, comparing, and data aggregation purposes. For example, a book product category might suggest title, author, and format (e.g., hardcover, softcover, etc.) as relevant product data. Product category may also recommend a universal identifier format used within particular industries, such as ISBN's for books. In one embodiment, a product category may allow definition of a highly detailed product data profile for the product in question. For example a book product data profile could include basic information (e.g., title, author, format, ISBN, subject, etc.), publishing information (e.g., publisher, publication date, copyright date, place of publication, etc.), product detail information (e.g., editor, forward author, translator, illustrator, page count, weight, dimensions, sources, cross-references, etc.), and product-related content information (e.g., excerpts, cover shot, synopsis, reviews, ratings, related products, etc.). Product categories may also assist in defining purchase data. For example, condition may be more relevant to a used product category than a new product category. Product categories may be defined according to a hierarchical structure from broad categories through one or more levels of narrower sub-categories. Categories may also include a catch-all category, such as miscellaneous. Categories may include product formats (e.g., tape, CD, video, DVD, etc.), genre (e.g., science fiction, literature, comedy, drama, etc.), or any other organizing concept.

Categories may allow a shopping aggregator to be targeted for a particular consumer niche.

Identification of sources (step 420) identifies the sources for the aggregation of data and services. Sources provide purchase data (e.g., price, shipping, tax, availability, etc.) specific to the source for comparison. Sources may also provide product data and other services, such as account maintenance, shipment tracking, customer service, etc. In one embodiment, identification of sources may include identifying product categories offered by each merchant. In one embodiment, sources may be identified according to purchase transaction type, such as new retail, used retail, auction, group buy, purchase from individual, etc. Identification of sources may allow negotiation of improved methods of data exchange between the shopping aggregator and sources systems. Identification of sources may assist in defining data access modules for retrieving data from a particular merchant system.

Defining data access modules (step 430) allows the shopping aggregator to aggregate data from a number of sources systems, for a number of offering categories, according to a number of data access protocols. Data access modules define the exchange of data between the shopping aggregator and the sources systems. Different data access modules may be used for different sources, different offering categories, different purchase transaction types, different combinations thereof, and other distinctions. In one embodiment, a standard data format and standard communication protocols may allow one or more standard modules to be used for exchanging data with a number of sources systems. Alternatively, one or more modules may need to be customized to the particular data formats employed by each sources system for

each product category and/or purchase transaction type. In one embodiment, data scraping agents (e.g., Web Interface Definition Language (WIDL) agents, spiders, etc.) may be employed to access data through a sources system's Web site. Data scraping agents may be defined to navigate security and account procedures, access a sources system's search engine, locate a particular product, select a particular product, navigate the sources system's checkout, and navigate the sources system's transaction management and account maintenance interfaces. The data scraping agent may return relevant purchase, product, and transaction data to the shopping aggregator throughout the Web site navigation procedure. In one embodiment, definition of data access modules includes identifying the location and type of each data element which may be relevant to the shopping aggregator. For database driven data exchange, identifying data may include harmonizing or converting database keys, field names, and or data types. For Web site driven data exchange, identifying data may include identifying the location and type of data displayed in each Web interface. In one embodiment, data may be provided with metadata tags defining standardized field types and data formats and data access modules may utilize the metadata tags to locate and retrieved desired data. In one embodiment, defining data access includes evaluating the target merchant data source and customizing standard data access modules from a module library for the particular demands of the merchant data source interface.

Providing offering navigation (step 440) allows specific offerings and/or purchase data to be located for each source (step 450). In one embodiment the shopping aggregator accesses search engines provided by one or more sources or third party systems for locating offering and/or purchase data (step 456). For example, the

shopping aggregator may navigate a source Web site and initiate a search through the source's search engine. In one embodiment, the shopping aggregator accesses a system search engine for the data of one or more source systems, such as an aggregate search engine. For example, a system search engine may execute a query to a number of product databases for each source system. In one embodiment, a system database and associated search engine may be provided to locate a basic product description and that basic product description may be used to conduct queries to merchant product databases or merchant search engines for additional product data and merchant specific purchase data (step 455). In one embodiment a search engine may be supplemented or replaced by any method of identifying a desired product, such as hierarchical product categories, merchant-specific or aggregate catalogue-style browsing, or any other method or combination of methods

Retrieving data (step 460) provides offering, purchase, and transaction data to the shopping aggregator from source and system data sources. Data retrieval occurs on a transaction-by-transaction basis in order to provide current aggregate data for the shopping aggregator. Data retrieval may use search engines and data access modules as described above to locate and retrieve relevant data. Data may be retrieved sequentially or simultaneously from a number of data sources. Data may be retrieved in stages over the course of a transaction and may be conditioned upon providing data to the data source. In one embodiment, data retrieval may occur periodically from merchant systems in order to maintain a system database of relatively stable offering data and purchase data. For example, basic product information may be queried periodically to update a product database for new or discontinued product data, or

shipping methods, shipping costs, and payment methods may be queried periodically to update source purchase data that changes infrequently.

Comparing data (step 460) allows evaluation of comparable offerings available from multiple sources. Any number of factors may be considered for offering comparisons and may include comparisons of offering data, purchase data, merchant data, and other data. In one embodiment, comparison between identical offerings offered by multiple source may include a multi-factor comparison. For example, comparison factors may include price, shipping costs, availability, taxes, return policy, payment methods, delivery methods, source ratings, special offers, etc. In one embodiment, offering comparison may include evaluation protocols to ensure that only truly identical or nearly identical products are compared. For example, the shopping aggregator may perform a side-by-side comparison of multiple offering data fields retrieved from the respective sources to ensure that details, such as publication date, translator, or other details, correlate. In one embodiment, data access modules may be defined to extract universal identifiers or partial universal identifiers which may be buried in other data. For example, a merchant may not provide a field for ISBN for books, but may use a portion of the ISBN within the merchant's stock number. The location and portion of the ISBN may be identified by the data access module such that the extracted portion of the ISBN may be compared to the proper portion of the ISBN provided by another merchant. In one embodiment, a comparison verification logic may be provided for rating the similarity between product data fields from different merchants. Comparison verification logic may identify fields in which complete matches are required. Comparison verification logic may include definitions

of acceptable variations (e.g., "The" in a title being equivalent at the beginning of the title or following a comma at the end of the title, alternative spellings and common misspellings, etc.).

Aggregating offering data (step 470) may provide a user with a more complete description of a product of interest than is available from a particular data source. Aggregating product data may include using basic product data to locate product detail data, publication data, and product related content data from multiple merchants and/or other sources. For example, Merchant A may include a cover shot graphic file within the product data for each product it carries. Merchant B may include complete publication data. Merchant C may include an excerpt and user reviews. The shopping aggregator may provide combined product data to the user including the cover shot, publication data, excerpt, and user reviews to allow the user to evaluate the product. The aggregate product data may have no bearing upon which merchant from which the product is actually selected for purchase. Further, non-merchant data sources may be used to provide additional product data. For example, the shopping aggregator may also search a consumer reporting or product review data source to provide additional product data to the user.

Figure 4a shows a flow chart of a method 480 of using a shopping aggregator to identify, compare, and select an item for purchase according to an embodiment of the invention. In one embodiment, method 480 may be executed using a shopping aggregator operating according to the method 400 of Figure 4. In step 481, an offering category may be selected by the user. For example, the user may select to shop for books from a list of available product categories. In step 482, the user inputs

a offering description. For example, the user may input a title, author, or other information describing a particular book. In step 483, the user initiates a offering search based upon the input offering description. For example, a search may be run against a product database to locate products matching the description provided by the user. In one embodiment, the search is submitted to the product search engine of a merchant system to locate one or more products matching the description. The search may return a plurality of products matching the description. In one embodiment, the user submits more complete description of the desired product based upon the search results from the initial search. The search is directed to multiple merchants carrying the product or the product category. For example, a complete author and title may be extracted from a selected product description returned from the search in step 483 and submitted to a number of merchants available to the shopping aggregator. In step 485, the user views results returned from the source systems queried. For example, a list of purchase items matching the product description may be displayed for each merchant. In step 486, the user may access additional offering information and analysis. For example, a product graphic, product rating, product reviews, an excerpted chapter, or other product specific information may be viewed for the product displayed. In step 487, the user may select an offering from those displayed. For example, the user may select the particular edition and format of the book being sought. In step 488, source specific purchase data for the offering selected is displayed for each source system offering the offering. For example, a list of merchants with price and availability may be provided for side-by-side comparison. In step 489, the user may access additional source-specific information. For example, merchant ratings, merchant reviews,

merchant shipping and tax charges, terms of use, return policy, and other information may be available. In one embodiment, steps 485 and 488 may be combined into a single step allowing the user to view a listing of a variety of offerings and each source through which each offering is available. Steps 486 and 489 may be automatically available as part of the results format and/or may be viewed as additional information through an alternate interface, such as a pop-up window. In step 490, the user selects an offering for purchase. For example, a user may decide on a particular item from a particular merchant and add it to the user shopping cart. In one embodiment, the user need not commit to a source when selecting an item for purchase and source options may be provided during an aggregate ordering transaction.

Figure 5 is a schematic diagram of an example Aggregate Shopping Cart 500. Aggregate Shopping Cart 500 allows a user to accumulate selected items for purchase. Aggregate Shopping Cart 500 may include product, purchase, transaction, and merchant data for items searched for, compared, and/or selected for purchase. Aggregate Shopping Cart 500 and be used by a ordering or checkout module as the basis of an aggregate purchase transaction for the user. In one embodiment, Aggregate Shopping Cart 500 may include a record of the shopping history of one or more shopping sessions, including product searches, search results, product and item selections, data retrieved, and any purchases actually executed, regardless of whether or not the shopping session yielded item selections or executed purchase transactions. In one embodiment, Aggregate Shopping Cart 500 includes minimal purchase, product, transaction, and merchant data for a shopping session in order to utilize minimal memory while still enabling an aggregate purchase transaction. Aggregate

Shopping Cart 500 may be a module resident within the shopping aggregator system, the user system, or another data source. In one embodiment, data for Aggregate Shopping Cart 500 may be provided through a file deposited in a user system (e.g., a cookie). In one embodiment, Aggregate Shopping Cart 500 may include a number of locators (e.g., pointers or links) for product, purchase, transaction, and merchant data distributed among multiple systems. Aggregate Shopping Cart 500 may be maintained between user sessions such that the contents of Aggregate Shopping Cart 500 are not lost if the session is interrupted or terminated by the user. The contents of Aggregate Shopping Cart 500 may be maintained for a finite duration or may be reset by the user.

Aggregate Shopping Cart 500, as shown, includes data from a shopping session in which three purchase items (Purchase Item 1 510, Purchase Item 2 520, and Purchase Item 3 530) have been selected and four different merchants (Merchant 1, Merchant 2, Merchant 3, and Merchant 4) offer the selected products. Aggregate Shopping Cart 500 includes purchase data for each item and each merchant carrying the item (Purchase Data 511, 512, 521, 522, 523, 531, 532, and 533). Aggregate Shopping Cart 500 includes aggregate product data for each item (Product Data 513, 524, and 534). Aggregate Shopping Cart 500 includes merchant and/or transaction data for each merchant (Order Data 540, 550, 560, and 570). Aggregate Shopping Cart 500 includes transaction data for the selected contents of Aggregate Shopping Cart 500 (Aggregate Order Data 580).

For example, Purchase Item 1 510 may be a book available from Merchant 1 and Merchant 2. Purchase Data 511 may include the price (e.g., $19.95) and

availability (e.g., ships in 2-3 days) of the book for Merchant 1. Purchase Data 512, may include the price (e.g., $23.95), availability (e.g., ships in 5-7 days), and special offer information (e.g., free book light with purchase). The user has selected to purchase the book from Merchant 1 (e.g., based on superior price and availability). Product Data 513 may include basic, detailed, publication, and product related content data for the item selected. For example, it may include the author, title, and format information used to search for the book; detailed physical specifications (e.g., pages, weight, and dimensions) and detailed publication information (e.g., publication date, publisher, and place of publication) retrieved from Merchant 1; and a cover shot and excerpt retrieved from Merchant 2.

Purchase Item 2 520 may be a CD available from Merchant 2, Merchant 3, and Merchant 4. Purchase Data 521 may include price (e.g., $13.95) and availability (e.g., ships same day) for the CD from Merchant 2. Purchase Data 522 may include price (e.g., $11.95) and availability (e.g., ships in 5-7 days) for the CD from Merchant 3. Purchase Data 523 may include the price (e.g., $11.95) and availability (e.g., ships same day) for the CD from Merchant 4. The user has selected to purchase the CD from Merchant 2 (e.g., even though Merchant 4 has superior item price and same availability, additional merchant costs such as tax and shipping and a worse return policy and merchant rating, see Order Data 570 below, may justify selecting Merchant 2). Product Data 524 may include the artist, title, and format used for the search, record label and publication year from Merchant 2, a cover shot from Merchant 3, and a song list and sound files from Merchant 4.

Purchase Item 3 530 may be software available from Merchant 1, Merchant 2, and Merchant 3. Purchase Data 531 may include price (e.g., $39.95), availability (e.g., ships same day) and special offer ($20.00 mail-in rebate) for the software from Merchant 3. Purchase Data 532 may include price (e.g., $29.95) and availability (e.g., ships 2-3 days) for the software from Merchant 1. Purchase Data 533 may include price (e.g., $29.95), availability (e.g., out of stock/backordered), and special offer ($20.00 mail-in rebate) for the software from Merchant 2. The user has selected the software from Merchant 3 (e.g., based upon the special offer and availability). Product Data 534 may include the title, version, format, and manufacturer used for the product search, cover shot from Merchant 3, and a software review from a software review service provider.

Order Data 540 for Merchant 1 may include merchant and transaction data for Merchant 1. Merchant data may include shipping costs (e.g., $4.50 for orders under 2 lbs, + $1.00 for every 1 lb. after the first), tax (e.g., 7% for residents of New York), merchant rating (e.g., 5 stars), return policy (e.g., within 30 days), delivery methods (e.g., UPS ground, UPS overnight +$15.00, etc.), and payment methods (e.g., Visa, Mastercard, Discover, American Express, etc.). Transaction data may include a link to a merchant shopping cart populated with purchase item 1 for use by the shopping aggregator's purchase fulfillment engine.

Order Data 550 for Merchant 2 may include merchant and transaction data for Merchant 2. Merchant data may include shipping costs (e.g., $5.00 for orders under $100, free for orders over $100), tax (e.g., 8% for residents of California), merchant rating (e.g., 5 stars), return policy (e.g., within 90 days), delivery methods (e.g., U.S.

mail book rate, etc.), and payment methods (e.g., Visa, Mastercard, American Express, etc.). Transaction data may include a user account number and password to be used by the order fulfillment engine when placing an order to Merchant 2.

Order Data 560 for Merchant 3 may include merchant and/or transaction data for Merchant 3. Merchant data may include shipping costs (e.g., $3.00 for orders under $50, + $2.00 for every $50 after the first), tax (e.g., 7% for residents of New York), merchant rating (e.g., 4 stars), return policy (e.g., within 30 days), delivery methods (e.g., UPS ground, UPS overnight +$15.00, Federal Express overnight +$20.00, U.S. Mail Express Mail +$5.00, etc.), and payment methods (e.g., Visa, Mastercard, Discover, American Express, personal check, etc.). There may not be any transaction data.

Order Data 570 for Merchant 4 may include merchant and/or transaction data for Merchant 4. Merchant data may include shipping costs (e.g., $7.50 for orders under $20, + $1.00 for every $20 after the first), tax (e.g., 5% for residents of Delaware), merchant rating (e.g., 2 stars), return policy (e.g., all sales final), delivery methods (e.g., UPS ground, UPS overnight +$15.00, etc.), and payment methods (e.g., Visa, Mastercard, Discover, American Express, etc.). There may not be any transaction data.

Aggregate Order Data 580 may include a summary of a hypothetical purchase transaction for the contents of Aggregate Shopping Cart 500. For example, an order for purchase item 1 may cost $24.45 ($19.95 + $4.50 shipping), purchase item 2 may cost $18.95 ($13.95+ $5.00 shipping), and purchase item 3 may cost $42.95 ($39.95 + $3.00 shipping), for a total order cost of $86.35. Aggregate Order Data 580 may also

include special offers from the shopping aggregator (e.g., free shopping aggregator beach ball with any purchase).

Figure 6 is a flow chart of a method 600 of executing a purchase transaction according to an embodiment of the invention. For example, method 600 may be followed when a user of a shopping aggregator elects to checkout. Steps 610, 620, 630, 640, and 650 may describe a user checkout transaction. Steps 611 and 612 describe optional steps for aggregating purchases according to purchase item bundles other than those originally designated by the user (if merchant selections were initially made by the user). Steps 615 and 660 describe optional verification steps used by a shopping aggregator to facilitate the order fulfillment transactions corresponding to those described during the checkout process. Steps 625 and 635 describe optional steps for providing additional user convenience during the checkout process.

In step 610, a plurality of selected purchase items are bundled by merchant into a purchase configuration. For example, if there are four purchase items in a user's shopping cart, two from merchant A and two from merchant B, the items may be bundled into a purchase configuration containing two product bundles, one for the two items from merchant A and one for the two items from merchant B. In one embodiment, selected items may be pre-bundled within an aggregate shopping cart prior to executing a checkout transaction. In one embodiment, items may be grouped by the user in addition to merchant bundling in order to assist in purchase item tracking and personal organization. For example, a user purchasing several gifts for family members and several items for herself may wish to provide a group designation for the products according to who the item is for. Groupings may assist personal

record keeping, order tracking, and providing purchase order details in steps 620, 630, 640, and 650.

Steps 611 and 612 provide for generating and selecting alternative purchase configurations containing different product bundles in order to meet one or more purchase objectives. In step 611, a plurality of redundant purchase configurations are optionally generated based upon the availability of at least one purchase item from multiple merchants. For example, if item 1 is available from merchants A and B, item 2 is available only from merchant A, and items 3 and 4 are available only from merchant B, two redundant purchase configurations are available, item 2 from merchant A and items 1, 3, and 4 from merchant B or items 1 and 2 from merchant A and items 3 and 4 from merchant B. In one embodiment, purchase data for each merchant offering a purchase item for sale may be included in the aggregate shopping cart in order to enable generation of redundant purchase configurations. In one embodiment, a purchase order summary for each purchase configuration may be calculated. For example, a summary of the costs (i.e., the total cost of all purchase bundles within a give purchase configuration), availability, and other data for each purchase configuration may be generated.

In step 612, a preferred purchase configuration is selected from the redundant purchase configurations. Purchase configuration selection may be made manually by the user or may be automated according to a hierarchy of aggregation priorities (e.g., minimize cost, minimize shipping delay, maximize items chargeable to Visa, etc.). In the case of manual selection, the purchase configurations may be ranked according to aggregation priorities in order to assist the user in selection. The priorities may be

defined per item (e.g., minimize the cost of item 1, minimize the delivery time of item 2, etc.) or may be broadly defined for the purchase configuration as a whole. In one embodiment, the user may be able to view and rearrange purchase configurations by selecting various aggregation priorities. In one embodiment, the user may define a set of default preferences for selecting from among the various purchase configurations. For example, if the user defined price to be the primary product configuration priority, the various combinations may be evaluated to minimize purchase costs, taxes, and shipping costs. In one embodiment, the default preferences are used to automatically select a purchase configuration. The user may alter the priorities from the default preferences for a given purchase transaction or purchase item.

In step 615, account management information may optionally be accessed to verify user account information with each merchant with that maintains a merchant account system. In some cases, merchants may require purchases to be executed through a user account. In some cases, it may be preferable to use an account specific to a user in order to simplify the order process or earn purchase incentives from the merchant. For example, the consumer service system may verify that the user has accounts with both merchant A and merchant B. In one embodiment, if the user lacks an account with one or more of the merchants, a protocol may be initiated to acquire a new user account.

In steps 620, 630, 640, and 650, purchase details for individual items or purchase bundles may be defined. Both payment information and delivery information may be influenced by the purchase transaction type (e.g., purchase order, pre-order, auction, group buy, etc.) for the merchant system. In one embodiment, purchase

details for the user may be predefined as user preferences need not be redefined for each purchase transaction unless the user wishes to. In step 620, a delivery location and method may be selected for each purchase item or purchase item bundle. For example, the user may select to send items 1 and 2 via UPS next day delivery to the user's home address and items 3 and 4 via Priority Mail to the user's work address. The user may choose destination address, shipping method, and other delivery parameters for each item in the order, according to the options available from the merchant through which the order is being placed. In one embodiment, additional options may by provided by an alternate distribution system, such as a delivery service or an aggregate distribution system. In step 625, a contact list may optionally be accessed for selection of destination addresses for delivery. For example, the user may be prompted to select a destination address from the addresses available in the contact list or address book. In step 630, a payment method may be selected for each purchase item or purchase item bundle. For example, the user may choose to pay for items 1 and 2 with a credit card and items 3 and 4 by a debit from the user's checking account. Payment selection may include choosing payment schedule, payment method, acceptable price parameters, bid structure, or other payment information for each purchase item. In step 635, a list of payment methods may optionally be accessed for selecting the payment method for each purchase item or purchase item bundle. For example, a user wallet may be provided containing the necessary information for each of the user's payment methods, such as a number of credit and debit cards. In step 640, a delivery schedule or delivery priority for each purchase item or purchase item bundle may be selected. For example, the user may select for

items to ship as they become available or be held for a complete order or particular item. In step 650, transaction management options for each item may be selected. For example, the user may elect to be notified when each item is shipped or may elect to be notified after all items have been shipped.

In step 660, the total cost of each item bundle and the total order cost may be verified. For example, the integrated service system may populate shopping carts at merchant A and merchant B and return the total cost of each order from the merchant systems. Purchase item availability may also be verified. In one embodiment, purchase information may be verified during aggregation or after aggregate selection through a background inquiry to the merchant system. The user may then elect to complete the order transaction and final purchase information may be submitted to the order fulfillment engine.

Figure 7 shows the operation of an example Purchase Fulfillment Engine 700. In one embodiment, a number of user purchase orders (User Orders 710, 720, and 730) containing bundled purchase items with complete purchase details may be directed to Purchase Fulfillment Engine 700. Purchase Fulfillment Engine 700 directs fulfillment orders (fulfillment orders 741, 742, 751, and 761) to a number of merchant systems (merchant system 740, merchant system 750, and merchant system 760). In one embodiment, user purchase orders include identification of merchant for each purchase item bundle, as well as various purchase details, such as payment method, delivery method, delivery destination, and other details. Purchase Fulfillment Engine 700 directs fulfillment orders containing product data and purchase data sufficient to execute an order transaction to each merchant system for the purchase items bundled

for that merchant. Data for purchase fulfillment orders may be exchanged with each merchant according to predefined protocols, such as pre-defined data access protocols. As discussed above with regard to Figure 4, data access protocols may include data scraping agents and other data exchange protocols. Fulfillment orders may be delivered to the merchant systems instantly (i.e., at the time the purchase transaction is executed by the user), or asynchronously (i.e., after a period of delay). In one embodiment employing asynchronous order fulfillment, the user purchase order or a portion of the user purchase order may be held in a data repository associated with Purchase Fulfillment Engine 700 until the order is directed to the merchant systems. In one embodiment, purchase orders from multiple users may be aggregated into a single batch order for submission to one or more merchants.

In the example shown, three user orders are submitted to Purchase Fulfillment Engine 700. User Order 710 includes two purchase item bundles, one for Merchant 1 (bundle 711) and one for Merchant 2 (bundle 712). Bundle 7ll includes two purchase items (Item 1 and Item 2). Bundle 712 includes one purchase item (Item 3). When User Order 710 is executed by the user, it is passed to Purchase Fulfillment Engine 700. Purchase Fulfillment Engine 700 identifies the purchase item bundles and the merchants to which they are to be submitted. Purchase item bundles may be handled according to the handling protocols defined for the merchant. For example, orders to Merchant 1 may be handled synchronously utilizing the merchant shopping cart populated during verification of the purchase data during the checkout transaction. Purchase Fulfillment Engine 700 accesses the populated shopping cart at Merchant 1 using a pre-defined data access module and a URL or other data provided within the

data of User Order 710. Placement of the order for items 1 and 2 (fulfillment order 741) returns order confirmation and/or transaction management data (e.g., order tracking number) to be used in subsequent transaction management sessions for User Order 710. Orders to Merchant 2 are handled by asynchronous batch order placement. Bundle 712 is held within a data repository for later processing with other bundles for Merchant 2. When conditions are met (e.g., a designated time arrives for batch data exchange with Merchant 2), Bundle 712 is submitted to Merchant 2 (merchant system 750) in fulfillment order 751.

User Order 720 includes two purchase item bundles, one for Merchant 1 (bundle 721) and one for Merchant 2 (bundle 722). Bundle 721 includes two purchase items (Item 4 and Item 5). Bundle 722 also includes two purchase items (Item 6 and Item 7). Bundle 721 for Merchant 1 may be handled substantially as bundle 711. Purchase Fulfillment Engine 700 accesses the populated shopping cart at Merchant 1 using a pre-defined data access module and a URL or other data provided within the data of User Order 720. Placement of the order for items 4 and 5 (fulfillment order 751) returns order confirmation and/or transaction management data to be used in subsequent transaction management sessions for User Order 720. Orders to Merchant 3 are handled by asynchronous single order placement. Bundle 722 is held within a data repository for later processing during non-peak hours for Merchant 3. When conditions are met (e.g., a designated time arrives for executing purchase transactions with Merchant 3), Bundle 722 is submitted to Merchant 3 (merchant system 760) in fulfillment order 761. Merchant system 760 may return order confirmation and/or

transaction management data associated with each purchase item or purchase item bundle for use in transaction management sessions.

User Order 730 includes one purchase item bundle for Merchant 2 (bundle 731). Bundle 731 includes two purchase items (Item 8 and Item 9). When User Order 730 is executed by the user, it is passed to Purchase Fulfillment Engine 700. Bundle 731 may be handled substantially as bundle 712. Bundle 731 is held within a data repository for later processing with other bundles (e.g., bundle 712) for Merchant 2. When conditions are met, Bundle 731 is submitted to Merchant 2 (merchant system 750) in fulfillment order 751.

Figure 8 shows an aggregate Transaction Management system 800. Transaction Management system 800 may include a plurality of modules for providing aggregate monitoring of post purchase activities and other services of merchant systems and other service providers. In one embodiment, Transaction Management system 800 includes a Transaction Summary module 810, a Message Handling module 820, an Order Update Messaging module 830, and a Customer Service Module 840.

Transaction Summary module 810 allows the user to access an aggregate history of transactions made with a plurality of merchants or service providers. In one embodiment, Transaction Summary module 810 provides information on each transaction executed through a shopping aggregator, including orders placed, orders filled, and orders canceled. In one embodiment, transactions executed with merchant or other service provider systems that were not made through the shopping aggregator may still be included in Transaction Summary module 810. For example, Transaction

Summary module 810 may access a user account at a merchant system and retrieve data on transactions executed directly between the user and the merchant system. Alternatively, a user may log past transactions into Transaction Summary module 810. In one embodiment, a transaction record for each transaction is maintained in a data source by Transaction Summary module 810. In one embodiment, Transaction History module 251 queries the plurality of merchant and other service provider systems to retrieve transaction history information from the transaction history engines of those systems. In one embodiment Transaction Summary module 810 includes a Current Order Status module 811, Pre-Order Status module 812, Scheduled Purchase Status module 813, Price Monitor List Status module 814, and Transaction Archive module 814. In one embodiment, records for each of the sub-modules may be displayed separately, as part of a combined interface, or in any combination.

Current Order Status module 811 includes records on all orders which are still active. In one embodiment, active orders may include any order which has not yet been shipped. Alternatively, active order may include all orders which have not yet been received at their destination or may include a set duration after shipment or receipt (e.g., 30 days after the last item in the order was shipped). In one embodiment, an item-by-item summary may be provided for each active order. The item-by-item summary may include, for example, a purchase item identifier (e.g., title and author for a book, etc.), date ordered, expected ship date, date shipped, date charged, tracking number, and cancellation, if available.

Pre-order Status module 812 may provide records of any purchase items pre-ordered. Pre-order status may include any transaction conditioned on the availability

of an item. In one embodiment, Pre-order Status module 812 may include outstanding group buy and auction bids, products ordered before release, back ordered and raincheck items, and other conditional purchases. In one embodiment, an item-by-item summary may be provided. The item-by-item pre-order summary may include a purchase item identifier, date ordered, expected release/auction end/restock date, and cancellation (if available).

Scheduled Purchase Status module 813 may provide records of any purchase items scheduled for future or recurrent purchase not dependent on an availability limitation. Scheduled purchase status may include any transaction based upon a future date, such as a birthday, anniversary, or monthly or weekly occurrence. In one embodiment, Scheduled Purchase module 813 may include recurrent purchases, such as a monthly order for dog food or weekly order for milk. In one embodiment, Scheduled Purchase module 813 may include recurring pre-orders, such as magazine subscriptions. In one embodiment, an item-by-item summary may be provided. The item-by-item scheduled purchase summary may include a purchase item identifier, date ordered, start date, end date, period of recurrence, and cancellation.

Price Monitor List Status module 814 may provide records of any products which the user would like to monitor the price of. In one embodiment, Transaction Management System 800 may make periodic queries to one or more merchants to verify the price of a listed product. In one embodiment, all items purchased may be added to the price monitor list in order to provide price protection for the user. In one embodiment, an item-by-item summary may be provided. The item-by-item pre-order

summary may include a purchase item identifier, price, merchant(s) offering the price, dates to monitor price, frequency or price verification, and cancellation.

Transaction Archive module 815 may provide records of all purchase items ordered by the user for a preceding period. Transaction Archive module 815 may include all past transactions which no longer have active status. In one embodiment, Transaction Archive module 815 may provide a detailed history of all shopping activity, including searches and results, merchants accessed, products compared, products purchased and not purchased, and other data. In one embodiment, an item-by-item summary may be provided.

Message Handling module 820 may provide correspondence handling for messages between the plurality of merchants and other service providers and the user. In one embodiment, Message Handling module 820 allows the user to nominate one or more of the plurality of merchants and other service provider systems and have all messages from those merchants and other service providers directed to Message Handling module 820. In one embodiment, Message Handling module 820 receives messages from the plurality of merchants and other service providers regarding the status of purchase items ordered through them. Message Handling module 820 may include Message Forwarding module 821, Message Data Mining module 822, and Message Archive module 823. Message Forwarding module 821 may redirect transaction updates and other correspondence received via electronic mail or another messaging platform. Messages are directed from the merchant to Transaction Management system 800 and from Transaction Management system 800 to the user. In one embodiment, Message Forwarding module 821 may provide message filtering

and only forward messages requested by the user (e.g., forward transaction updates but not solicitations for other products). Message Data Mining module 822 extracts order information for updating data used by Transaction Summary module 810, Order Update Messaging module 830, and other functions. Message Archive module 823 provides access to past message received from merchants and other service providers. Message Archive module 823 may retain messages for a predefined period of time. Message Archive module 823 may be searchable and browsable.

Order Update Messaging module 830 provides communication to the user regarding changes or updates in transaction status. Order Update Messaging module 830 may include Status Change Update module 831. Status Change Update module 831 monitors changes in active transactions to provide notification to the user. In one embodiment, Status Change Update module 831 may periodically initiate status inquiries through merchant transaction management systems. Alternatively, a status change may be recognized by data extracted from a message by Message Handling module 820. In the event of a status change, Status Change Update module 831 may evaluate notification conditions for providing notice to the user. Status Change Update module 831 may also modify the status data used by Transaction Summary 810 or aggregate status changes for periodic updates. In one embodiment, the user may define notification conditions such that the user receives only the selected update messages. For example, the user may choose to receive only aggregate order status reports.

Customer Service module 840 provides a user with customer service for dealing with the plurality of merchant and other service provider systems. In one

embodiment, Customer Service module 840 includes a compiled list of contact information or communication links to the customer service systems of the plurality of merchant and other service provider systems. In one embodiment, Customer Service module 840 may include Service Request Gateway module 841, Customer Advocates module 842, and Customer Complaint Archive 843. Service Request Gateway module 841 accepts customer service inquiries and redirects them to the customer service systems of the appropriate merchant or merchants to handle the service request. For example, Service Request Gateway module 841 may accept submission of comments regarding an aggregate order through a Web form, electronic mail message, or other mode of communication. The comments may be evaluated and redirected to the merchant and other service provider systems to which they are relevant. Service Request Gateway module 841 may also receive responses from the merchant and other service provider systems and formulate an aggregate response to the user inquiry. Customer Advocates module 842 may provide logic for evaluating customer service requests and providing a customer service liaison to one or merchant systems to assist in resolving the customer service request. In one embodiment, evaluation of customer service requests may include preliminary evaluation of the merits of the claim, the user's history of customer complaints, the value of the transaction, and other considerations. Customer Complaint Archive 843 may include an aggregate history of customer service requests and comments submitted by a user. Customer Complaint Archive module 843 may allow a user to document customer service requests and responses. In one embodiment, Customer Complaint Archive module 843 may also influence merchant ratings. In one embodiment, Customer

Complaint Archive module 843 may be evaluated to determine the handling of customer service requests in Customer Advocates module 842. For example, a user who routinely complains may simply have the comments forwarded to merchant and service provider systems without further comment, whereas a user who frequently orders and rarely complains may be given additional support for seeking satisfactory conclusion of the user's customer service inquiry.

Figure 9 shows an Aggregate Service System 900. Aggregate Service System 900 provides a user with a variety of aggregated services. In one embodiment, Aggregate Service System 900 may include a user interface for providing the variety of services, such as a Web site or user application. In one embodiment, Aggregate Service System 900 includes a Shopping Engine interface 910, such as the shopping aggregator described above with regard to Figures 3-8. Aggregate Service System 900 may further include a number of shopping related interfaces and associated services for enhancing a user's shopping experience. For Example, Aggregate Service System 900 may include a Content interface 920, an Advertising interface 925, an Account Maintenance interface 930, am Incentive Maintenance interface 940, an Address Book interface 950, a Payment Organizer interface 960, a Purchase Analysis interface 965, a Shopping Lists interface 970, a Calendar interface 980, and a Users interface 990. In one embodiment, Aggregate Service System 900 may include an aggregate service Web site providing an integrated shopping solution for Internet shoppers.

Shopping Engine interface 910 may allow the user to purchase products (e.g., goods and services) from a number of merchants through a single interface or set of interrelated interfaces. Shopping Engine interface 910 may allow a user to execute a

number of shopping tasks. For example, Shopping Engine interface 910 may include a Search and Compare interface 911, a Shopping Cart interface 912, a Checkout interface 913, and a Transaction Management interface 914. Search and Compare interface 911 allows a user to browse and search for desired products and compare related and/or comparable products from various merchants. Search and Compare interface 911 may also allow a user to view detailed information about some products and/or select items for purchase. Shopping Cart interface 912 allows a user to view information about products selected and to add, remove, and change selected purchase items. Checkout interface 913 allows a user to execute an aggregate purchase transaction for some or all of the purchase items in the user's shopping cart. Transaction Management interface 914 allows a user to access information about past purchase transactions or other transactions. Further details of the services which may be offered through Shopping Engine interface 910 are described or may be understood from the descriptions of Figures 3-8 above.

Content interface 920 may provide the user with access to information which complements the services of Shopping Engine interface 910 or is targeted to a specific audience for Aggregate Service System 900. For example, Shopping Engine interface 910 may be targeted to selling products and services to mothers and Content interface 920 may include information of interest to mothers. Content interface 920 may include Shopping Content interface 921 and Related Interest Content interface 922. Shopping Content interface 921 may include product related content, such as featured product profiles, product and merchant reviews, consumer reports, product related articles and features, etc. Related Interest Content interface 922 may include content

not directly related to products, such as articles and features on child health and safety, career information for working mothers, community specific family activities calendar, targeted entertainment features, etc.

Advertising interface 925 provides product advertising to the user. Advertising may include product advertisements for products available through Shopping Engine interface 910 and/or may include advertisements for other products and services. Advertising interface may assist in informing the user of products of possible interest and may provide a revenue stream for Aggregate Service System 900. In one embodiment, Advertising interface 925 may include banner advertisements, pop-up advertisements, and other advertisement formats. Advertising interface 925 may include a Targeted Advertising interface 926 and a Product Advisor interface 927. Targeted Advertising interface 926 may include advertising customized to the specific user based upon user preferences or data mined from user behavior. Product Advisor interface 927 may include an interface for providing product recommendations to a user in response to a user request or in accordance with user behavior through another interface, such as Shopping Engine interface 910. For example, Product Advisor interface 927 may be initiated when a user selects to place a particular purchase item in their shopping cart to suggest a complimentary item (e.g., the user selects a printer and the Product Advisor interface 928 recommends printer cable, printer paper, or other printer accessories).

Account Maintenance interface 930 allows a user to access information and services for a variety of accounts through a single interface or interrelated set of interfaces. The variety of accounts may include a number of merchant accounts for

merchant systems which utilize an account system to monitor customers and provide customer targeted services. For example, Account Maintenance interface 930 may include access to a user's accounts with Barnes&Noble.com™, CDUniverse™, and Egghead.com™. The variety of accounts may include other accounts for other types of service providers, such as content providers, incentive providers, financial service providers, and others. For example Account Maintenance interface 930 may include access to a user's accounts with NYTimes.com™, ecentives.com™, Quicken.com™, and AOL.com. Account Maintenance interface 930 may include an Account Summary interface 931, a Service Provider Details interface 932, an Account Access interface 933, and a New Account Profile interface 934. Account Summary interface 931 may include a summary of a number of accounts for a given user. In one embodiment, Account Summary interface 931 may provide information such as service provider identification, user name, password/obscured password/password hint, and a listing of active transactions for the account. Service Provider Details interface 932 may provide access to general information about service providers available through Aggregate Service System 900. In one embodiment, Service Provider Details interface 932 may include service provider identification, a service provider description, terms of use/order policies, service provider reviews, service provider ratings, customer service information, and links to service provider Web sites. In one embodiment, service provider description may provide basic information about the merchant and a the types of goods or services the merchant sells, as well as other services provided such as incentives, shopping lists, gift registries, product updates, and other added services. Account Access interface 933 may provide a user

with access to additional details, services, and account maintenance functions for a service provider. In one embodiment, Account Access interface 933 may provide a link to the user's account at the service provider's Web site. In one embodiment, Account Access interface 933 may provide access to details through a standard sub-interface of the Account Maintenance interface 930 (e.g., using data scraping and presentation techniques, frames, etc.). In one embodiment, the user may use Account Access interface 933 to access or monitor personal information collected by each of the service providers, such as purchase profiles, Web site usage, user preferences, user survey responses, update subscriptions, and other information. New Account Profile interface 934 allows a user to define a standard profile for starting new accounts with service providers. The new account profile may include personal information, a preferred list of user names and passwords, default preference settings, etc. In one embodiment, New Account Profile interface 934 may allow the user to select automatic generation of new accounts based upon the new account profile, such as for use when accessing a new merchant through Shopping Interface 910. In one embodiment, changes to personal information within the new account profile (e.g., a change of address) may automatically be forwarded to service provider systems for updating.

Incentive Maintenance interface 940 allows a user to access, organize, and/or use purchase incentives and other special offers. In one embodiment, Incentive Maintenance interface 940 may provide aggregate access to incentives provided by merchants, manufacturers, incentive account providers, and/or Aggregate Service System 900. Incentive Maintenance interface 940 may include Incentive Summary

interface 941, Incentive Account Access interface 942, Incentive Update Messaging interface 943, Purchase Advisor interface 944, Incentive Exchange interface 945, and/or Redemption Advisor 946. Incentive Summary interface 941 may provide a user with the ability to view, search, sort, and/or organize incentives from multiple incentive sources. Incentive Summary interface 941 may include a list of available incentives, including sales, coupons, rebates, incentive accounts, special offers, buyers clubs, group affiliation discounts, first time buyer programs, product bundle discounts, and other incentives. Incentive Summary interface 941 may include access to further details regarding each incentive and/or its source. Incentive Summary interface 941 may include an incentive monitoring function that allows one or more incentives or incentive sources to be monitored in order to provide the user with current information on available incentives. In one embodiment, the user to may select a number of incentive sources to monitor. For example, the user may select preferred merchant systems to monitor so that when a new sale or other discount becomes available, the user is notified (e.g., the incentive appears in the user's Incentive Summary interface 941 and/or a message may be sent to the user based upon settings defined through Incentive Update Messaging interface 943). In one embodiment, the user may select a particular product, category of products, incentive value, or other conditions for monitoring incentives to be added to Incentive Summary interface 941. Incentive Account Access interface 942 may provide a user with access to additional details, services, and account maintenance functions for an incentive account provider. Incentive accounts include various reward programs in which a user accrues points, miles, purchases, or some other unit in order to be eligible for rewards for various

levels of achievement. In one embodiment, Incentive Account Access interface 942 may provide a link to the user's account at the incentive account provider's Web site. In one embodiment, Incentive Account Access interface 942 may provide access to details through a standard interface (e.g., using data scraping and presentation techniques, frames, etc.). Incentive Update Messaging interface 943 may allow the user to define protocols for receiving updates on available incentives. For example, update messages may be provided when a new incentive is available, a new incentive level is achieved in an incentive account, or when an incentive is reaching its expiration date. In one embodiment, incentive update messages may be selectively provided based upon user preferences. Purchase Advisor interface 944 may make recommendations to a user about purchases which utilize incentives. For example, Purchase Advisor interface 944 may provide recommendations to make certain purchases during a shopping session to take advantage of free shipping for purchases over a set dollar value or savings on purchase item combinations (e.g., buy 2, get 1 free). Incentive Exchange interface 945 may allow a user to exchange existing transferable incentives for other incentives. In one embodiment, Incentive Exchange interface 945 provides a clearing house for user-to-user exchanges. In one embodiment, Incentive Exchange interface 945 uses an incentive valuation system. Redemption Advisor interface 943 may make recommendations to the user for the application of incentives to purchases already accrued in a user's shopping cart. For example, Redemption Advisor interface 943 may remind the user of a 10% off coupon available for an item in the user's shopping cart at checkout.

Address Book interface 950 allows a user to compile a list of delivery addresses for use selecting destinations for items purchased through Shopping Engine interface 920. In one embodiment Address Book interface 950 may include Delivery Addresses interface 951 and Address Data Sharing interface 952. Delivery Addresses interface 951 may include a number of delivery addresses used by the user, such as home and work addresses, addresses of friends and family members, or other destinations. In one embodiment, Delivery Addresses interface 951 may allow a user to define default delivery preferences (e.g., preferred carrier) and/or special handling instructions (e.g., do not deliver between 8:00 am and 5:00 pm on weekdays, always leave on porch, etc.) for each delivery address. In one embodiment, a new delivery address may be added to Delivery Address interface 951 each time a new delivery address is provided through Shopping Engine interface 910. Address Data Sharing interface 952 interface may allow Address Book interface 950 to share data with or aggregate data from other data sources. In one embodiment, Address Data Sharing interface 952 may enable data sharing (e.g., synching, data scraping, database access, etc.) with another address data source, such as a personal information management application (e.g., Microsoft Outlook™) or service (e.g., personal information Web site).

Payment Organizer interface 960 allows a user to organize payment options. Payment Organizer interface 960 may include a Wallet interface 961 and a Currency Exchange interface 962. Wallet interface 961 may provide an electronic wallet for organizing payment methods, such as credit cards, bank/ATM cards, debit cards, and e-currency. In one embodiment, Wallet interface 961 may summarize, aggregate, or

provide access to third party wallets from other service providers. In one embodiment, Wallet interface 961 may allow the user to define access and spending limits for one or more payment methods. Currency Exchange interface 962 may allow a user to exchange one payment method for another. In one embodiment, the user may be able to buy, sell, or exchange e-currency for other e-currency, real currency, or credit. In one embodiment, the user may be able to exchange currency, e-currency, or credit in or corresponding to one national currency for currency, e-currency, or credit in or corresponding to an alternate national currency.

Purchase Analysis interface 965 may provide a user with additional options for tracking and organizing purchase information for financial management tasks. Purchase Analysis interface 965 may include Spending History interface 966, Tax information interface 967, Budgeting interface 968, and Financial Data Sharing interface 969. Spending History interface 966 may allow the user to view and organize purchase history information based upon spending patterns (e.g., spending categories such as dining, entertainment, home repair, clothing, etc.). Tax information interface 967 may allow the user to view and organize purchase history information based upon tax relevance (e.g., business expenses, heath care expenses, charitable contributions, etc.). Budgeting interface 968 may allow a user to establish a budget. In one embodiment, the budget may be integrated with Shopping Engine interface 910 to provide notification if a purchase would exceed purchases allowed in the budget. Financial Data Sharing interface 969 interface may allow Purchase Analysis interface 965 to share data with or aggregate data from other data sources. In one embodiment, Financial Data Sharing interface 969 may enable data sharing (e.g., downloading, data

scraping, database access, etc.) with another financial data source, such as a financial information management application (e.g., Microsoft Money™) or service (e.g., Quicken.com™).

Shopping Lists interface 970 may allow the user to view, generate, and/or organize lists to assist in shopping sessions and purchasing decisions. Shopping lists may include want lists, gift lists, gift registries, third party lists (e.g., Billboard™ Top 10, New York Times™ Bestsellers, etc.), product watch lists, and other lists. Shopping Lists interface 970 may include Shopping List Organizer interface 971, Shopping Lists Access interface 972, Product Update interface 973, and Price Monitoring interface 974. Shopping List Organizer interface 971 may provide a user with the ability to view, search, sort, and/or organize lists from multiple list sources (e.g., multiple merchants with want lists and gift registries). Shopping List Organizer interface 971 may include access to further details regarding each list, its source, and/or each item on each list. In one embodiment, the user to may select a number of incentive sources to monitor. In one embodiment, the user may select a particular list (e.g., top selling software at Egghead.com™), list category (e.g., computer game lists), list provider (Consumer Reports™), or other conditions for having lists automatically added to Shopping Lists Organizer interface 971. Shopping List Access interface 972 may provide a user with access to additional details, services, and list maintenance functions for user shopping lists. In one embodiment, Shopping List Access interface 972 may provide a link to the user's list (e.g., want list) at another service provider's Web site. In one embodiment, Shopping List Access interface 972 may provide access to details through a standard interface (e.g., using data scraping and

presentation techniques, frames, etc.). Product Update interface 943 may allow the user to define protocols for receiving updates on new or changing products or services (e.g., a product watch list). In one embodiment, incentive update messages may be selectively provided based upon user preferences. The user may identify specific products, merchants, manufacturers, product categories, or other bases for receiving product updates. Price Monitoring interface 974 allows a user to create a list of products, with or without merchants specification, to be watch prices on. For example, the user may select to monitor the price of oak dinette sets so that when a new sale or other price fluctuation occurs, the user is notified (e.g., a message may be sent to the user). In one embodiment, items purchased through Shopping Engine interface 910 are automatically added to the user's Price Monitoring interface for a fixed period of time (e.g., 30 days, or the return, price protection, or cancellation period of the product purchased).

Calendar interface 980 may provide a calendar for tracking shopping related and other events. Calendar interface 980 may include Event Reminders interface 981, Purchase Reminders interface 982, and Incentive Reminders interface 983. Event Reminders interface 981 may allow a user to record and be reminded about important events, such as birthdays, anniversaries, and other gift giving holidays. Purchase Reminders interface 982 may allow the user to record and be reminded of purchase related events, such as expected delivery dates, payment due dates, new product release dates, and other purchase related events. Incentive Reminders interface 983 may allow the user to record and be reminded of incentive related dates, such as sale dates, coupon expiration dates, rebate deadline dates, and other incentive related dates.

In one embodiment, Calendar interface 980 may share data with or aggregate data from other data sources. In one embodiment, Calendar interface 980 may enable data sharing (e.g., synching, data scraping, database access, etc.) with another calendar data source, such as a personal information management application (e.g., Microsoft Outlook™) or service (e.g., a calendar Web site).

Users interface 990 may allow a user to personalize Aggregate Service System 900. In one embodiment, Users interface 990 may allow a single account to handle multiple users (e.g., the members of a family sharing one computer and Internet connection). Users interface 990 may include User Access interface 991 and User Preferences interface 992. User Access interface 991 may allow security and restricted access for one or more users. Restrictions may effect access to any of the other interfaces or data or services available there through, such as other user's lists, certain payment methods, certain merchants or product categories, etc. In one embodiment, User Access interface 991 may enforce spending limits for users of Shopping Engine interface 910. User Preferences 992 may provide access to user preferences for one or more other interfaces. User preferences may include anything from overall "look and feel" to specific services and default setting used in other interfaces.

Figure 10 shows a schematic view of multiple user accounts for an aggregate service system according to an embodiment of the invention. User Account 1010, User Account 1030, and User Account 1050 each represent the account information of a specific user account including multiple information sources (e.g., records) specific to that user account. For example, each user account may correspond to a unique

account identifier, such as an account number. A number of records containing the unique account identifier and corresponding to an information type (e.g., user information, preferences information, transaction information, etc.) may be stored in one or more data sources and retrievable based upon the unique account identifier. Any number of data structures may be used for storing, organizing, and accessing account data for each user account. In one embodiment, each of the user accounts may include multiple records for each information type for providing single occurrences of the information type (e.g., the record of a particular transaction, the record of a particular account with a service provider, etc.). User Accounts 1010, 1030, and 150 may include User data 1011, 1031, and 1051, Preferences data 1012, 1032, and 1052, Transaction data 1013, 1033, and 1053, Correspondence data 1014, 1034, 1054, Service Request data 1015, 1035, and 1055, Account data 1016, 1036, and 1056, Incentive data 1017, 1037, and 1057, Address data 1018, 1038, and 1058, Payment Method data 1019, 1039, and 1059, Spending data 1020, 1040, and 1060, Shopping List data 1021, 1041, and 1061, and Calendar data 1022, 1042, and 1062. In one embodiment, data within User Accounts 1010, 1030, and 1050 may comprise redundant location of data accumulated from other service provider systems. In one embodiment, data within User Accounts 1010, 1030, and 1050 may include pointers, links, or other resource locators for data located and accessed remotely, such as from other service provider systems. User Accounts 1010, 1030, and 1050 are examples of one account configuration, however, actual account configurations may vary and individual accounts within the same system may not contain all of the information types shown. Further, the number of data entries or records for each information type

within each user account may vary according to use (e.g., a given user account may have one user record, three transaction records, and no service request records, while another may have three user records, two transaction records, and three service request records). The description below is made with regard to User Account 1010 and its data entries, but is equally applicable to User Accounts 1030 and 1050 and their data entries.

User entries 1011 may include user name and password data for the user or users of User Account 1010. In one embodiment, User entries 1011 includes multiple sub-user account identifiers, such as for members of a family, and may also include separate user names, passwords, preferences, and restrictions, such as payment method access, spending limits, merchant/category restrictions, list access restrictions, and other restrictions.

Preference entries 1012 may provide multiple user defined preferences for customizing one or more aspects of the interface and/or services provided through an aggregate service system. In one embodiment, preferences may define content provided to the user through the system, such as new product information, incentive information, advertisements, news, or other information. In one embodiment, preferences may be used to automate portions of the search, comparison, analysis, selection, purchase, and fulfillment processes.

Transaction entries 1013 may include transaction data for multiple transactions through the aggregate shopping engine. In one embodiment, each transaction entry in Transaction entries 1013 may include summary information (e.g., items purchased, purchase costs, total cost, purchase date, etc.) for a particular user transaction. The

transaction data may include service provider identifiers and/or links for locating additional information regarding the transaction, such as by scraping a transaction summary at a service provider Web site. In one embodiment, Transaction entries 1013 may correspond to search transactions, compare transactions, shopping cart transactions, purchase transactions, and other transactions.

Correspondence entries 1014 may correspond to multiple correspondence sent by one or more service providers to the user. Correspondence entries 1014 may correspond to electronic mail or other message formats. In one embodiment, Correspondence entries 1014 may include order confirmations, shipment confirmations, new product updates, advertisements, promotions, information updates, or any other correspondence from a service provider to the user. Correspondence entries 1014 may include the body of a message and/or may include a summary of the message (e.g., date received, sender, addressee, message type, extracted content, etc.).

Service Request entries 1015 may correspond to multiple customer service requests or other inquiries made by the user regarding one or more transactions with or through the aggregate service system. In one embodiment, Service Request entries 416 may include a summary of the service request or inquiry made. In one embodiment, Service Request entries 1015 may include notes on the handling and/or outcome of the service request.

Account entries 1016 may correspond to user-specific accounts with other service providers (e.g., merchants, incentive providers, etc.). Account entries 1016 may include account information for the user, such as service provider identification

(e.g., service provider name, URL, service provider type, etc.), user identification (e.g., user name, password, etc.), and/or access information for the service provider. In one embodiment, Account entries 1016 may include summaries of account related information, such as recent transaction information, personal information associated with the account, etc. In one embodiment, Account entries 1016 may include links to other related entries (e.g., transaction, correspondence, or service request entries involving the service provide). In one embodiment, Account entries 1016 may include or link to detailed information about the service provider, such as service descriptions, customer service information, terms of use, order policies, user ratings, and other features.

Incentive entries 1017 may provide incentive information for a plur laity of incentives available through one or more service providers. Purchase incentives may include all manner of coupons, discounts, purchase reward programs, rebates, special offers, and other incentives. Incentives may be general, personalized, merchant-specific, product-specific, or otherwise. In one embodiment, Incentive entries 1017 may include information relating to each incentive, such as incentive value, expiration date, terms of use, issuer, redeeming service providers, etc.

Address Book entries 1018 may include entries for one or more delivery and/or billing addresses. Address Book entries 1018 may include a recipient name or names, street address, postal address, and/or other contact information. In one embodiment, Address Book entries 1018 may include shipping preferences, special handling instructions, links to preferred merchants and destination specific shopping lists (e.g. birthday list for a relative at an alternate address), and other destination

linked information. Address Book entries 1018 may include links to one or more other personal information data sources (e.g., a personal information management application, Web site, database, etc.).

Payment Method entries 1019 may include information related to a variety of predefined payment methods, such as credit cards, debit cards, bank accounts, electronic funds transfer accounts, electronic currency (e.g., beans, floos, etc.), wallets maintained by other service providers, transferable incentives, vouchers, merchant credits, and other payment methods. Payment Method entries 1019 may include payment method information, such as provider (e.g., issuing financial institution, issuing merchant, etc.), available funds, funds transfer information (e.g., account number, routing number, expiration date, name on account, PIN, etc.), and other payment method information. Payment Method entries 1019 may include data from or links to payment method information maintained by other service providers (e.g., accounts with Web access, third party wallets, etc.).

Spending entries 1020 may include entries for purchases and other expenditures. Spending entries 1020 may include transaction information, such as merchant, payment method, transaction date, purchase type, tax classification, etc. In one embodiment, Spending entries 1020 may be linked to associated Transaction entries 1013. In one embodiment, Spending entries 1020 may provide data from or links to other purchase data sources (e.g., financial management applications, Web sites, or databases).

Shopping List entries 1021 correspond to product lists and other shopping organization tools, such as shopping lists, want lists, gift registries, birthday lists,

favorite products, favorite merchants, products to remember, products for review or rating, concept lists, and other tools. In one embodiment, Shopping List entries 1021 may include a list of products and/or merchants from which those items are available. Shopping List entries 1021 may provide a summary of product information (product description, details, content, etc.), purchase information (price, shipping, tax, etc.) and/or merchant information (merchant identification, details, content, etc.). In one embodiment, Shopping List entries 1021 may include links to additional information on products and merchants and/or related entries (e.g., Account entries for related merchants or other service providers). In one embodiment, Shopping List entries 1021 may include data from or links to information maintained by other service providers (e.g., merchant want lists, wedding registries, New York Times™ bestsellers list, etc.).

Calendar entries 1022 may include date and time entries for organizing purchase related events, such as birthdays, holidays, product release dates, delivery dates, charge dates, auction deadlines, product return deadlines, rebate deadlines, and other time sensitive events. In one embodiment, Calendar entries 1022 may include one or more dates and/or times, event descriptions, notification conditions, and other event related information. In one embodiment, Calendar entries 1022 may be linked to related information, such as a related Transaction entry 1013, Shopping List entry 1021, etc. In one embodiment, Calendar entries 1022 may include data from or links to event related information maintained by another service provider (e.g., a calendar application, Web site, or database).

Figure 11 shows a network system 1100 according to an embodiment of the invention. Network system 1100 may include plurality of network resources interconnected by a Network 1101. Network 1101 may be a global information network, such as the Internet. The network resources may include User Systems 1102, an Aggregate Service System 1110, and multiple service provider systems. The example service provider systems shown include a Merchant System 1130, an Incentive System 1160, a Content Provider System 1170, an Organizer System 1180, and a Financial System 1190. Any number of service provider systems may be included in network system 1100 and redundant systems, such as multiple merchant systems similar to Merchant System 1130, may more fully enable the functions of Aggregate Service System 1110. In one embodiment, the service provider systems may be multiple Web sites accessible over the World Wide Web. Each service provider system may provide one or more functional modules and/or one or more data sources which may be utilized to enable the functions of Aggregate Service System 1110. In Figure 11, one or more example modules and/or one or more data sources is shown for each service provider system. The modules and data sources shown are examples only and additional functions and data sources which may be utilized by Aggregate Service System 1110 are described or may be inferred from descriptions made with regard to Figures 1-14.

User System 1102 may include personal computers or workstations operated by an individual user. In one embodiment, User System 1102 may include a thin client application for retrieving, displaying, and storing information provided by one or more network service providers, such as Aggregate Service System 1110. For

example, User System 1102 may use Netscape Navigator or Microsoft Internet Explorer to render Web pages available through Aggregate Service System 1110. In one embodiment, User System 1102 may include one or more local applications or data sources which may provide functions and/or data sources for enabling the functions of Aggregate Service System 1110. In one embodiment, User Systems 302 may include a Financial Application 1103, a PIM Application 1104, and/or User Data 1105. Financial Application 1102 may include financial data and personal financial management functions (e.g., purchase analysis tools) for the user. PIM Application 1104 may include address, calendar, and list functions and data for the user. User Data 1105 may include user identification and/or state information maintained on the user system (e.g., cookies).

Aggregate Service System 1110 may be an system for providing aggregate services to users. In one embodiment, the aggregate services offered may relate to providing an aggregate shopping engine and services complementary to the aggregate shopping engine. Aggregate Service System 1110 may provide a Shopping Engine module 1111, a Content module 1112, an Advertising module 1113, an Account Maintenance module 1114, an Incentive Maintenance module 1115, an Address Book module 1116, a Payment Organizer module 1117, a Purchase Analysis module 1118, a Shopping Lists module 1119, a Calendar module 1120, a Users module 1121, and an Offering Data module. Shopping Engine module 1111 may perform functions substantially as described with regard to Figures 3-9 above.

An example merchant system, such as Merchant System 1130, may be any system enabling electronic exchange of product, purchase, and/or transaction

information for goods or services. Merchant System may include a Product Search module 1131, an Order Submission module 1132, a Data Query module 1133, an Order Tracking module 1134, an Incentive Redemption module 1135, and a Customer Service module 1136. Product Search module 1131 may include a product search engine. In one embodiment, the product search engine is a search engine used by visitors to a merchant's Web site. Order Submission module 1132 may include a system for receiving order fulfillment details (e.g., product desired, payment information, and destination, etc.). In one embodiment, the system for receiving order fulfillment details may include the checkout function of the merchant's Web site. Data Query module 1133 may allow information in a merchant data source to be accessed. In one embodiment, Data Query module 1133 may include navigation of any portion of a merchant Web site to locate a Web page containing the data sought. Order Tracking module 1134 may include a system for retrieving status information of purchase items ordered through Merchant System 1130. In one embodiment, the system for retrieving status information may include navigating a purchase history/status portion of a merchant Web site. Incentive Redemption module 1135 may include a system for redeeming incentives from Merchant System 280. In one embodiment, the system for redeeming incentives may include identifying an incentive (e.g., providing an incentive/promotion code) through the checkout procedure of a merchant Web site. Customer Service module 1136 may include a system for receiving a customer service inquiry or comment. In one embodiment, the system for receiving a customer service inquiry may be a Web based form for receiving an inquiry or comment.

Merchant System 1130 may include one or more data sources for providing electronic transactions for goods and services to users. In one embodiment, Merchant System 1130 may include User Data source 1140, Product Data source 1145, and Merchant Data source 1150. User Data source 1140 may include data related to a particular user or user account. In one embodiment, User Data source 1140 includes User Information 1141 (e.g., user identification, personal information, preferences, etc.), User Lists 1142 (e.g., shopping lists, want lists, gift registries, etc.), User Incentives 1143 (e.g., incentive accounts, personalized/targeted incentives, etc.), and Transaction Data 1144 (e.g., order history/status, etc.). Product Data source 1145 may include data related to a each product. In one embodiment, Product Data source 1145 includes Description 1146 (e.g., product specifications, details, etc.), Purchase Data 1147 (e.g., price, tax, shipping, etc.), Related Content 1148 (e.g., product graphics, product samples, sound files, product tours, downloadable product demos, reviews, etc.), and Availability (e.g., in-stock/out-of-stock, period for order processing, etc.). Merchant Data source 1150 may include data related to the particular merchant. In one embodiment, Merchant Data source 1150 includes Payment Options 1151 (e.g., VISA, Mastercard, personal check, etc.), Delivery Options 1152 (e.g., UPS, U.S. Mail, etc.), Merchant Incentives 1153 (sales, special offers, promotions, etc.), Merchant Content 1154 (e.g., featured products, product reviews, merchant history, etc.), Terms of Use 1155 (legal terms of merchant system, privacy policy, etc.), and Purchase Policies 1156 (cancellation policy, return policy, etc.).

An example incentive system, such as Incentive System 1160, may be any system for providing purchase incentives, such as electronic coupon clearinghouses

(e.g. e-centives™) and multi-merchant purchase reward programs (e.g. clickrewards™). Incentive System 1160 may include an Incentive Data Query module 1161, an Incentive Accrual module 1162, and an Incentive Redemption module 1163. Incentive Data Query module 1161 may include an system for retrieving information about available incentives from a plurality of merchants or the incentive system itself. Incentive Accrual module 1162 may include a system for retrieving information about incentive accrual in systems with conditional incentive systems, such as terms and conditions, purchase reward levels and catalogs, expiration dates, transferability, and other information. Incentive Redemption module 1163 may include a system for providing incentive redemption for incentives that may be redeemed directly for products or services from Incentive System 1160, such as incentive programs with reward catalogs.

Incentive System 1160 may include one or more data sources, such as Incentive Data 1165, for providing purchase incentives to users. Incentive Data 1165 may include User Incentives 1166, Merchant Incentives 1167, Third Party Incentives 1168, and Incentive Accounts 1169. User Incentives 1166 may include information on custom or targeted incentives for the user. Merchant Incentives data 1167 may include information on incentives offered by a plurality of merchant systems. Third Party Incentives data 1168 may include information on third party incentive providers, such as affiliation based rewards, universal incentive programs, cross-marketing incentive systems, and other incentives. Incentive Accounts 1169 may include information on a user incentive account, such as a purchase point system for providing incremental incentives and rewards for frequent purchasers.

An example content provider system, such as Content Provider System 1170, may provide content, such as news, features, articles, entertainment, and other information. Content Provider System 1170 may include a Content Data Query module 1171. Content Data Query module 1171 may provide for access to content data from Content Provider System 1170. In one embodiment, Content Data Query module 1171 may include navigation of a content driven Web site to locate one or more Web pages containing desired information.

Content Provider System 1170 may include one or more data sources, such as Content Data 1175, for providing consumer oriented content to users. Content Data 1175 may include Product Analysis 1176, Merchant Analysis 1177, Advertising 1178, and General Content 1179. Product Analysis 1176 may include product related analysis, such as professional and customer product reviews, product ratings, and other information for assisting user decision making. Merchant Analysis 1177 may include merchant related analysis, such as profession and customer merchant reviews, merchant ratings, and other information for assisting user decision making. Advertising 1178 may include advertising (e.g., banner advertisements, pop-up advertisements, sound clips, links, and other promotional content) for providing revenue and generating consumer interest in a product, service, or merchant. General Content data 1179 may include more generalized information of interest to consumers, such as news, weather, sports, market analysis, humor, and other articles, downloads, graphics, files, and links for generating consumer interest.

An example organizer system, such as Organizer System 1180, may provide one or more organizers useful to consumers for organizing shopping related

information, such as shopping lists, dates, shipping addresses, payment options, available incentives, and other information. Organizer System 1180 may include an Organizer Date Query module 1181. Organizer Data Query module may provide for access to organizer data from Organizer System 1180. In one embodiment, Organizer Data Query module 1181 may include navigation of a Web site including an organizer function to locate one or more Web pages containing desired information.

Organizer System 1180 may include one or more data sources, such as Organizer Data 1185, for providing organizers for user shopping information. Organizer Data 1185 may include Payment Methods 1186, Calendar 1187, Shopping Lists 1188, and Address Book 1189. Payment Methods 1186 may include information about a plurality of user payment methods, such as credit cards, debit accounts, electronic currency, and other payment methods, and may include payment method related information such as access privileges and spending limits. Calendar 1187 may include information about one or more events, such as shopping related events (e.g., birthdays, anniversaries, holidays, release dates, etc.). Shopping Lists 1188 may include information about a plurality of lists or groupings of shopping related information, such as shopping lists, gift registries, date lists, and other information. Address Book 1189 may include information related to delivery addresses and preferred methods of delivery to those addresses.

An example financial system, such as Financial System 1190, may be any system for providing financial information and/or financial transactions, such as a bank, loan agency, credit card company, or other financial institution. Financial System 1190 may include a Financial Data Query module 1191 and a Funds Transfer

module 1192. Financial Data Query module 1191 may provide access to financial account information, such as account balance, available credit, authorized account user, and other information. In one embodiment, Financial Data Query module 1191 may allow retrieval of credit information. Funds Transfer module 1192 may allow actual transfer of funds to or from an account to provide for payment to or credit from merchant systems or other service provider systems.

Financial System 1190 may include one or more data sources, such as Financial Data 1195, for providing electronic payment options and electronic funds transfer for user purchases. Financial Data 1195 may include Account Data 1196 and Electronic Currency 1197. Account Data 1196 may include any information related to one or more financial accounts, including credit card accounts, debit accounts, bank accounts, etc. Electronic Currency 1197 may include negotiable electronic instruments which may be transferred among users, financial institutions, and/or service providers. In one embodiment, Financial Data 1195 may include credit information (not shown), such as credit histories or credit reports.

Figure 12 shows a distribution system according to an embodiment of the invention. Distribution System 1210 may be used in conjunction with an Aggregate Purchase System 1220 in order to provide redistribution of purchase items from multiple Source Systems 1230 and 1235. In one embodiment, a User 1201 may place an aggregate Order 1202 through Aggregate Purchase System 1220. Aggregate Purchase System 1220 receives Order 1202 and places fulfillment Orders 1203 and 1204 with Source Systems 1230 and 1235. Source Systems 1230 and 1235 fulfill the orders and ship Products 1205 and 1206 to Distribution System 1210. Distribution

System 1210 receives Products 1205 and 1206 and redistributed them as Product(s) 1207 to User 1201. For example, a user may access an aggregate shopping Web site to do some shopping on-line. The user selects a CD for purchase from Merchant A and a book for purchase from Merchant B and adds them to her aggregate shopping cart. The user then proceeds to the checkout to execute an aggregate purchase transaction for the two items, providing payment and delivery information for each item. The aggregate shopping Web site places an order for the CD to Merchant A and an order for the book to Merchant B. When the aggregate shopping Web site places the orders, it uses the user's chosen payment method but provides the a distribution system address as the delivery information. The aggregate shopping Web site also communicates the user's delivery preference to the distribution system. Merchant A ships the CD to the distribution system and Merchant B ships the book to the distribution system. The distribution system combines the CD and book into a single parcel and sends the parcel to the user, holds it for user pick-up, or otherwise complies with user handling instructions.

Redistribution of items purchased from multiple sources, presumably with different distribution centers and/or methods of distribution, allows greater flexibility to the user for receiving ordered products. In one embodiment, Distribution System 1210 may include one or more central or regional distribution centers. In one embodiment, Distribution System 1210 may include a number of local distribution centers. Products are shipped from sources to a specified distribution center for redistribution according to shipping information communicated from Aggregate Purchase System 1220 to Source Systems 1230 and 1235. Handling of the items

received by the distribution center may be determined by user specified delivery details communicated to the distribution center by Aggregate Purchase System 1220. Redistribution may allow for a single shipment from multiple sources or multiple shipments containing products grouped according to factors other than the source. Redistribution may allow items to be delivered according to a particular delivery schedule, such as holding items until all are received or providing multiple shipments over time. The use of local redistribution centers may allow items to be held for user pick-up. Redistribution may allow additional delivery option through alternate delivery services or carriers not offered by the merchant sources. For example, the use of a local carrier may allow delivery to be scheduled for with very specific time, location, and handling instructions that are not available through large national carriers.

A distribution center may also provide a clearinghouse for product returns, including the return of aggregate orders. In one embodiment, returned items may be aggregated at the distribution center for batch return to the originating merchant. In one embodiment, the distribution center may collect return items and utilize them for resale, promotions, or another use.

Distribution System 1210 may include any system for receiving products from a plurality of sources and redirecting them to a user. In one embodiment, Distribution System 1210 may also receive and handle returns from one or more users. Distribution System 1210 may include a Delivery Service module 1211, a Distribution Data Query module 1212, a Return Service module 1213, and a Parcel Repository module 1214. Delivery Service module 1211 may include any system for receiving

delivery instructions (e.g., from a user through Aggregate Purchase System 1220) and distributing products according to those instructions. Distribution Data Query module 1212 may provide access it data regarding products routed through Distribution System 1210. Return Service module 1213 may include any system for accepting products for return from a user, providing appropriate compensation (e.g., refund, exchange, etc.) to the user, and handling the returned product. Parcel Repository module 1214 may include any system for receiving product handling instructions and holding and tracking products for aggregate redistribution, such as pick-up, delivery, or return.

Distribution System 1210 may include one or more data sources, such as Distribution Data 1215, for providing package handling, warehousing, distribution, and tracking services. Distribution Data 1215 may include Delivery Options 1216, Return Options 1217, Delivery History 1218, and Return History 1219. Delivery Options 1216 may include information regarding the delivery options available for products routed through Distribution System 1210. Return Options 1217 may include information regarding the return options available for product returns routed through Distribution System 1210. Delivery History 1218 may include information regarding the delivery status and history of any products routed through Distribution System 1210. Return History 1219 may include information regarding the return status and history of any products routed through Distribution System 1210.

Figure 13 and 14 relate to a system and method for providing aggregate service systems to third parties, such as interface providers (e.g., destination Web sites). For example, a system may provide aggregate shopping services for a variety of different

Web sites. In one embodiment, the aggregate shopping services may be provided to complement a Web site with a focus other than shopping, such as a special interest Web portal or community, a content driven Web site, or Web site offering other services (e.g., search services, virtual desktop, data storage, or other application). In one embodiment, an infrastructure and method may be provided for offering customizable aggregate services to a number of third party service providers.

Figure 13 is a schematic diagram of an embodiment of the invention incorporating a third party or customer interface system. Interface System 1310 may be connected to multiple user systems incorporating terminal devices, such as personal computers 1301, 1302, and 1303. In one embodiment, Interface System 1310 provides a content rich, consumer oriented Web site for access by users of personal computers 1301, 1302, and 1303. Aggregator System 1320 may provide aggregate access to multiple source systems, such as Merchant Systems 1330 and 1340 and Other Source System 1350. Aggregate Service System 1320 may be substantially as described above for the aggregate service systems and methods of Figures 1-12.

In one embodiment, Interface System 1310 includes a User Interface Server 1311, Application Server 1312, and System Data 1313. User Interface Server 1311 may include any system for providing interactive information to a user, such as a Web server, wireless application server, telephone server, interactive television server, or other system for providing a user interface. Application Server 1312 may provide back end operations for one or more applications supported by Interface System. In one embodiment, some or all of the transactional functions of a shopping aggregator

may be provided by Application Server 1312. System Data source 1313 may be a data source for supporting Interface Server 1311, Application Server 1312, and other system functions of Interface System 1310. In one embodiment, System Data source 1313 may include some or all of the data source components of an aggregator system.

Aggregator System 1320 may include a Customer Interface Server 1321, a Source Interface Server 1322, a Transaction Server 1323, a Customer Data source 1324, a System Data source 1325, and a Offering Data source 1326. Customer Interface Server 1321 may be any system for communicating data to a customer system, such as Interface System 1310. Customer Interface Server 1321 may include applications and protocols for exchanging data with Interface System 1310 to provide aggregator functions to users of Interface System 1310 seamlessly. In one embodiment, Customer Interface Server 1321 may include a Web server for providing a user interface for the functions of Aggregator System 1320 and users may be directed to Aggregator System 1320 from User Interface Server 1311. The user interface provided by Customer Interface Server 1321 may match or compliment the look and feel of an interface provided by User Interface Server 1311. The user interface provided by Customer Interface Server 1321 may be integrated with the interface provided by User Interface Server 1311 by linking, linking to pop-up windows, frames, or other methods for integrating content from another source. Source Interface Server 1322 may be substantially as described above with regard to Source Interface Server 212 in Figure 2. Transaction Server 1323 may be substantially as described above with regard to Aggregator Transaction Server 213 in Figure 2. The functions of Source Interface Server 1322 and Transaction Server 1323

may be distributed among multiple servers, including Application Server 1312. Customer Data source 1324 may include data specific to the customer maintaining Interface System 1310. For example, Customer Data source 1324 may include customer defined settings, such as custom interface, offering, source, and other service selections. Customer Data source 1324 may also include aggregate use data for users accessing Aggregator System 1320 through Interface System 1310. System Data source 1325 may include system information substantially as described above with regard to Aggregate Data source 140 in Figure 1 and System Data source 214 and Source Interface Data source 215 in Figure 2. Offering Data source 1326 may include a database of offering data compiled from various sources selected by the customer for offering through Interface System 1310. In one embodiment, Offering Data source 1326 may be populated by data scraping agents, data feeds, data uploads from participating sources, or other methods.

Source systems 1330, 1340, and 1350 may be substantially as described above for source systems 220, 230,and 240 in Figure 2. Source systems 1330, 1340, and 1350 may be selected by the customer managing Interface System 1310. In one embodiment, Source systems 1330, 1340, and 1350 may be selected by the customer from a number of source systems for which interfaces have been defined in Aggregator System 1320. In one embodiment, additional sources may be added on customer request or the customer may be provided with the tools to add additional sources.

Figure 14 is a flow chart of a method of providing a customized aggregate service system according to an embodiment of the invention. In one embodiment, one

or more of the following steps may be executed for each third party for whom aggregate services are being provided. In step 1410, multiple offering categories, such as books, music, or toys, may be identified. For example, a third party Web site with content related to parenting may choose product categories such as parenting books, toys, children's clothes, children's sporting goods, etc. In step 1420, multiple sources may be identified for each of the offering categories. For example, merchants carrying one or more of the identified categories may be selected. In step 1430, one or more incentive providers may be identified with incentives compatible with the sources and offering categories identified in steps 1410 and 1420. The incentive providers may be the sources themselves. In step 1440, one or more content service providers may be identified for providing content related to the identified offering categories and sources. For example, product reviews, merchant ratings, child safety reports, and similar materials or content categories may be identified. In step 1450, one or more payment options are identified as acceptable to at least one of the sources or an alternate financial service provider. In step 1460, one or more delivery options are identified as acceptable to at least one of the sources or an alternate distribution service provider. In step 1470, one or more list or organizer providers may be identified who supply tools for assisting electronic commerce shoppers. Individual third party systems may desire more or fewer peripheral services to be offered alongside the aggregate shopping services. In step 1480, protocols (e.g., data retrieval and submission) for interacting with the systems of each of the identified service providers are defined. Definition of protocols may include selecting from a library of pre-defined source and service protocols and combining them with the procedural

framework for executing the services. In step 1490, a user interface and/or integration with the third party system may be defined. For example, user interfaces for the aggregate services provided may be defined such that they are compatible with the look and feel of the third party system. In one embodiment, data exchange between the third party systems and the aggregate service system may be defined. For example, customer data sharing, data analysis, user activity reporting, and data mining protocols may be defined for use by the third party system.

This invention has been described in connection with the preferred embodiments. These embodiments are intended to be illustrative only. It will be readily appreciated by those skilled in the art that modifications may be made to these preferred embodiments without departing from the scope of the invention as defined by the appended claims.

CLAIMS

What is claimed is:

1. A system for providing aggregate transactions for offerings from a plurality of sources over a network, comprising:

a user interface server;

a source interface server; and

a transaction server in communication with the user interface server and the source interface server, the transaction server receiving user requests for offerings from the plurality of sources through the user interface server and directing a plurality of purchase orders to the plurality of sources for fulfilling the user requests.

2. The system of claim 1, wherein the user interface server is one of a Web server, a wireless application server, a telephone server, and an interactive television server.

3. The system of claim 1, wherein the source interface server includes at least one of a data scraping protocol, a negotiated data transfer protocol, and a database access protocol for data exchange with the plurality of sources.

4. The system of claim 1, further comprising a system data source for storing transaction data related to the user service requests and the purchase orders to the plurality of sources made to fulfill the user service requests.

5. The system of claim 1, further comprising a source interface data source for storing data exchange protocols for the plurality of sources.

6. The system of claim 1, further comprising an offering data source for offerings from the plurality of sources.

7. A method of executing a single transaction for offerings from a plurality of sources over a network comprising the steps of:

identifying desired offerings available from a plurality of source systems;

selecting offerings from at least two of the plurality of source systems; and

executing a single transaction for the selected offerings, whereby purchase orders for purchasing the selected offerings are communicated to corresponding source systems for fulfillment.

8. The method of claim 7, wherein the step of identifying desired offerings available from a plurality of sources comprises providing search criteria for locating desired offerings from the plurality sources.

9. The method of claim 7, wherein the step of identifying desired offerings available from a plurality of source systems further comprises comparing related

offerings from the plurality of source systems.

10. The method of claim 9, wherein the related offerings from the plurality of source systems are compared based upon at least one of price, shipping costs, availability, taxes, return policy, payment methods, delivery methods, merchant ratings, and special offers.

11. The method of claim 7, wherein the step of selecting offerings from at least two of the plurality of source systems comprises selecting a purchase item for addition to an electronic shopping cart.

12. The method of claim 7, wherein the step of executing a single transaction for the selected offerings comprises providing purchase details for the selected offerings.

13. The method of claim 12, wherein the purchase details include at least one of delivery methods, payment method, destination, and delivery schedule.

14. The method of claim 12, wherein providing purchase details includes specifying purchase details for each of the selected offerings.

15. The method of claim 12, wherein providing purchase details comprises providing predefined preferences for purchase details.

16. The method of claim 7, wherein the step of executing a single transaction for selected offerings comprises evaluating a plurality of alternate purchase configurations for the selected offerings from the plurality of sources.

17. The method of claim 16, wherein the step of evaluating a plurality of alternate purchase configuration comprises providing predefined preferences for evaluating the plurality of alternate purchase configurations.

18. The method of claim 7, wherein the step of executing a single transaction for selected offerings comprises verifying purchase details for the single transaction.

19. The method of claim 18, wherein the purchase details include at least one of price, availability, user account status, and payment information.

20. The method of claim 7, further comprising the step of accessing transaction management for the purchase orders to the plurality of source systems through a single interface.

21. A method of providing aggregate electronic transactions for offerings from multiple source comprising the steps of:

accessing data describing offerings available from at least one of a plurality of source systems;

executing a plurality of orders to the plurality of source systems for a plurality of selected purchase items from at least one ordering transaction with at least one user.

22. The method of claim 21, further comprising the step of searching for an offering on the plurality of source systems for locating an item to purchase.

23. The method of claim 21, further comprising the step of searching for an offering on a data source descriptive of offerings from the plurality of source systems.

24. The method of claim 21, further comprising the step of comparing a plurality of offerings available from the plurality of source systems.

25. The method of claim 21, further comprising the step of retrieving data describing an offering for purchase from at least one of the plurality of source systems.

26. The method of claim 21, further comprising the step of accessing data describing one of the plurality of source systems.

27. The method of claim 21, further comprising the step of generating a plurality of purchase item and source system order configurations.

28. The method of claim 21, further comprising the step of receiving a plurality of ordering transactions from a plurality of users including a payment method and a delivery method for each item being ordered.

29. The method of claim 21, further comprising the step of providing aggregate transaction monitoring for at least one order placed to the plurality of source systems.

30. The method of claim 21, further comprising the step of providing an account management system for integrated management of a plurality of source accounts.

31. A system for purchasing offerings from a plurality of sources in a single transaction over the Internet comprising:

a search engine for locating a plurality of offerings for purchase from a plurality of sources;

a shopping cart for accumulating a plurality of selected offerings from a plurality of sources;

a checkout for executing a single order for the plurality of selected offerings from a plurality of merchants.

32. The system of claim 31 further comprising a comparison engine for comparing offering and purchase data for at least one offering available from a plurality of sources.

33. The system of claim 31 wherein said checkout includes an intelligent aggregation function that compares a plurality of offering and source configurations for the plurality of selected offerings.

34. The system of claim 31 further comprising an order tracking interface providing order tracking information for an order placed for offerings from a plurality of sources.

35. The system of claim 31 further comprising an account management interface providing aggregate access to information on a plurality of user accounts with a plurality of sources.

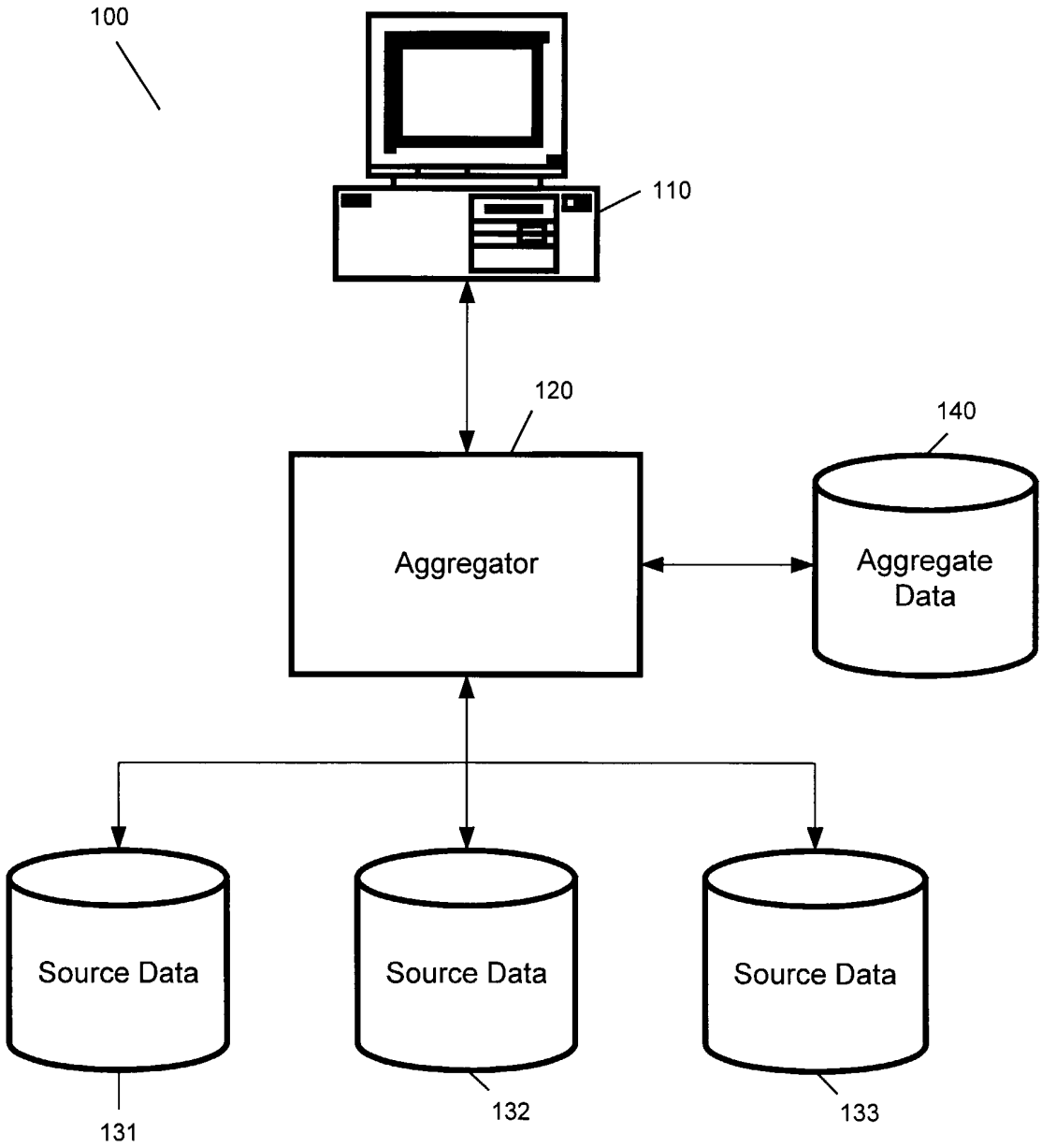
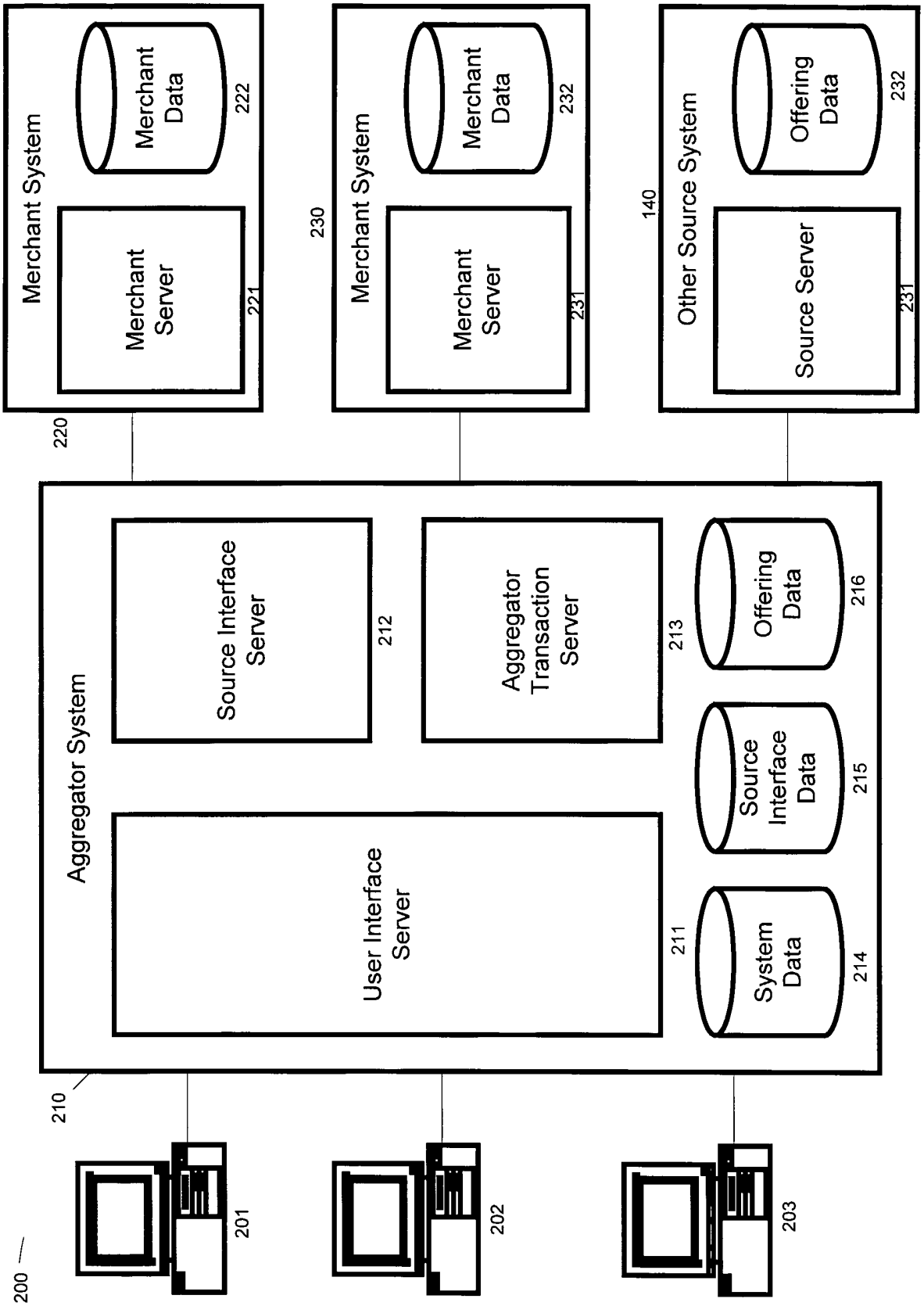

100
110
120
140
Aggregator
Aggregate Data
Source Data
Source Data
Source Data
131
132
133

FIG. 1


Merchant System
Merchant Server
221
Merchant Data
222
220
Merchant System
230
Merchant Server
231
Merchant Data
232
Other Source System
140
Source Server
231
Offering Data
232
Aggregator System
210
Source Interface Server
212
Aggregator Transaction Server
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Offering Data
216
User Interface Server
Source Interface Data
215
System Data
211
214
200
201
202
203

FIG. 2

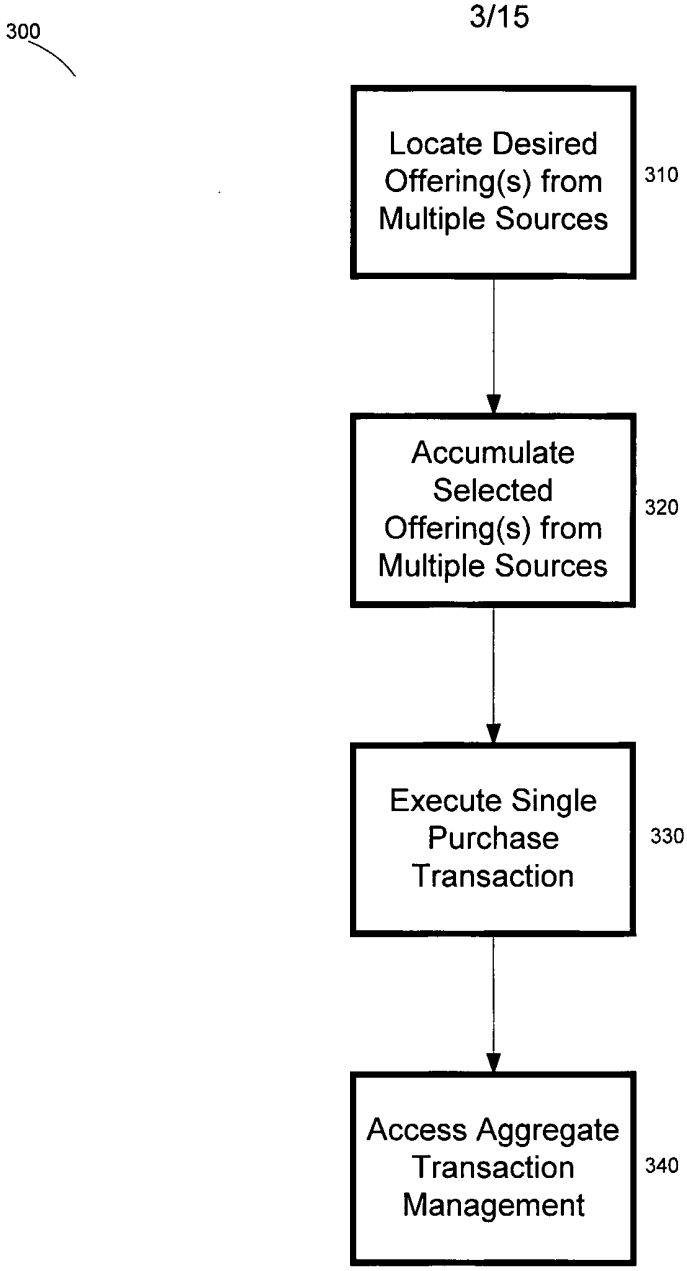
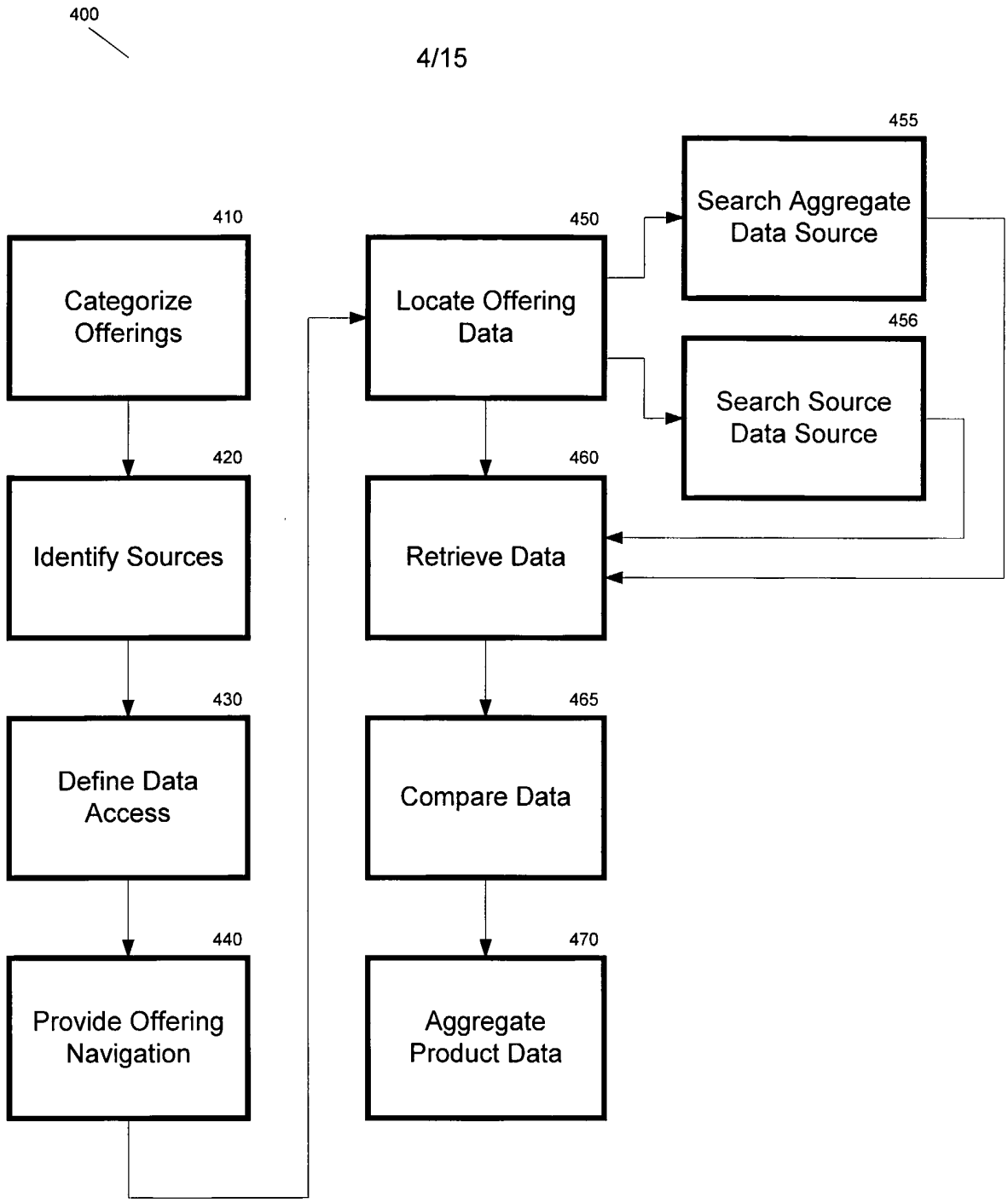

300
Locate Desired Offering(s) from Multiple Sources
310
Accumulate Selected Offering(s) from Multiple Sources
320
Execute Single Purchase Transaction
330
Access Aggregate Transaction Management
340

FIG. 3


400
410
Categorize Offerings
420
Identify Sources
430
Define Data Access
440
Provide Offering Navigation
450
Locate Offering Data
455
Search Aggregate Data Source
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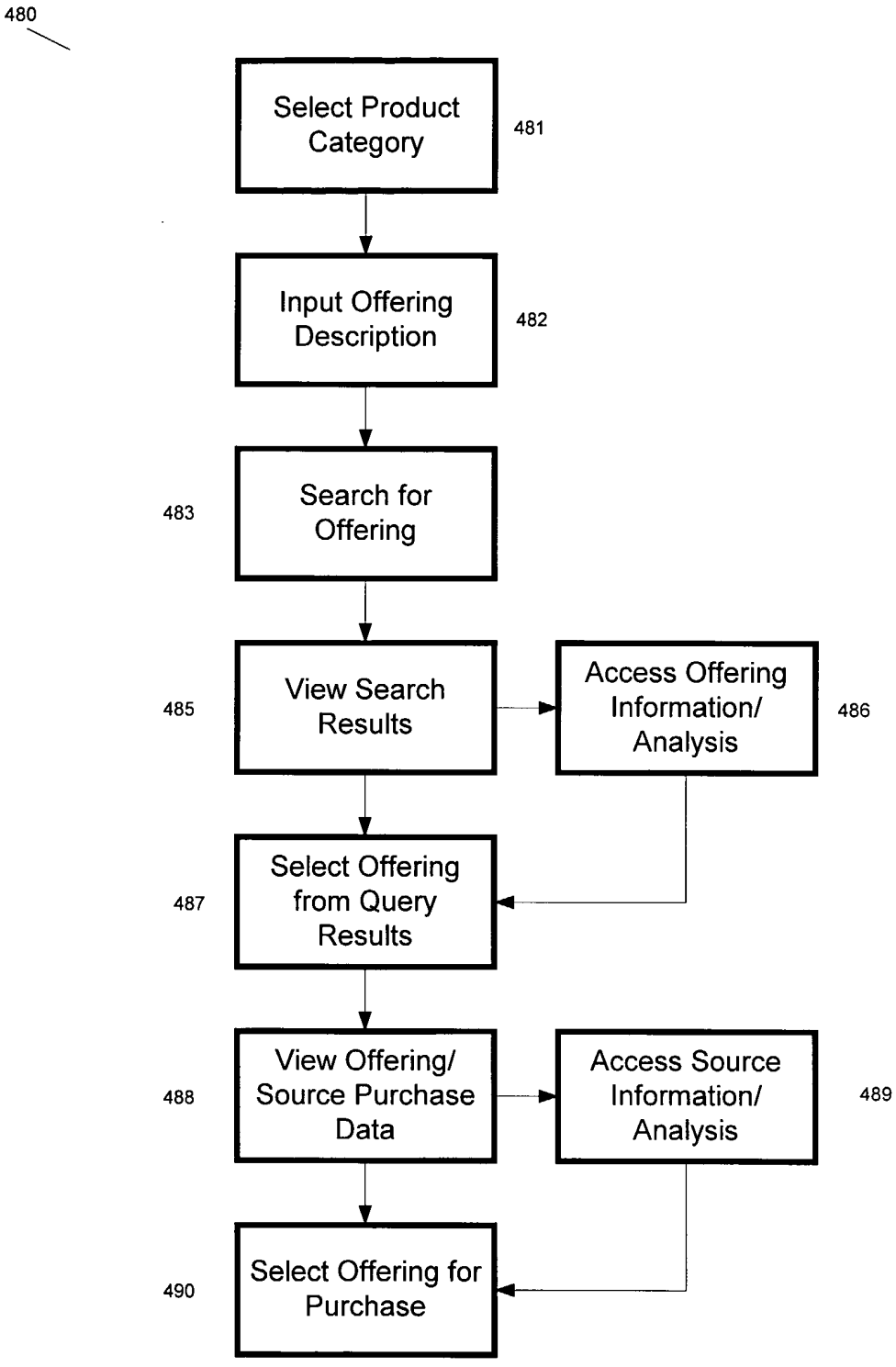
Search Source Data Source
460
Retrieve Data
465
Compare Data
470
Aggregate Product Data

FIG. 4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Select Product Category
481
Input Offering Description
482
Search for Offering
483
View Search Results
485
Access Offering Information/ Analysis
486
Select Offering from Query Results
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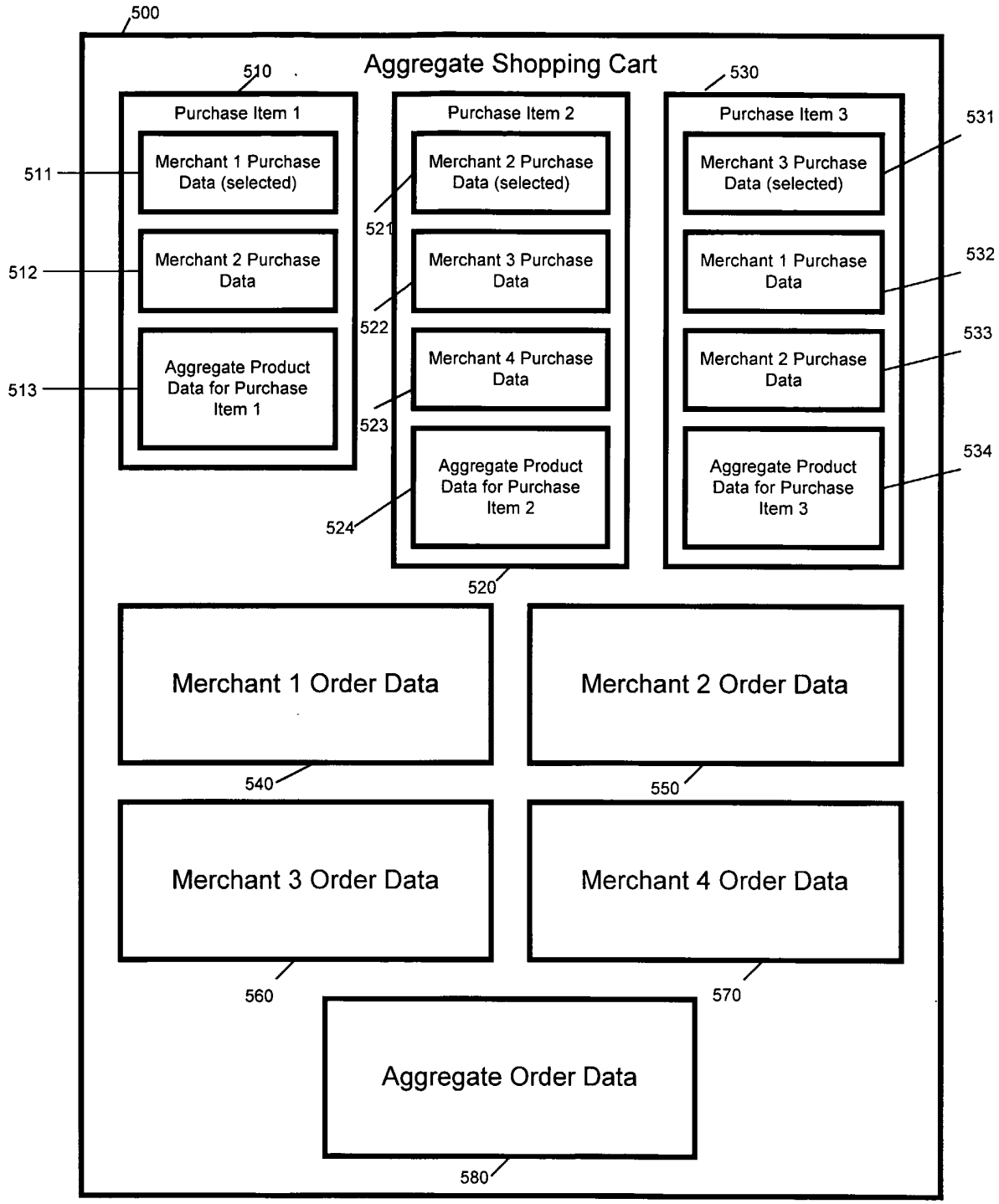
488
Access Source Information/ Analysis
489
Select Offering for Purchase
490

FIG. 4a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Aggregate Shopping Cart
510
Purchase Item 1
Merchant 1 Purchase Data (selected)
Merchant 2 Purchase Data
Aggregate Product Data for Purchase Item 1
511
512
513
Purchase Item 2
Merchant 2 Purchase Data (selected)
Merchant 3 Purchase Data
Merchant 4 Purchase Data
Aggregate Product Data for Purchase Item 2
521
522
523
524
520
530
Purchase Item 3
Merchant 3 Purchase Data (selected)
Merchant 1 Purchase Data
Merchant 2 Purchase Data
Aggregate Product Data for Purchase Item 3
531
532
533
534
Merchant 1 Order Data
540
Merchant 2 Order Data
550
Merchant 3 Order Data
560
Merchant 4 Order Data
570
Aggregate Order Data
580

FIG. 5

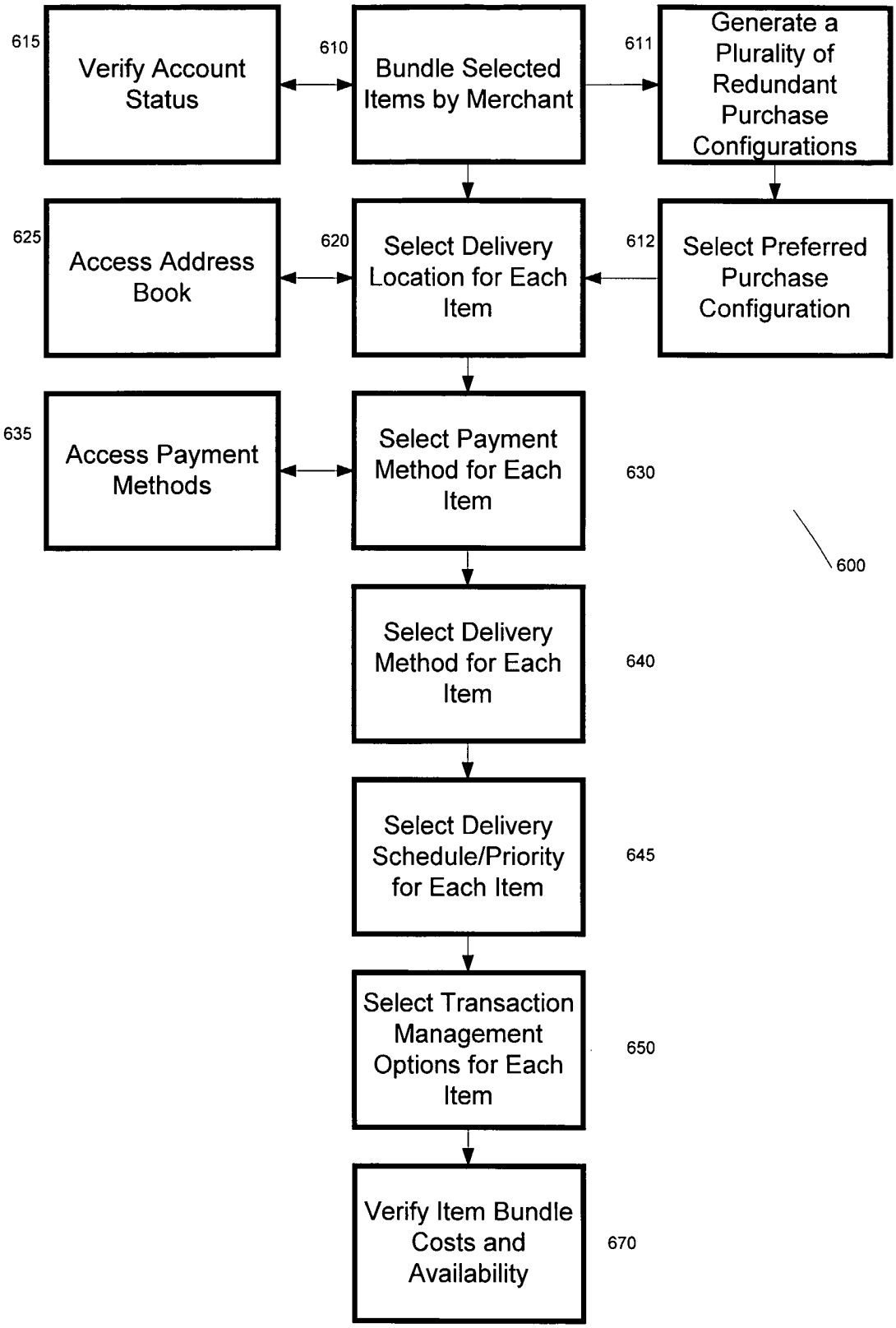
615
Verify Account Status
610
Bundle Selected Items by Merchant
611
Generate a Plurality of Redundant Purchase Configurations
625
Access Address Book
620
Select Delivery Location for Each Item
612
Select Preferred Purchase Configuration
635
Access Payment Methods
Select Payment Method for Each Item
630
600
Select Delivery Method for Each Item
640
Select Delivery Schedule/Priority for Each Item
645
Select Transaction Management Options for Each Item
650
Verify Item Bundle Costs and Availability
670

Figure 6

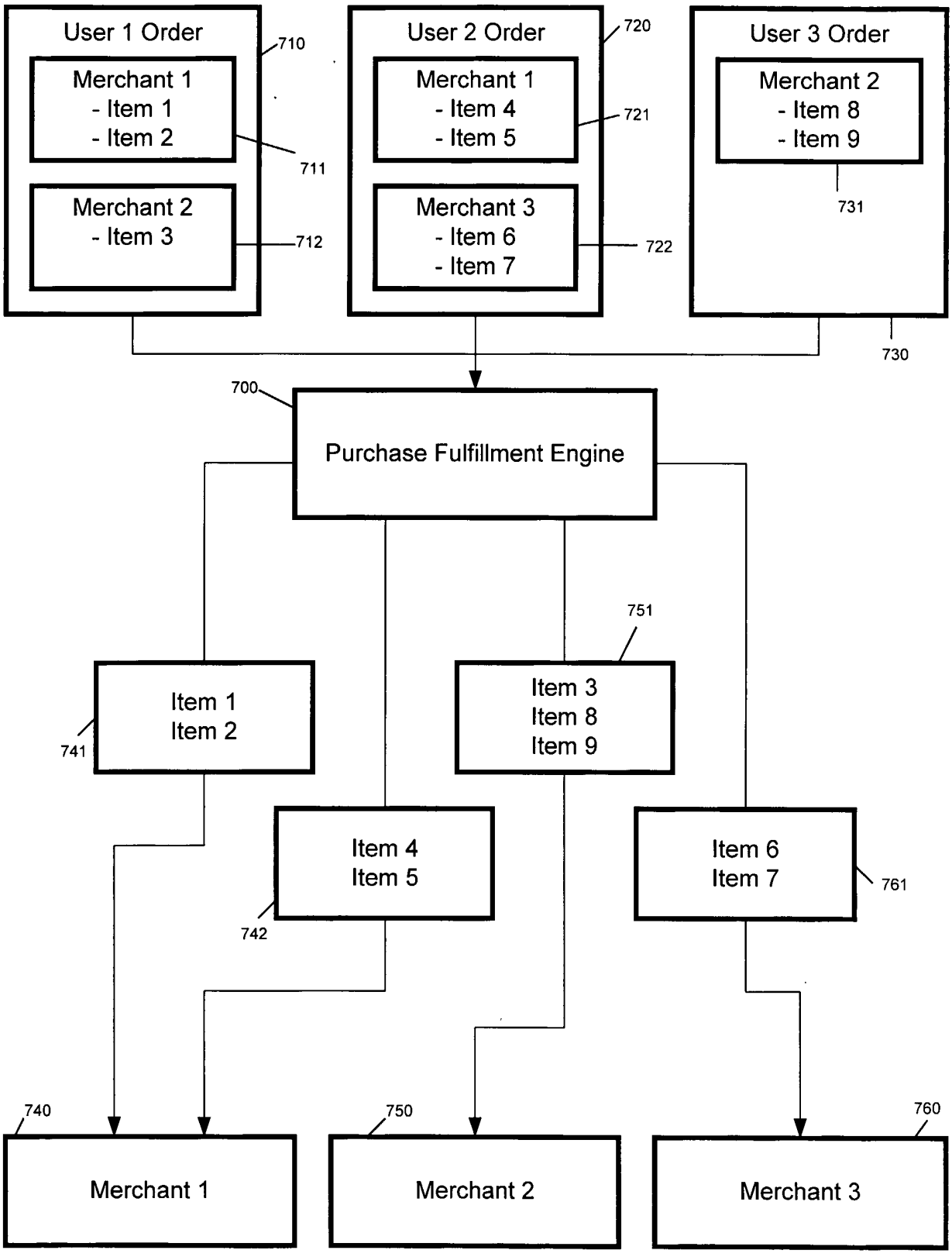
User 1 Order
Merchant 1
- Item 1
- Item 2
Merchant 2
- Item 3
710
711
712
User 2 Order
Merchant 1
- Item 4
- Item 5
Merchant 3
- Item 6
- Item 7
720
721
722
User 3 Order
Merchant 2
- Item 8
- Item 9
731
730
700
Purchase Fulfillment Engine
751
Item 1
Item 2
741
Item 3
Item 8
Item 9
Item 4
Item 5
742
Item 6
Item 7
761
740
750
760
Merchant 1
Merchant 2
Merchant 3

FIG. 7

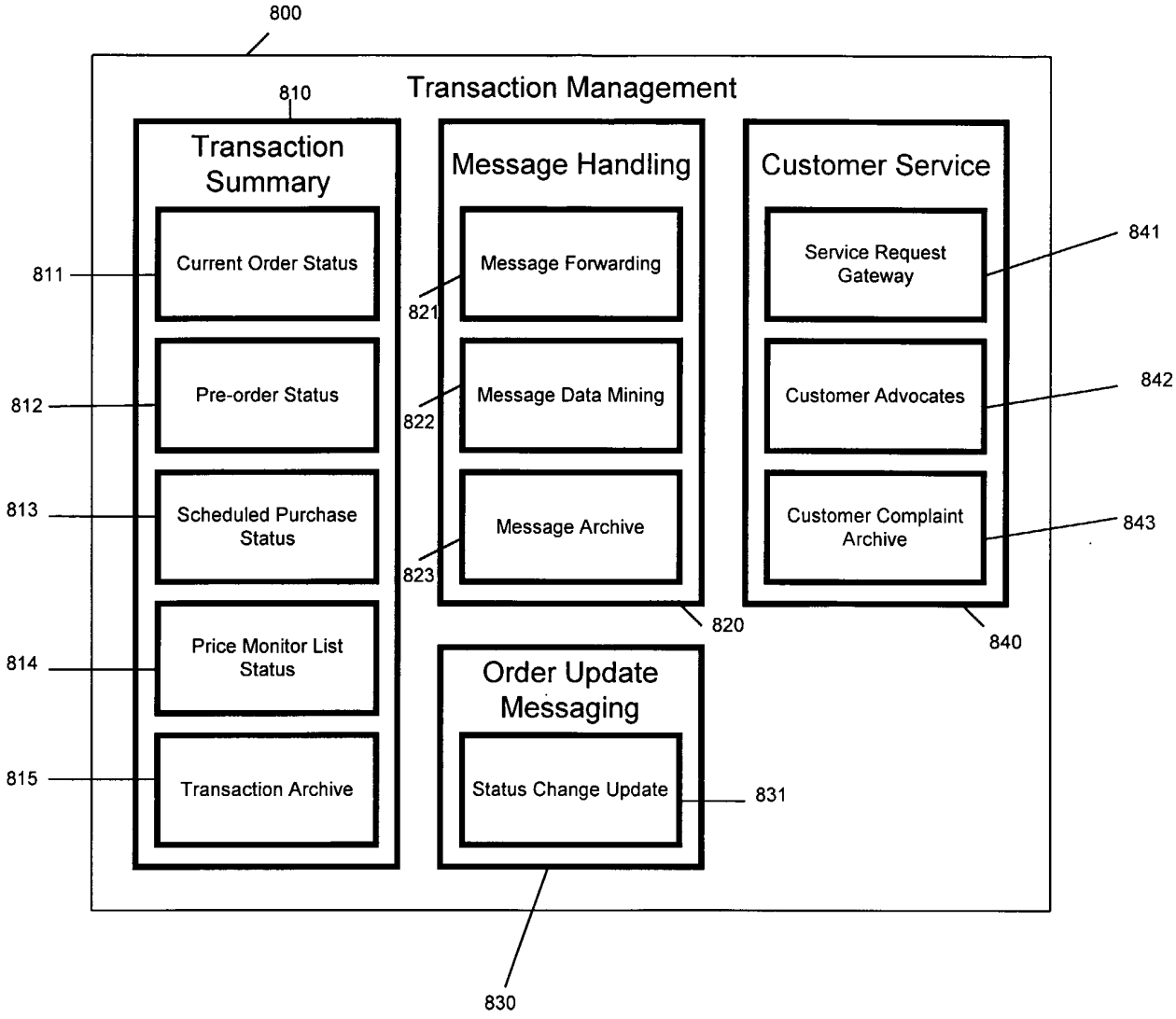
800
Transaction Management
810
Transaction Summary
Current Order Status
Pre-order Status
Scheduled Purchase Status
Price Monitor List Status
Transaction Archive
811
812
813
814
815
Message Handling
Message Forwarding
Message Data Mining
Message Archive
821
822
823
820
Order Update Messaging
Status Change Update
831
830
Customer Service
Service Request Gateway
Customer Advocates
Customer Complaint Archive
841
842
843
840

FIG. 8

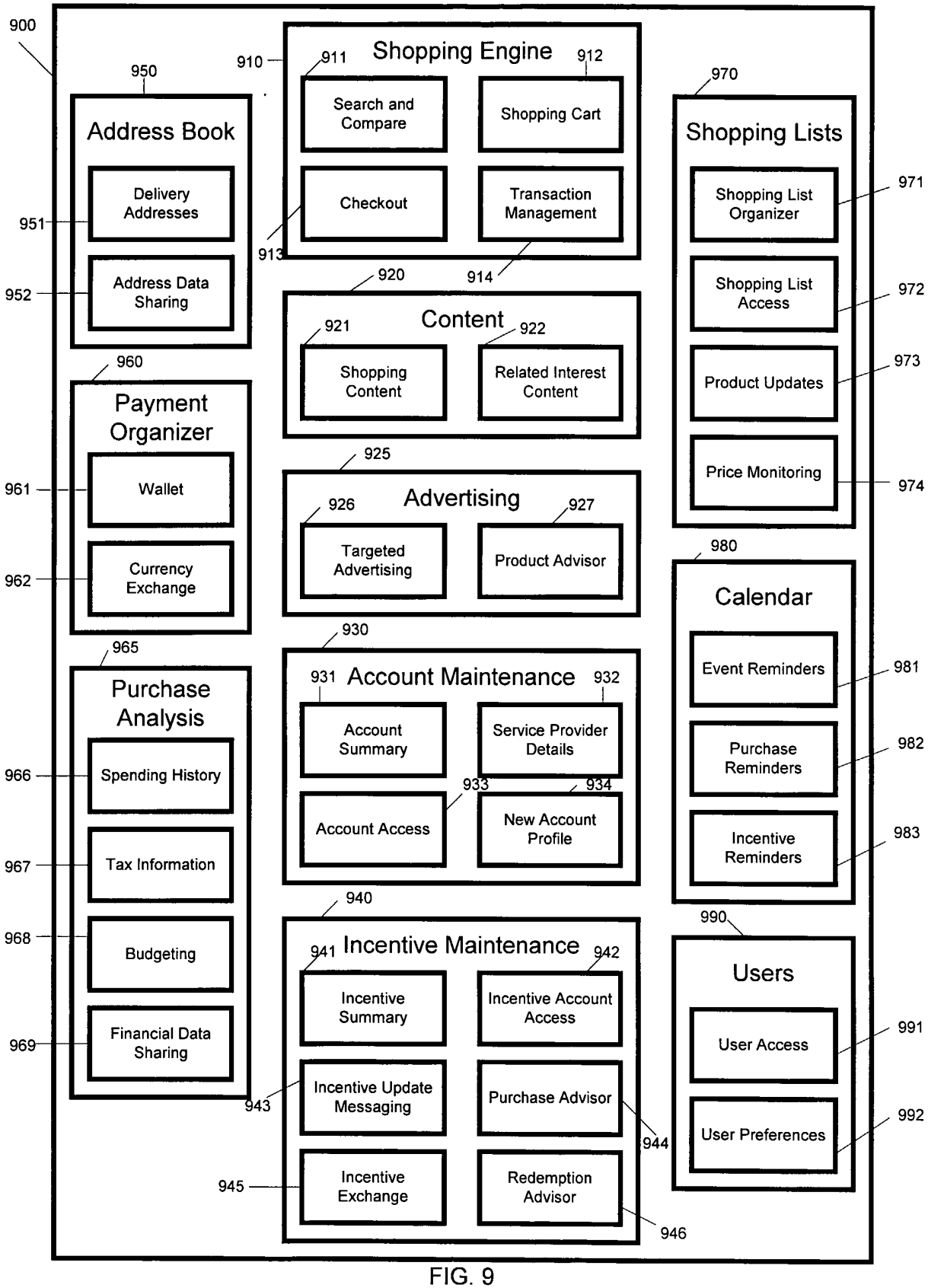
900
910
Shopping Engine
911
912
Search and Compare
Shopping Cart
Checkout
Transaction Management
913
914
950
Address Book
Delivery Addresses
Address Data Sharing
951
952
920
Content
921
922
Shopping Content
Related Interest Content
960
Payment Organizer
Wallet
Currency Exchange
961
962
925
Advertising
926
927
Targeted Advertising
Product Advisor
965
Purchase Analysis
Spending History
Tax Information
Budgeting
Financial Data Sharing
966
967
968
969
930
Account Maintenance
931
932
Account Summary
Service Provider Details
Account Access
New Account Profile
933
934
940
Incentive Maintenance
941
942
Incentive Summary
Incentive Account Access
Incentive Update Messaging
Purchase Advisor
Incentive Exchange
Redemption Advisor
943
944
945
946
970
Shopping Lists
Shopping List Organizer
Shopping List Access
Product Updates
Price Monitoring
971
972
973
974
980
Calendar
Event Reminders
Purchase Reminders
Incentive Reminders
981
982
983
990
Users
User Access
User Preferences
991
992

FIG. 9

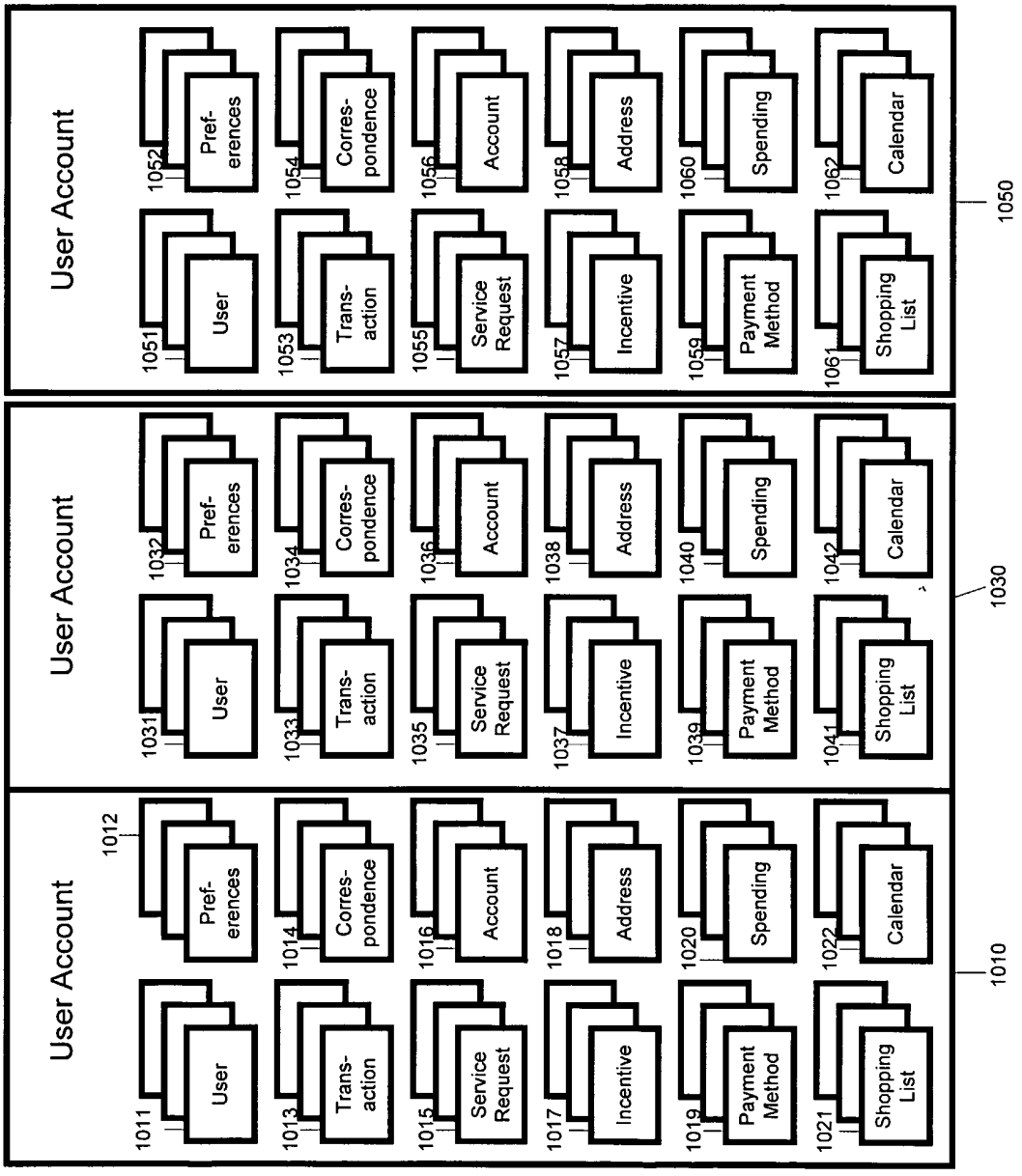
User Account
1010
1011
User
1012
Pref-erences
1013
Trans-action
1014
Corres-pondence
1015
Service Request
1016
Account
1017
Incentive
1018
Address
1019
Payment Method
1020
Spending
1021
Shopping List
1022
Calendar
User Account
1030
1031
User
1032
Pref-erences
1033
Trans-action
1034
Corres-pondence
1035
Service Request
1036
Account
1037
Incentive
1038
Address
1039
Payment Method
1040
Spending
1041
Shopping List
1042
Calendar
User Account
1050
1051
User
1052
Pref-erences
1053
Trans-action
1054
Corres-pondence
1055
Service Request
1056
Account
1057
Incentive
1058
Address
1059
Payment Method
1060
Spending
1061
Shopping List
1062
Calendar

FIG. 10

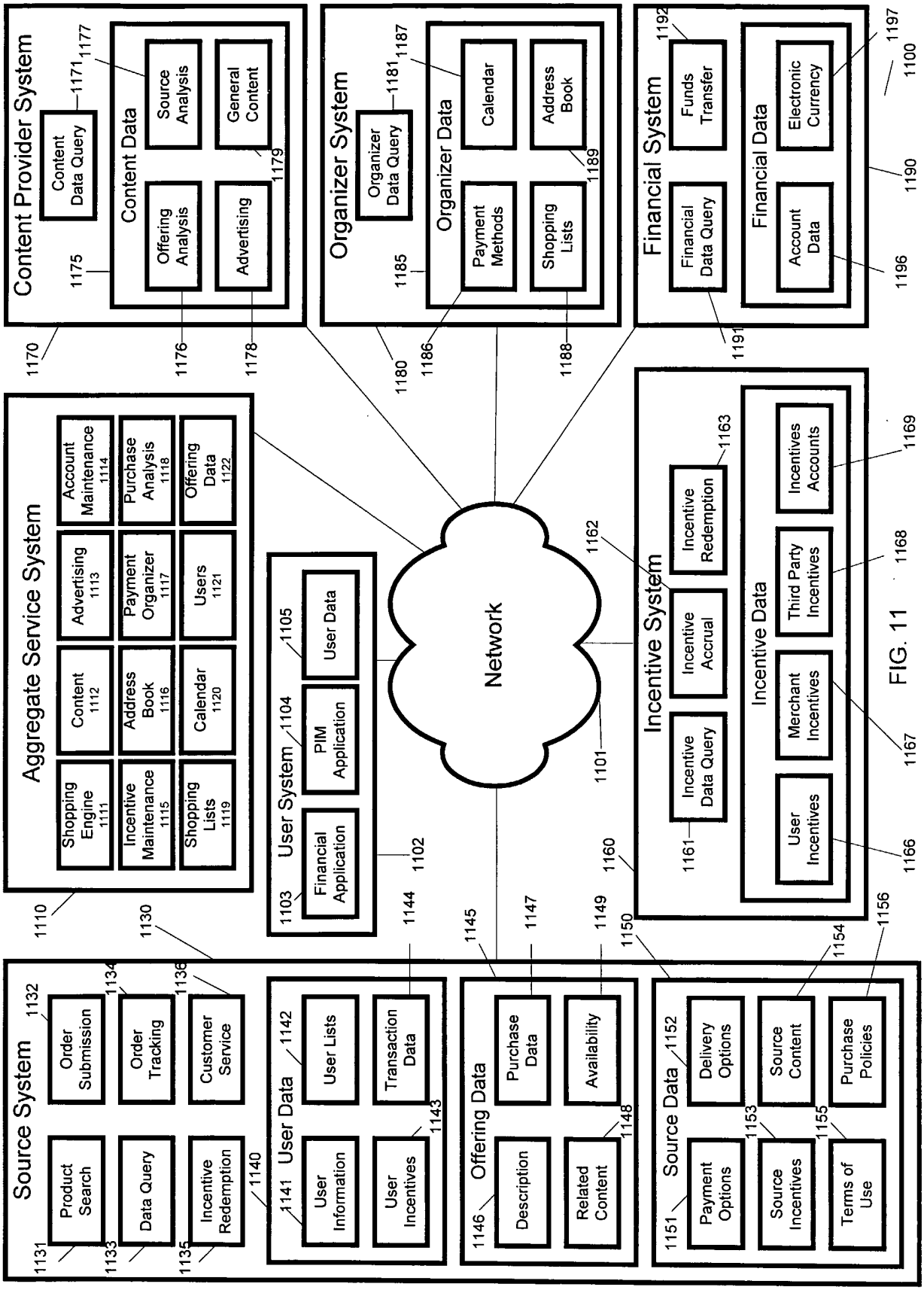
Content Provider System
Content Data Query
1171
1177
Content Data
Source Analysis
General Content
Offering Analysis
Advertising
1179
1175
1170
1176
1178
Organizer System
Organizer Data Query
1181
1187
Organizer Data
Calendar
Address Book
Payment Methods
Shopping Lists
1189
1185
1180
1186
1188
Financial System
Financial Data Query
1192
Funds Transfer
Financial Data
Electronic Currency
Account Data
1197
1100
1190
1196
1191
Aggregate Service System
Shopping Engine 1111
Content 1112
Advertising 1113
Account Maintenance 1114
Incentive Maintenance 1115
Address Book 1116
Payment Organizer 1117
Purchase Analysis 1118
Shopping Lists 1119
Calendar 1120
Users 1121
Offering Data 1122
1110
1130
User System
1104
1105
User Data
PIM Application
1103
Financial Application
1102
1144
Network
1162
1101
Incentive System
Incentive Redemption
1163
Incentive Accrual
Incentive Data Query
1161
Incentive Data
Incentives Accounts
1169
Third Party Incentives
1168
Merchant Incentives
User Incentives
1167
1166
1160
1145
1147
1149
1150
1154
1156
Source System
1132
Order Submission
1134
Order Tracking
1136
Customer Service
Product Search
Data Query
Incentive Redemption
1140
1131
1133
1135
User Data
1142
User Lists
Transaction Data
1141
User Information
User Incentives
1143
Offering Data
Purchase Data
Availability
1146
Description
Related Content
1148
Source Data
1152
Delivery Options
Source Content
Purchase Policies
1151
Payment Options
1153
Source Incentives
1155
Terms of Use

FIG. 11

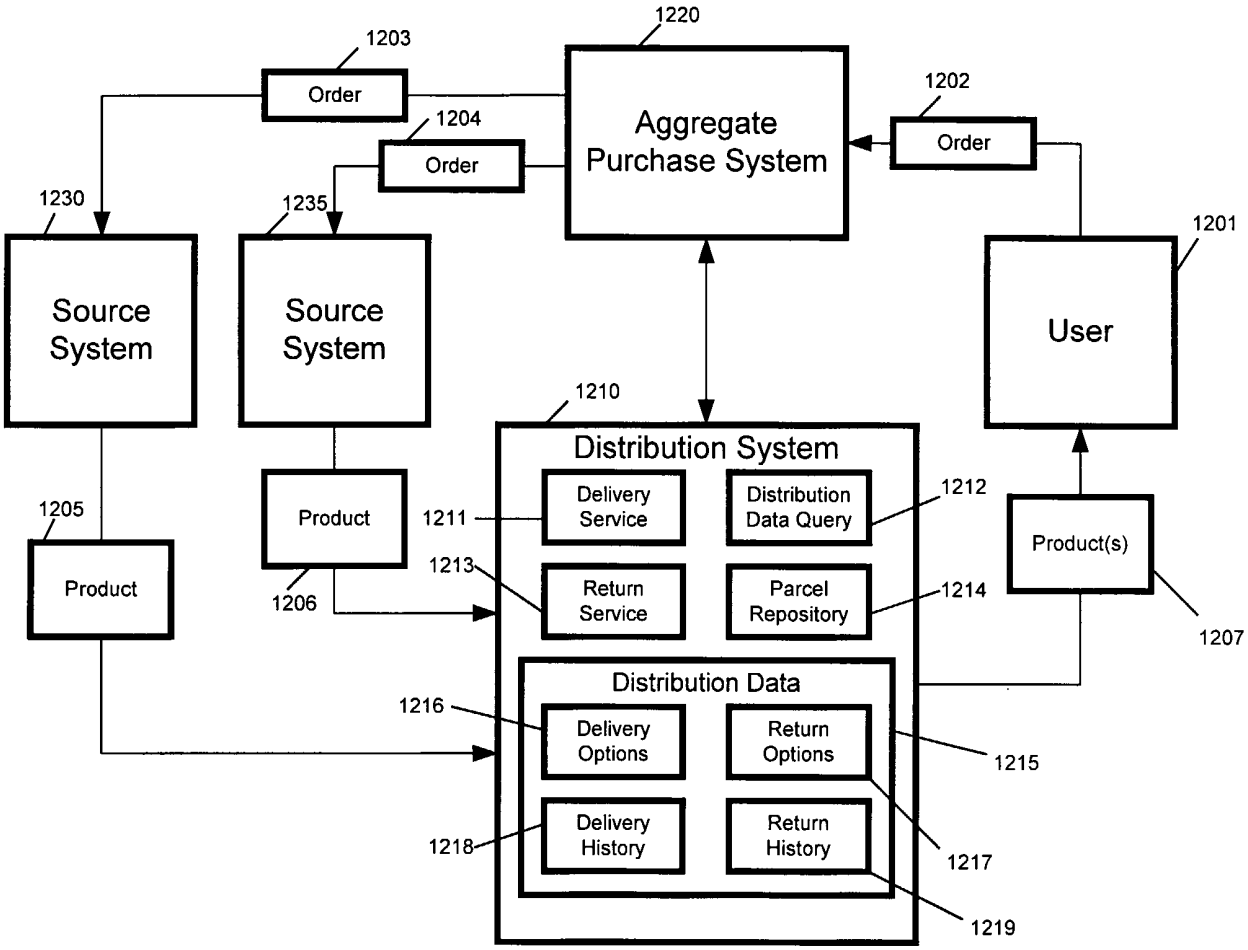
1220
1203
Order
1204
Order
Aggregate Purchase System
1202
Order
1230
1235
1201
Source System
Source System
User
1210
Distribution System
1205
Product
1211
Delivery Service
Distribution Data Query
1212
Product
1206
1213
Return Service
Parcel Repository
1214
Product(s)
1207
Distribution Data
1216
Delivery Options
Return Options
1215
1218
Delivery History
Return History
1217
1219

FIG. 12

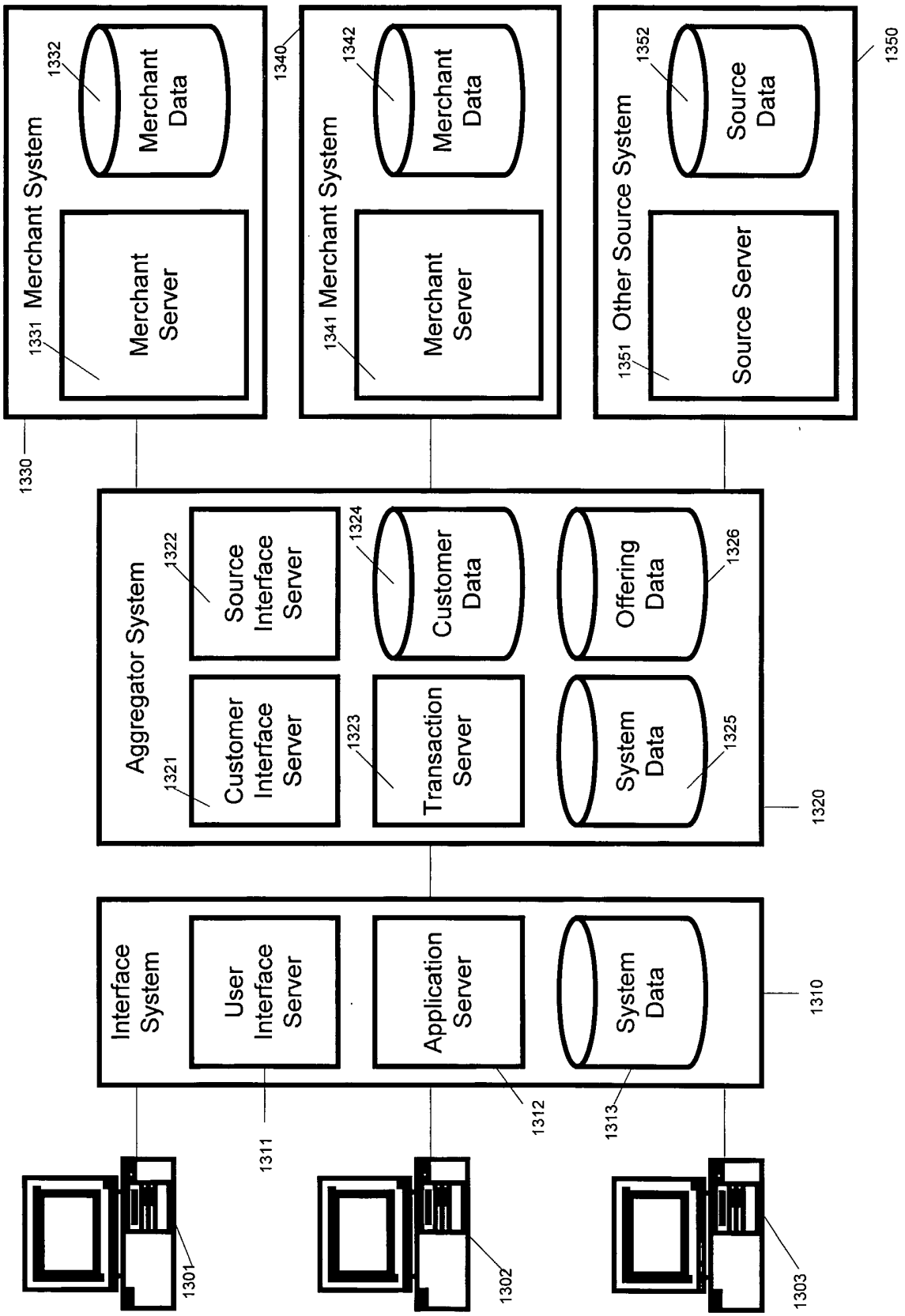
Merchant System
1331
Merchant Server
1332
Merchant Data
1330
1340
Merchant System
1341
Merchant Server
1342
Merchant Data
Other Source System
1351
Source Server
1352
Source Data
1350
Aggregator System
Source Interface Server
1322
Customer Interface Server
1321
Transaction Server
1323
Customer Data
1324
Offering Data
1326
System Data
1325
1320
Interface System
User Interface Server
Application Server
1312
System Data
1313
1310
1311
1301
1302
1303

FIG. 13

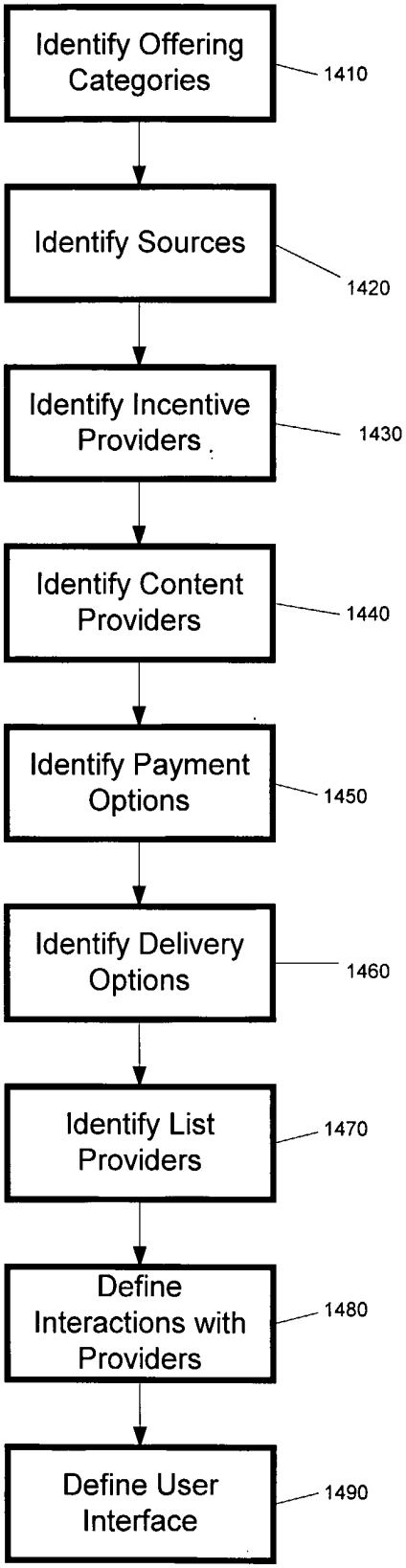
Identify Offering Categories
1410
Identify Sources
1420
Identify Incentive Providers
1430
Identify Content Providers
1440
Identify Payment Options
1450
Identify Delivery Options
1460
Identify List Providers
1470
Define Interactions with Providers
1480
Define User Interface
1490

FIG. 14

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/29720

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 17/60
US CL :705/26, 27, 39, 40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/26, 27, 39, 40

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST, DIALOG

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,966,697 A (FERGERSON et al) 12 October 1999, col. 3, line 32 thru col. 14, line 44.	1-35
X,P	US 6,101,482 A (DIANGELO et al) 08 August 2000, col. 4, line 21 thru col. 10, line 54.	1-35
A	US 5,745,681 A (LEVINE et al) 28 April 1998, entire document.	1-35
A,P	US 6,091,417 A (LEFKOWITZ) 18 July 2000, entire document.	1-35

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 29 JANUARY 2001	Date of mailing of the international search report 01 MAR 2001
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer VINCENT MILLER James R. Matthews Telephone No. (703) 308-1065

Form PCT/ISA/210 (second sheet) (July 1998)*