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(54) System and method of providing billing-related services

(57) Methods and systems for managing electronic bill presentment and payment information are provided. In one such method, a biller is enrolled in an electronic bill presentment and payment management system and enrollment for the biller at a selected biller channel (e.g., a bill consolidator or a biller web site) is arranged. An enrollment request for at least one customer of the biller is received and forwarded to the biller. A data stream

comprising data for at least one bill for the customer is received from the biller. The bill is formatted in a pre-determined format and sent to the selected biller channel. Notification of the customer's selection of a payment option for the bill is received, and notification of the customer's payment option selection is sent to the biller.

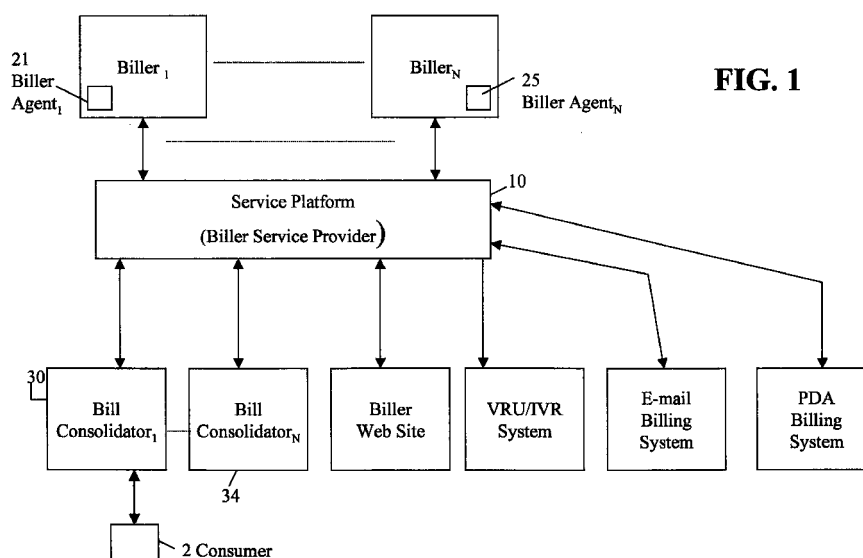


FIG. 1

Description

I. Cross Reference to Related Application

[0001] This patent application claims priority to co-
pending United States Provisional Patent Application
Serial No. 60/151,612, entitled "System and Method of
Biller Service Provider, filed August 31, 1999, which is
hereby incorporated in full by reference.

II. Field of the Invention

[0002] The present invention relates generally to
the field of electronic commerce. More particularly,
embodiments of the present invention relate to systems
and methods for electronic bill presentment and pay-
ment.

III. Background

[0003] In conventional bill presentment using the
internet, if a biller wishes to present a bill to a consumer,
the biller generally may choose either to create a web
site and stage a bill through the web site or to subscribe
to a service provided by an internet bill consolidator,
such as TRANSPPOINT or CHECKFREE. Generally, the
biller must then manage the connections and technol-
ogy issues associated with the web site or with the
biller's communication with the consolidator.

[0004] For example, if the biller employs its own
web site for bill presentment, the biller often must man-
age its own customer service representative (CSR)
aspects, such as communicating with customers about
the use of the web site. As another example, if the biller
employs a bill consolidator, the biller must often manage
its own CSR interface in order to carry out investigations
of issues associated with the consolidator's service,
such as whether a customer received a bill or paid the
bill on time.

[0005] Thus, conventionally, a biller that wishes to
present bills via the internet must spend resources to
manage the various issues associated with such pre-
sentment, learn aspects of the associated technologies,
and often must maintain infrastructure to manage multi-
ple communication connections. Moreover, in conven-
tional bill presentment systems, the biller creates
statements showing the amount owed by the customer
and other information in one of several print formats,
such as Open Financial Exchange (OFX) (e.g., OFX
1.51 or higher), Advanced Function Presentation (AFP),
Xerox, or an ASCII Flat File, and the customer must use
an interface capable of viewing the format used by the
biller.

[0006] What is needed is a system for providing bill-
ing-related services that carries out bill presentment
and management of bill payment for a biller in relation to
multiple consumer service providers (e.g., bill consoli-
dators) in an effective and efficient manner. Further,

what is needed is a central platform that communicates
with multiple billers and multiple consumer service pro-
viders in the management of bill presentment and pay-
ment. Moreover, what is needed is a biller service
provider system that allows billers to have a single data
feed by aggregating bill consolidators and branded web-
sites and that act as the biller's proxy by managing all
relationships between the consumer service providers
and the billers.

IV. Summary

[0007] Embodiments of the present invention com-
prise methods and systems for managing electronic bill
presentment and payment information. In an embodi-
ment, a central service platform enrolls a biller (e.g., a
credit card company, an insurance company, or a tele-
phone company), arranges for enrollment of the biller at
a selected biller channel (e.g., a bill consolidator or a
biller-branded web site), receives an enrollment request
for a customer of the biller, and forwards the enrollment
request to the biller. The central service platform then
receives a data stream including data for at least one bill
for the customer from the biller, formats the bill in a pre-
determined format, and sends the formatted bill to the
selected biller channel. The platform then receives noti-
fication of the customer's selection of a payment option
for the bill and sends a notification of the customer's
payment option selection to the biller.

[0008] In an embodiment, the platform also pro-
vides an interface for the biller to the biller service pro-
vider via a biller agent. Moreover, in an embodiment, the
platform receives an approval of the enrollment request
from the biller and sends a notification of the approval to
the consumer service provider for the customer. Other
notification functions are included in other embodi-
ments. For example, in an embodiment, the platform
receives a notification of receipt of payment of the bill
from the biller, and forwards the notification of the
receipt to the consumer service provider for the cus-
tomer.

[0009] Embodiments also include methods and
systems for managing electronic bill presentment and
payment information comprising enrolling a first biller in
a bill presentment and payment management service,
establishing a relationship with a first consumer service
provider (e.g., a bill consolidator, a biller-branded web
site, a voice response unit system, an e-mail billing sys-
tem, or a personal digital assistant system) on behalf of
the first biller, facilitating enrollment of a first consumer
in the first biller, receiving first bill information associ-
ated with the first consumer from the first biller, present-
ing a first bill statement comprising the first bill
information through the first consumer service provider,
receiving first bill payment information associated with
the first bill statement from the first consumer through
the first consumer service provider, and processing the
first bill payment information. In an embodiment, estab-

lishing a relationship with the first consumer service provider on behalf of the first biller comprises enrolling the first biller in the bill presentment and payment management service.

[0010] Embodiments of the present invention may include any combination of billers, consumer service providers, and consumers. For example, a central service platform may facilitate enrollment of a second consumer in the first biller, receive second bill information associated with the second consumer from the first biller, present a second bill statement comprising the second bill information through the first consumer service provider, receive second bill payment information associated with the second bill statement from the second consumer through the first consumer service provider, and process the second bill payment information. Similarly the platform may enroll a second biller in the bill presentment and payment management service, establish a relationship with a first consumer service provider on behalf of the second biller, facilitate enrollment of a second consumer in the second biller, receive second bill information associated with the second consumer from the second biller, present a second bill statement comprising the second bill information through the first consumer service provider, receive second bill payment information associated with the second bill statement from the second consumer through the first consumer service provider, and process the second bill payment information. Likewise, a second biller and a second consumer service provider may be employed in the same manner.

[0011] Embodiments of systems and methods according to the present invention provides for aggregation of touchpoints for a biller consolidators or aggregation. A system for an embodiment of the present invention allows the biller, for example, to have one data feed into an electronic billing system of a service provider, such as a bank, and effectively manages all of the biller's relationships to all of the biller's consolidators. In an embodiment of the present invention, a bank includes such a system and manages all the technology issues in integrating to different consolidators and manages the relationships with the consolidators on behalf of the biller.

[0012] In an embodiment of the present invention, from the biller's perspective, the biller has one data feed that comes directly into the bank's electronic billing system. The embodiment receives the data feed and maps it to as many electronic customers as possible.

[0013] Embodiments of the present invention offer various features and advantages. It is a feature and advantage of the present invention to provide a biller service provider system that allows billers to have a single data feed by aggregating bill consolidators and branded websites and acting as the biller's proxy by managing all relationships between the system and the aggregators, as contemplated by the present invention. It is another feature and advantage of embodiments of

the present invention to provide a system and method for electronic bill presentment and payment that aggregates bill consolidators or aggregates touchpoints for a biller.

[0014] It is an additional feature and advantage of embodiments of the present invention to provide a system and method for electronic bill presentment and payment that functions as the biller's proxy by managing all aspects of the biller's relationships with all bill consolidators and touchpoints. It is a still additional feature and advantage of embodiments of the present invention to provide a biller-direct model of bill presentment in which billers use the channels desired by the billers to deliver their bills

[0015] It is a still additional feature and advantage of embodiments of the present invention to provide a biller aggregator and consolidator model, which consolidates and aggregates bill consolidators. For example, in an embodiment, billers may have one direct communication link to a system that manages all issues associated with bill consolidators for the billers.

[0016] It is still an additional feature and advantage of the present invention that biller agent software can be written in a language that is largely platform independent (e.g., JAVA), such that biller agent software can be used on existing hardware. It is still an additional feature and advantage of the present invention that a central platform is designed to be a router for a biller's electronic statements and payments.

[0017] It is still an additional feature and advantage of the present invention that embodiments are provided that maximizes and continues the exposure of a biller's interface to the biller's electronic consumers while removing the burden of managing the service associated with such exposure from the biller. It is still an additional feature and advantage of the present invention that consumers may enroll with a consumer service provider of their choice and employ the service offered by a flexible, central billing service provider.

[0018] Additional objects, advantages and novel features of the invention will be set forth in part in the description which follows, and in part will become more apparent to those skilled in the art upon examination of the following, or may be learned by practice of the invention.

V. Brief Description of the Figures

[0019]

FIG. 1 shows an embodiment of a system according to the present invention;

FIG. 2 shows a portion of the embodiment shown in FIG. 1, as well as further detail of the service platform;

FIG. 3 shows further detail of the portion of the

embodiment shown in FIG. 2, including servers and network connections included therein;

FIG. 4 shows a flow chart of a method according to the present invention;

FIG. 5 shows further detail of the method shown in FIG. 4; and

FIGS. 6-11 show further details of the method shown in FIG. 4.

VI. Detailed Description

[0020] Various embodiments of the present invention comprising systems and methods for providing billing-related services are further described below with reference to FIGS. 1-11. Embodiments include methods and systems for providing bill-related services.

[0021] One embodiment comprises a system and method for managing electronic bill presentment and payment that employs a central platform to manage the consolidation of billing data from multiple billers and multiple consumer service providers, such as bill consolidators or aggregators. FIG. 1 shows such an embodiment of a system according to the present invention. In the embodiment shown in FIG. 1, an electronic billing service platform 10, or central platform, is in communication with multiple biller systems (including biller computer servers) 20, 24. The electronic billing service platform comprises a biller service provider (BSP). Various entities that present bills employ computerized biller systems to produce bill statements. Examples of such entities include insurance companies, credit card companies, telephone service companies, utility companies, and governmental entities (e.g., county property tax offices). In the embodiment shown in FIG. 1, the first biller 20 comprises a credit card company that periodically sends out bills to its customers for its credit card accounts, and the second biller 24 is a local telephone company that periodically sends out bills to its customers for telephone service.

[0022] The service platform 10 is also in communication with various consumer service providers comprising bill presentation systems. The bill presentation systems shown include multiple bill consolidators 30, 34, a biller web site 40, a voice response unit (VRU) / interactive voice response (IVR) systems 44, an e-mail billing system 48, and a personal digital assistant billing system 52. Although the only consumer service providers shown in multiple are the bill consolidators 30, 34, embodiments of the present invention include the service platform 10 in communication with multiples of other types of bill presentation systems (e.g., the platform 10 may be in communication with multiple biller web sites). Examples of bill consolidators include conventional TRANSPPOINT and CHECKFREE services.

[0023] In the embodiment shown in FIG. 1, the var-

ious elements (e.g., the biller systems (or billers) 20, 24, the bill consolidators 30, 34, and the biller web site 40) include computer servers (or networks servers) having hardware and software for carrying out the various functions associated with each element as will be described further herein. In addition the various elements include electronic communication facilities that allow the elements to send and receive electronic communication.

[0024] The service platform 10 is in communication with the consumer service providers 30, 34, 40, 44, 48, 52 via the internet. The service platform 10 is also in communication with the biller systems 20, 24 via the internet. The service platform's connection to any of the consumer service providers or the billers may be through any communications means, including via the telephone network, a dedicated communications line, or other means.

[0025] The first biller system 20 is associated with a biller agent 21. In the embodiment shown, the biller agent 21 comprises software resident on the biller's server that facilitates communication between the biller system 20 and the service platform 10 (including messaging, such as verification of transmissions), system status monitoring, and bill statement transmission to the service platform 10. In embodiments, the biller agent 21 serves as an interface for the biller to the biller service provider by, for example, facilitating the review of customer candidates for electronic billing, the payment and the receipt of remittance advice listings to post accounts receivables, and the remote diagnosis and repair of software and other issues by the service platform 10. Various functions of the biller agent 21 will be discussed in further detail herein. The biller system also includes a biller interface (or biller console) which may be used by those with operational responsibility for the biller system to interface with the biller agent 21.

[0026] In the embodiment shown, the second biller system 24 also is associated with a biller agent 25. In the preferred embodiment, each biller system is associated with a biller agent and, preferably, the biller agent software is written in a language that is largely platform independent, such as JAVA.

[0027] FIG. 2 shows a portion of the embodiment shown in FIG. 1, and comprises an embodiment of the present invention. The isolated portion shown in FIG. 2 will be used herein to describe steps taken in accordance with an embodiment of the present invention.

[0028] FIG. 2 shows one of the billers (the first biller 20, the credit card company), a first of the service providers (the first bill consolidator 30), a second of the consumer service providers (the biller web site 40), and the service platform 10. It also shows a consumer 3 (or client) in communication with the biller-branded web site 40, and a consumer 2 in communication with the bill consolidator 30. The consumers 2, 3 (or clients) comprise personal computers in the embodiment shown. In one embodiment, the extensible markup language (XML) format is used to interface or communicate

between the biller 20 and the service platform 10.

[0029] FIG. 2 also shows further detail of the BSP 10. The BSP 10 shown includes a consumer service provider connection adapter 12, a processing system 14, a data storage system 16, and a biller connection adapter 13. The first connection adapter 12 comprises a communications link between the systems of the BSP 10 and the bill consolidator 30. The adapter 12 allows bi-directional communication between the BSP 10 and the biller 20. The BSP 10 and the biller 20 are connected via a secure internet connection in the embodiment shown. The second connection adapter 13 is like the first connection adapter 12, but comprises a biller integration system server used to interface with the bill consolidator 30. The processing system 14 comprises a computer system which processes the various functions of the service platform 10. The data storage system 16 shown represents the data storage function of the BSP processing unit 14, and comprises portions of a hard disk drive storage unit.

[0030] FIG. 3 provides a high-level physical network overview of the embodiment shown in FIG. 2. The first connection adapter 13 comprises biller staging servers 202a, 202b, 202c which are connected to the biller 20 and the biller's customer support representative server 100 via the internet. As shown, the staging servers 202a, 202b, 202c may also be connected to the biller 20 and the representative's server 200 via a dedicated line 203.

[0031] The representative's server 200 comprises a customer service interface available to the biller 20 via, for example, the internet. The representative's server 200 comprises software allowing the biller's service representative to view transactions by the biller's consumers at multiple consumer service providers, thus comprising a unified customer service interface. In addition, the representative's server 200 allows the biller or other provider to answer consumer questions of consumers and others based on such information. The representative's server 200 receives data reflecting transactions by consumers associated with the biller 20 from the BSP system 10. In the embodiment shown, the BSP system 10 sends such data to the server 200 on a constant basis, though in other embodiments, such data may be sent on a periodic or other basis.

[0032] Referring to FIG. 3, the BSP 10 of FIGS. 2 comprises several servers 204, 206, 208, 210, 216 and associated hardware 206, 214. The parallel routing servers 204, 208 are programmed to manage the routing and management of authentication, statements, payments, and configuration between billers, consumers, and consumer service providers. As shown, the first parallel routing server 208 is connected to the connection adapter 13. The parallel routing servers 204, 208 are connected to other servers in the BSP 10 via an Ethernet connection.

[0033] The directory service server 206 is programmed to segregate and manage the biller's and con-

sumer's data from other billers' information and to provide support for authentication of billers and consumers. The server 206 includes associated hardware, such as memory storage systems (e.g., hard disk drives) (represented in FIG. 2 by the memory storage system 16, as are other memory storage systems and functions of the BSP processing system 14). The server 206 comprises a distributed server that is visible across all the BSP servers.

[0034] The statements server 216 is programmed to manage and archive data received from the biller (biller data) in a storage system 214 for a predetermined time designated (e.g. 0 months (no archiving), 6 months, or 12 months), e.g., by the biller. Such data includes bill information, such as amount due and due date. The statement server 216 is programmed to accommodate real-time retrieval of bill information for the consumer and the consolidator or other customer server provider (e.g., a biller web site).

[0035] In an embodiment, the BSP system 10 employs the storage system 214 to provide further bill data storage services to billers. In an embodiment, the storage system 214 comprises bills provided by the biller 20 and other billers, and stored by the BSP system 10. In an embodiment, such bills are stored by the BSP system 10 at discount rates to the biller(s). Moreover, in an embodiment, the storage system 214 comprises non-electronically presented bill data of the biller 20 and other billers, and stored by the BSP system 10. In an embodiment, such non-electronically presented bill data is stored by the BSP system 10 at volume discount rates to the biller(s).

[0036] The payment server 210 is programmed to manage remittance data and pre-noting for consumers, billers, and consumer service providers (such as the bill consolidator 20 shown). The payment server 210 is programmed to determine and carry out the most efficient mechanism for remitting payment. Mechanisms that the payment server 210 is programmed to consider include validating "on-us" accounts and conducting Automated Clearing House (ACH) transactions to reduce cost (ACH is an interbank consumer funds transfer system). The server 210 will determine the best mechanism for remittance and debit the payment appropriately. Note that in the embodiment shown in FIG. 3, the payment server 210 is connected both to the Ethernet connecting the server 200 to the parallel routing server 208 and the statement server 216 and to the internet.

[0037] The embodiment shown in FIG. 3 also shows further detail of the biller-branded web site 40. The web site 40 resides on two biller branded web servers 218a 218b that are in communication with the internet. In the embodiment shown in FIG. 3, the web servers 218a, 218b are connected to the BSP system 10 via the Ethernet network, and the BSP system 10 manages the servers 218a, 218b on behalf of the biller for which the web site is branded. Customers of the biller may pay their bills using the biller branded web site

of the biller branded servers 218a, 218b, and the BSP system 10 manages the web site, but maintains the look and feel of the billers site as desired by the biller. The BSP connection adapter 12, 13 facilitate communication between the biller web site 40 and the BSP processing system 14 by translating the BSP meta data stream into the web site data stream, e.g., Extensible Markup Language (XML), OFX, or HTML.

[0038] In another embodiment, the biller web site 40 is managed by the biller, rather than the BSP system. In such a case, the biller web site 40 and the BSP processing system 14 communicate in a manner similar to the manner in which other consumer service providers communicate with the system 14.

[0039] FIG. 3 also shows the bill consolidator 30, which includes a web server used by consumers subscribing to the bill consolidator's service to manage and pay their bills via the internet. The consolidator 30 is in communication with the service platform 10 via a connection adapter 12. As shown in FIG. 3, the connection adapter 12 includes multiple bill consolidator interface servers 220a, 220b, 220c, 220d comprising, in the embodiment shown, Windows NT 4.0 servers running BIS (Biller Integration System) software that communicates with the bill consolidator 30. The servers 220a, 220b, 220c, 220d include software to translate the BSP meta data stream into a BIS data stream.

[0040] In the embodiment shown, the bill consolidator 30 communicates with the consumer 2 via the internet through the consumer's bank 224. In other embodiments, the consumer 2 communicates directly with the bill consolidator 30. Note that the consumer is also in communication with the biller branded web site via the internet.

[0041] A preferred configuration of the BSP system 10 includes the following features and percentage reliability: statement feed availability (98%), payment system availability (99%), biller configuration availability (98%), consumer configuration availability (98%), report system availability (98%), biller internet feed availability (99%), biller modem feed availability (99%), and peak hour end to end network response time 450ms per 5000 byte packet for biller feed (95%). In an embodiment including a BSP-managed, biller-branded web site, a preferred configuration additionally includes the following: statement presentment availability (98%), rate of successful first try login / connection attempts (98%), rate of noticeable error free customer sessions (98%), average logon time must be forty (40) seconds or less (99%), and peak hour end to end network response time 450ms per 5000 byte packet to consumer (95%).

[0042] A variety of other configurations may be used in accordance with the present invention. For example, other consumer service providers (e.g., other consolidators 34, VRU billing systems 44, and others) may be in communication with the BSP processing system 14 via the connection adapter 12.

[0043] The embodiment shown in FIGS. 1, 2, and 3

carries out various functions in accordance with the present invention. FIG. 2 isolates a portion of FIG. 1 and is used in conjunction with FIGS. 4-11 to describe the functions of the embodiment of FIG. 1 in further detail.

[0044] FIGS. 4 shows a flow diagram of some of the steps carried out in the system of the present invention show in FIGS. 1-3. FIGS. 5-11 show flow diagrams providing further detail of some of the steps shown in FIG. 4. The items shown in FIGS. 1-3 are referred to below in describing the steps.

[0045] Referring to FIG. 4, the BSP system 10 enrolls a biller in the service provided by the BSP system 60, establishes a relationship with a bill consolidator on behalf of the biller by enrolling the biller in the service provided by the bill consolidator 64, facilitates enrollment of a first consumer in the service provided by the biller via a biller branded web site 68, and facilitates enrollment of a second consumer who is a member of a service provided by the bill consolidator (e.g., a subscriber to the bill consolidator's bill presentment and payment service) in the service provided by the BSP system 10 via the bill consolidator 72. FIG. 5 shows steps taken by the system 10 to enroll a biller in the service provided by the BSP system 10. First, the operator of the BSP system 10 establishes an agreement with the biller 20 in relation to aspects of the service provided by the BSP system 10, such as cost, service, and support 100. Such an agreement is generally reached in writing. The operator of the BSP system 10 and biller 20 also establish parameters for the communications adapter 13 that will facilitate communication between the BSP system 10 and the biller 20, such as protocols, filters, support for sending bill data, managing consumer data (e.g., add, update, delete), reverse billing, statement format, and inserts 102. The BSP system 10 then creates a biller account for the biller 20 in the BSP system 104. Creating such a biller account includes creating a biller profile having such information as the biller's name, address, business telephone number, consumer support representative contact information, BSP account number, account type, ACH routing numbers for credits and debits, account number to credit and debit, transaction history, number of bills uploaded, number of payments made, number of new enrollments, number of investigations, style template(s), insert(s), messages, enrollment options, consumer account(s), IP address, and other information. In addition, profile information includes style sheets for bills, ACH account management information, and other preferences of the biller in relation to the service provided by the BSP system 10.

[0046] The BSP system 10 also creates a repository in a data storage system 16 for the biller's consumer data 106. The repository is used to store and archive the biller's consumer data. The size of the repository depends on the number of the biller's customers expected to use the system, the amount of data associated with each of biller's customers, and other

factors.

[0047] At this point, the BSP system 10 and the biller 20 are prepared to enroll consumers in the biller-related aspects of the BSP system 10. That is, the BSP system 10 and the biller 20 are now ready to offer users of consumer service providers to pay the biller's bills through the BSP system 10. Accordingly, the BSP system 10 notifies consumer service providers enrolled in the service provided by the BSP system of the biller's enrollment 108. With this knowledge, the consumer service providers may decide whether they wish to provide its customers with the opportunity to manage their bills from the biller through the consumer service provider and the BSP system. The BSP system 10 also receives relationship data from the biller 20 indicating the consumer service providers (e.g., consolidators) with which the biller 20 has a relationship 110. In the embodiment shown, the relationship data received indicates that the biller 20 has a relationship with the first bill consolidator 30. In other embodiments, the relationship data indicates relationships with multiple consumer service providers.

[0048] Referring to FIG. 4, the BSP system 10 next arranges an enrollment for the biller in a selected biller channel (e.g., a consumer service provider). In the embodiment shown, the BSP system 10 enrolls the biller in the service provided by a consumer service provider (e.g., a bill consolidator) 64, establishing a relationship between the BSP system 10 and the bill consolidator on behalf of the biller 20. In other embodiments, multiple consumer service providers are enrolled. In the embodiment shown, this enrollment step 64 comprises enrolling the biller with which the consumer service provider with which the biller 20 has a relationship, the first bill consolidator 30.

[0049] FIG. 6 shows steps taken in the embodiment shown to enroll the biller in the service provided by the consumer service provider 30 and establishing a relationship on behalf of the biller 64. Referring to FIG. 6, the BSP system 10 first contacts the consumer service provider with which the biller indicates that the biller has an established relationship or with which the biller indicates the biller wishes to establish a relationship. As a result, the BSP system 10 receives enrollment information from the consumer service provider contacted, including the consumer service provider's application, from the consumer service provider 120. The application may comprise a template, web-based form, or other type of data request means.

[0050] After receiving the application, the BSP system 10 examines the biller profile to determine information about the biller needed to enroll the biller in the service provided by the consumer service provider 122. Information found in the biller profile (e.g., name, address, account number) is then used by the BSP system 10 to complete the consumer service provider's application on behalf of the biller 124. The completed consumer service provider application is then sent by

the BSP system 10 to the consumer service provider 126.

[0051] The BSP system 10 receives and records the format protocol information (e.g., style sheets, inserts) for the consumer service provider in association with the biller's profile 128. For example, the BSP system 10 records the format in which the consumer service provider wishes to receive billing data, and records such information in association with the biller's profile so that the system 10 may properly format data of the biller that will be sent to the consumer service provider.

[0052] After sending the completed application to the consumer service provider, the BSP system 10 receives notification from the consumer service provider of acceptance or rejection of the application 130. If notification of rejection of the application is received, the BSP system 10 notifies the BSP consumer / biller support center (not shown) associated with the BSP system 10 of the rejection. The consumer / biller support center comprises persons who review the rejection and the reasons for the rejection, and carry out the steps necessary to correct for any errors in the application or other reason for the rejection, and to resubmit the application until the application is accepted or finally rejected 132. Once the BSP system 10 detects that the application has been accepted, the BSP system 10 updates the biller profile information in the BSP system to reflect successful enrollment in the consumer service provider's service 134.

[0053] Referring to FIG. 4, the BSP system also facilitates enrollment of another consumer 3 in the service provided by the biller via the biller branded web site 68. FIG. 7 shows steps taken in the embodiment shown to enroll the consumer 3 in the service provided by the BSP system 10 via the biller branded web site 40. In the embodiment shown, the BSP system 10 manages and operates the biller branded web site 40.

[0054] Referring to FIG. 7, the consumer 3 accesses a biller branded web site 40 using a web browser (the consumer 3 may also use an OFX client) and requests enrollment in the service offered via the web site 40. The BSP system 10 receives the request for consumer enrollment from the biller's branded web site 168, and sends an enrollment page from the biller's web site 40 to the consumer's browser 170. The consumer 3 provides the information requested in the enrollment page (e.g., name, address, account number, and e-mail address) and sends the completed enrollment page to the web site 40. The web site 40 receives the completed enrollment page 172 and provides the enrollment data to the BSP system 10.

[0055] Once the completed enrollment page is received, the BSP system 10 sends communication to the consumer that a decision on their enrollment request will be sent to the consumer via e-mail 174. This communication may be transmitted by an e-mail server associated with the web site 40 or by other means. The BSP system 10 uses the data in the completed enroll-

ment page to validate the consumer enrollment request 176. In doing so, the system 10 determines whether the consumer is already enrolled with the service offered by the BSP system or any of its associated consumer service providers by comparing the data in the completed enrollment page to profile data of previously enrolled consumers stored in the BSP system 10. In the embodiment shown, the BSP system 10 allows only a single enrollment per consumer. In another embodiment, if the biller chooses to allow multiple enrollments per consumer, the BSP system will not preclude multiple enrollments. In such an embodiment, there will normally be an additional charge to the biller for multiple enrollments.

[0056] If the BSP system 10 determines that the consumer enrollment request is valid, the BSP system 10 forwards the request to the biller for authentication and authorization 178. The biller carries out its own validation (authentication / authorization) analysis as defined by the biller's business policy (e.g. is the consumer's account in good standing and is the consumer's account valid). The biller 20 then sends a communication to the BSP system 10 indicating whether the biller wishes the BSP system 10 to enroll the consumer or not.

[0057] In the embodiment shown, the biller sends a communication to the BSP system 10 indicating that the biller approves the enrollment requests and wishes the BSP system 10 to enroll the consumer, and the BSP system 10 receives the communication from the biller 180. If the biller determines in its analysis that it does not wish for the BSP system 10 to enroll the consumer, the biller will send a communication to the BSP system 10 indicating that decision.

[0058] After the BSP system 10 receives the enrollment communication from the biller, the system 10 send a pre-note request to a payment system (not shown) to validate the consumer's enrollment request 182. Sending such a request, or "pre-noting," comprises validation by the payment system of the accounts that will be used in transactions relating to the consumer before a remittance takes place between the consumer and biller. The payment system will validate pre-noting using various account types, such as "On Us," Direct Deposit Accounting (DDA), and external ACH.

[0059] The system shown then creates a new consumer profile / account for the biller's consumer in the biller's repository area 184. The profile comprises the consumer's name, primary and secondary mailing addresses, telephone number for day and evening, primary and secondary e-mail addresses, security code, social security number, holder name, bank name, bank address, account type, ACH routing numbers for credit and debit, account numbers to debit and to credit, bill account(s), associated biller, and other, related information. The biller repository area comprises a portion of a memory storage system, e.g., the memory storage unit of the authentication directory service 106 shown in

FIG. 3. The system 10 also sends an e-mail to the consumer notifying the consumer of the biller's 20 acceptance of consumer 186 and communicates acceptance to the consumer service provider.

[0060] The BSP system 10 receives bill information for the consumer (e.g., amount due, and account number) from the biller when the biller updates the BSP system 10 with such information 188. Once the bill information is received, the BSP system 10 sends a bill to the consumer's account at the web site comprising at least part of the bill information for the consumer 190. Bills are sent by the BSP system 10 on a periodic basis, e.g., daily, weekly, or hourly. The consumer will be able to access the consumer's account through the web site 40 and to pay the consumer's bills.

[0061] In another embodiment, the biller 20 can also issue consumer enrollment requests to the BSP system 10 on behalf of the consumer. For example, the biller may create accounts for all its consumers through the BSP system 10 and then notify its consumers via paper statements that they are enrolled to pay electronically via the BSP system 10 or via the branded web site 40 if the consumer chooses. The BSP system 10 supports batch uploads of consumer enrollment requests.

[0062] In another embodiment, the consumer submits an enrollment request from their home based banking program (e.g., Quicken, Microsoft Money, or Checkfree). The enrollment request is processed similarly to the enrollment request received via the web site 40 as described above.

[0063] Referring again to FIG. 4, the BSP system 10 then facilitates enrollment of a consumer 2 who is a member of a service provided by a consumer service provider (e.g., a subscriber to a bill consolidator's service) in the service provided by the BSP system via the consumer service provider system 72. FIG. 8 shows steps taken in the embodiment shown to enroll the consumer 2 who is a member of a service provided by a consumer service provider (e.g., a subscriber to a bill consolidator's service) in the service provided by the BSP system. Such steps are similar to those taken in enrolling a consumer 3 via the branded web site as described above with reference to FIG. 7. Various features and aspects described with reference to FIG. 7 will not be repeated with reference to FIG. 8, but apply equally to the steps described in FIG. 8.

[0064] Bill consolidators provide services to a variety of consumers. In the embodiment shown, a consumer 2 who is a member of the service provided by the bill consolidator 30 wishes to pay the consumer's bills for the biller 20 through the consolidator 30.

[0065] Referring to FIG. 8, the BSP system 10 receives a request for consumer enrollment (i.e., a request to enroll the consumer 2 in the BPS system 10) from the bill consolidator 140. The request includes consumer data relating to the consumer 2 (e.g., name, mailing address, e-mail address, and account number).

[0066] Once the consumer enrollment request is

received, the BSP system 10 validates the consumer enrollment request 142. Such validation includes determining whether the consumer is already enrolled with the service offered by the BSP system or any of its associated consumer service providers and determining whether all needed information has been received. If the consumer enrollment request is invalid, the BSP system 10 will notify the bill consolidator 30 of the rejection and of the reason for the rejection. In the embodiment shown, the enrollment request is validated by the BSP system.

[0067] Once the consumer enrollment request is validated, the BSP system 10 forwards the request to the biller 20 for authentication and authorization by the biller 144. The biller 20 considers whether to accept or reject the request and communicates its decision to the BSP system 10. In the embodiment shown, the biller 20 accepts the request and transmits an acceptance communication to the BSP system 10.

[0068] The BSP system 10 receives communication from the biller to enroll the consumer 146. After receipt, the BSP system 10 creates a new consumer profile / account for the consumer 2 in the biller's repository area 148. The system 10 sends notification to the bill consolidator 30 of the consumer's enrollment status in a batch feed 150. The batch feed includes all status information of interest to the consolidator in relation to the BSP system 10, including the enrollment status of the consumer 2. In other embodiments, the notification sent to the bill consolidator 30 of the consumer's enrollment status is carried out shortly after the receipt of the communication of the biller to enroll the consumer, and is sent individually, rather than in a batch. The bill consolidator prepares to receive bills from the BSP system 10 for the consumer 10.

[0069] The BSP system 10 later receives bill information for the consumer from the biller 152. The bill information comprises account balance, account number, due date, and other, related information. The BSP system 10 then sends a bill to the bill consolidator for the consumer's account at the bill consolidator 154. The bill comprises at least part of the bill information received from the biller 40.

[0070] As mentioned above, the BSP system 10 receives bill information from the biller and sends it to consumers via such means as the biller branded web site 40 and the bill consolidator 30. The various steps associated with such management of bill information is described below with further reference to FIG. 4 and to FIGS. 9-11.

[0071] Referring to FIG. 4, the BSP system 10 receives a data stream from the biller that includes data for at least one bill for the consumer. In the embodiment shown, the BSP system 10 receives bill information from the biller for the first consumer and for the second consumer 74. The bill information is sent to the BSP system 10 using the biller agent system 21 at a time defined by the agreement reached between the BSP

system providers and the biller during the phase of enrolling the biller 60. A variety of time cycles may be used, e.g., monthly, weekly, or daily. In the embodiment shown, the bill information is sent to the BSP system 10 daily, which is a preferred embodiment.

[0072] The biller 20 uses a variety of formats internally for its bill statements, including OFX 1.5.1 or higher, AFP, Xerox, and Flat File. In an embodiment, the biller agent 21 includes translator software provided by the BSP system 10 that formats the bill in a pre-determined format (e.g., lay out) by converting the internal format used by the biller 20 to a meta data format used by the BSP system 10. Meta data comprises an easily-readable data format, such as OFX or ASCII. In other embodiments, translation occurs in the BSP processing system 14.

[0073] The biller agent 21 receives bill data relating to the first and second consumers from the biller 20 and carries out the translation. The biller agent organizes the formatted bill data into the following categories of transaction types: debit, credit, and post. The bill data in the debit category comprises items to be charged to the consumer that make up a bill. The bill data in the credit category comprise data reflecting payments sent to the biller by the consumer and credited to the biller's accounts. The bill data in the post category comprise notifications to cut off the debits and credits for a statement period. The organization of bill data by the biller agent 21 allows the BSP system 10 to manage credits applied to the biller's account system without a full understanding of the biller's accounting system, thus allowing more efficient processing of payment from the consumer payment request through crediting of the biller's account.

[0074] The biller agent 21 then transmits the bill information (or bill data) to the BSP system 10. The embodiment shown employs two bill delivery mechanisms: internet delivery and direct dial-up delivery. Using the first type, which is preferred, the biller agent 21 sends the bill data to the BSP system 10 via the internet using secure data transmission methods. Using the second type, the biller agent 21 calls the BSP system 10 and uploads bills via a modem. The BSP system 10 receives the bill data and stores the data for processing. Thus, the BSP system 10 has stored bill information for the first consumer and for the second consumer in meta data format. In other embodiments, the BSP system 10 also receives bill information for the first and second consumers from other billers, and stores the information in association with the information receives from the first biller 20.

[0075] Referring to FIG. 4, the BSP system 10 then presents bill statements to the first consumer via the biller branded web site 76. FIG. 9 shows steps comprising presentment of a bill statement to the first consumer via the biller branded web site in the present embodiment.

[0076] The first consumer 3 logs into the biller-

branded web site 40 using the consumer's internet browser, such as Microsoft Internet Explorer or Netscape Navigator. In other embodiments, the consumer 3 uses a home-based banking program, such as Quicken, Microsoft Money, or Checkfree, to access the web site 40. Referring to FIG. 9, the biller-branded web site 40 receives an indication that the first consumer has logged in 160. The web site 40 gathers profile information (e.g., name, account number, account status, and bill format preference) of the first consumer stored in the web site 162. The consumer 3 requests bill presentment. The web site 40 detects the request and sends the request to the BSP system 10.

[0077] The BSP system 10 receives the request for bill presentment by the first consumer 164. After receipt of the request, the BSP system 10 authenticates the first consumer 166. Authentication comprises gathering the first consumer's account information, including profile and enrollment status, which includes determining the credentials of the consumer (e.g., identity) and the biller associated with the user (which, in the embodiment shown, is the biller 20). Authentication by the BSP system 10 allows the consumer to receive data from defined areas of the biller's repository (i.e., the data of the biller stored in the BSP system 10), such as archived data.

[0078] The BSP system 10 then processes the bill presentment request. On examining the request, the BSP system 10 determines whether the bill presentment request of the first consumer 3 is for an outstanding statement or an archived statement 170. The biller 20 sends a feed to the BSP system 10 on a periodic basis that defines the bill information for acquired and/or posted transactions for a bill. In an embodiment, outstanding statements are statements that include charges for which a payment by the consumer has not been recorded by the BSP system 10. In other embodiments, outstanding statements are those that have recorded but not yet posted transactions (posted statements are bills ready to be paid). In an embodiment, an archived statement comprises a statement previously presented to the consumer by the BSP system 10.

[0079] If the request is for an outstanding statement, the BSP system 10 accesses stored bill information reflecting outstanding bill information and retrieves the outstanding statement 172. If the request is for an archive statement, the BSP system 10 determines the statement location from a look-up table or file map stored in the BSP system 10 and retrieves the archive statement from an archive storage system in the BSP system 10 (e.g., a hard disk drive) 174. Data storage systems may include warm or cold storage archive systems that enable the BSP system 10 to access a biller's bills on demand. In embodiments, the data storage system accessed by the BSP system 10 is provided by a third-party.

[0080] Embodiments of the present invention feature encrypted data. In the embodiment shown, The

biller and consumer profile data (e.g., name, address, telephone, password) is encrypted in the data storage system. In other embodiments, the biller's data is encrypted at the biller 20 and sent to the BSP system 10 or the consolidator 30 in a non-viewable format, and is viewable by the consumer 3.

[0081] Once the requested bill statement is retrieved, the BSP system 10 transmits the requested bill statement to the biller-branded web site 40 in meta data format 176. The meta data is sent via a secure channel. The web site 40 receives the statement and translates the statement to the format used by the web site 40 and the first consumer 3, and presents the bill statement to the first consumer via the first consumer's web browser 178. The step of translation comprises formatting the statement into an HTML file to constitute the look and feel formatting used by the site 40 or preferred by the consumer 3. In the embodiment shown, the web site 40 uses an HTML style sheet and the meta data sent by the BSP system 10 to format an output HTML data stream to the consumer's browser.

[0082] In embodiments in which the consumer 3 is using a home-based banking program, such as Quicken, and the BSP system 10 provides the statement in OFX meta data format, the site 40 will format the statement in the OFX format used by the consumer's banking program for presentment to the consumer.

[0083] The BSP system 10 logs the requested transaction in its data storage system 180. The BSP system 10 includes information such as user identification, web site 40 identification, time of transmitting statement, make-up of the statement transmitted, and other information. The stored logged may be used for auditing purposes (e.g., by the biller, BSP system, or BSP consumer service provider) and to create archive data.

[0084] Other embodiments of the present invention comprise other methods and systems for bill presentment. For example, in one embodiment, the BSP system 10 formats the bill information for an e-mail and sends the bill directly to the consumer 3 for payment via e-mail.

[0085] In embodiments, the BSP system 10 may send a bill-posted notification to the consumer 3 via e-mail in plain text format or S/MIME (Secure Multipurpose Internet Mail Extensions) format. In related embodiments, the BSP system 10 may send a bill-posted notification to the consumer 3 by sending the notification to the consumer's page, cell phone, or personal digital assistant (PDA).

[0086] Referring again to FIG. 4, the BSP system 10 presents bill statements to the second consumer 2 via the consumer service provider (in the embodiment shown, the bill consolidator 78 or aggregator). FIG. 10 shows steps in the present embodiment comprising presenting bill statements to the second consumer via the bill consolidator.

[0087] Referring to FIG. 10, the BSP system 10

receives bill data from the biller agent 21 associated with the biller 190. The bill data comprises bill data for the second consumer 2. The biller agent 21 transmits bill data to the BSP system on a pre-defined, periodic basis. Also on a periodic basis, once the BSP system 10 receives the bill data, the BSP system 10 sends a batch update to the bill consolidator 30 associated with the second consumer 2 comprising the bill data 192. In doing so, the BSP system 10 examines the bill data to determine the consumer for which the bill data is intended, accesses the profile of the consumer for which the bill data is intended, and determines the bill consolidator associated with the consumer for which the bill data is intended. The BSP system 10 forwards the bill data to the bill consolidator associated with the consumer for which the bill data is intended. In the embodiment shown, the batch update sent by the BSP system 10 is to all of its third party consolidators at the next scheduled transmission. The BSP system 10 then updates the transaction history portion of the profile of the consumer 2 to reflect the bill data sent to the consolidator 194. Once the bill consolidator receives the bill data, the bill consolidator 30 presents the bill to the consumer using its presentation method.

[0088] The BSP system 10 sends notification to the consumer 2 that a bill has been posted to the bill consolidator 196. In the embodiment shown, the BSP system 10 does so via e-mail to the e-mail address in the profile of the consumer 2.

[0089] The BSP system 10 also manages payment information received from consumers via the consumer service providers in order to facilitate payment of the biller's bills by consumers. In the embodiment shown, the first and second consumers 2, 3 choose to pay the bills sent to them via the BSP system 10 from the biller as describe above, and to cause the bill consolidator and biller-branded web site, respectively, to transmit payment information related to the payment of the bills sent to them via the BSP system 10 to the BSP system 10.

[0090] Referring again to FIG. 4, the BSP system 10 receives and processes payment information received from the first consumer via the biller branded web site 80. In an embodiment, the BSP system 10 receives notification of the customer's selection of a payment option for the bill and then sends notification of the customer's payment option selection to the biller of the customer.

[0091] FIG. 11 shows steps carried out by the embodiment shown in receiving and processing payment information in relation to biller-branded web site bill payment processing.

[0092] In the embodiment shown, the first consumer 3 logs into the web site 40 via a web browser (the consumer 3 may also use a home based banking program, e.g., Quicken, Microsoft Money, or Checkfree to log into the web site). The web site 40 provides a graphical user interface to the consumer 3, including a selec-

tion of bills that they consumer may pay. The selection comprises a bill provided to the web site 40 by the BSP system 10 for the biller in the bill presentment method described above. The consumer 3 selects for payment the bill provided by the BSP system 10 for the biller, provides the necessary payment information (e.g., credit card number and expiration date), and hits "Pay" to cause the web site 40 to send a payment request to the BSP system 10. The payment request includes consumer information (e.g., name, account number) and payment request information (e.g., identification number for bill the consumer wishes to pay, payment method, credit card number, and expiration date).

[0093] Referring to FIG. 11, the BSP system 10 receives the payment request from the first consumer via the biller branded web site 230. The BSP system 10 authenticates the first consumer by comparing the consumer information received with consumer information in the storage system associated with the BSP system 232. In doing so, the BSP system 10 gathers profile information of the first consumer.

[0094] The BSP system 10 retrieves the debit account information of the first consumer from the profile of the first consumer 234. The debit account information comprises billing data associated with the bill the consumer wishes to pay, including amount owed, account number owed, identification of the biller, and related information. The system 10 also retrieves, from the account of the biller associated with the bill which the first consumer wishes to pay, the biller's profile, including stored credit account information 236. The stored credit account information comprises an account number, routing information, and other information that will allow a payment system to forward payment to the biller.

[0095] The system 10 formats the billing data for sending to a payment system (not shown) 238. Examples of payment systems include a credit card payment management system, Secure Electronic Transaction (SET) systems, Financial Services Technology Consortium (FSTC) electronic check, and online NYCE SafeDebit systems. The system 10 determines the payment system requested by the consumer and acceptable to the biller, and formats the billing data for the payment system. Then system 10 then sends the payment request (including the billing data, and other appropriate account information for the biller and the consumer) to the payment system for processing 240. The payment system receives the payment request and sends an acknowledgement and status message regarding the payment request (e.g., request received, currently processing) to the system 10, which the system 10 receives 242. Preferably the acknowledgement and status message communicates the time at which the payment will be applied to the biller's accounts.

[0096] After receipt of the acknowledgement and status message, the system 10 updates the accounts of the first consumer and the biller to reflect payment sta-

tus 244. The system then sends the acknowledgement and status message to the biller-branded web site in meta data format for communication to the first consumer 246.

[0097] The biller-branded web site 40 will communicate the acknowledgment and status message to the first consumer 3. The output stream will be processed by the web site 40 into the appropriate return stream. If the consumer's connection to the web site is in OFX meta data format, the bill will be formatted and returned in the consumer's application OFX standard. If the connection is through a web browser, the meta data will be formatted into an HTML data stream. To format an HTML data stream, the web site uses an HTML style sheet and the meta data sent by the BSP system 10 to format an output HTML data stream. Once the data stream (the bill data) is formatted in HTML, the web site sends it to the consumer 3 via the consumer's browser.

[0098] In an embodiment, the BSP system 10 is associated with a bank. In such an embodiment, after the requested billing data is retrieved from the consumer's account, the consumer's and biller's account are validated by checking the following account types: "On-Us," DDA, or external ACH. "On-Us" accounts are accounts managed by the bank for both the consumer and biller. The "On-Us" account may also comprise credit card accounts. The DDA accounts are accounts that are used to transfer monies between participating banks (e.g., electronic funds transfers). An external ACH account comprises accounts that are not an "On-Us" or DDA accounts. In such an embodiment, if both accounts (biller account and consumer account) are "On-Us" or DDA accounts, the BSP system initiates a direct transfer within the bank, reducing the network cost and saving more money for the bank. If the accounts are not "On-Us" or DDA, an ACH transaction message is generated and sent to the Federal Reserve for processing. In such an embodiment, restrictions are placed on payments. For example, the use of one credit card to pay another credit card bill is not allowed.

[0099] As mentioned above, the second consumer 2 chooses to pay the bills sent to the second consumer by the biller 20 through the BSP system 10 to the bill consolidator 30. The BSP system 10 also processes payment information received from the second consumer via the bill consolidator 82 or aggregator. If the bill payment by the second consumer is funded by the bill consolidator 30, the bill consolidator 30 sends remittance information for a bill of the second consumer to the BSP system 10, which the BSP system 10 receives. The BSP system forwards the remittance information to the billers output remittance directory (in the storage system of the BSP system 10) for transmission to the biller at a later time (preferably periodic). The payment for the bill is sent by the bill consolidator 30 to the biller's financial institution via a ACH transaction system for processing by the biller.

[0100] If the bill payment by the second consumer is

not funded by the bill consolidator 30, the bill consolidator 30 sends ACH remittance information to the BSP system 10 in relation to the bill to be paid. The BSP system 10 processes the payment request in a manner like that described above in relation to the biller-branded web site, by processing the payment through a payment system associated with the BSP system 10 or sending remittance to the biller to process through the biller's bank.

[0101] In either funded or non-funded scenarios, the BSP system 10 records the transaction conducted via the bill consolidator 30, and otherwise manages the payment request in a manner like that described above in relation to the biller-branded web site. Once the BSP system 10 receives an indication that the bill in question has been paid, the BSP system will update the biller's and the second consumer's information to reflect payment. In embodiments, notification of receipt of payment by the biller is sent by the biller to the BSP system 10 and is sent immediately to the consumer service provider for the consumer.

[0102] The method described above with reference to FIGS. 4-11 employ two consumer service providers (the bill consolidator 30 and the biller-branded web site 40), and a single biller 20, and each of the two consumer service providers are associated with a single consumer 2, 3. Such an embodiment is described by way of an example of an embodiment of the present invention. Other embodiments employ more than two consumer service providers, more than one biller, and the consumer service providers are each associated with more than one consumer. Any combination of service providers, billers, and consumers may comprise embodiments of the present invention, and carry out the exemplary steps described above.

[0103] For example, an embodiment of the present invention may further comprise facilitating enrollment of a second consumer in the biller 20, receiving second bill information associated with the second consumer from the biller 20, presenting a second bill statement comprising the second bill information through a consumer service provider (e.g., the biller-branded web site), receiving second bill payment information associated with the second bill statement from the second consumer through the consumer service provider, and processing the second bill payment information.

[0104] Other embodiments may further comprise enrolling a second biller in the bill presentment and payment management service, establishing a relationship with a first consumer service provider on behalf of the second biller, facilitating enrollment of a second consumer in the second biller, receiving second bill information associated with the second consumer from the second biller, presenting a second bill statement comprising the second bill information through the first consumer service provider, receiving second bill payment information associated with the second bill statement from the second consumer through the first consumer

service provider, and processing the second bill payment information. Also, another embodiment may further comprise enrolling a second biller in the bill presentment and payment management service, establishing a relationship with a second consumer service provider on behalf of the second biller, facilitating enrollment of a second consumer in the second biller, receiving second bill information associated with the second consumer from the second biller, presenting a second bill statement comprising the second bill information through the second consumer service provider, receiving second bill payment information associated with the second bill statement from the second consumer through the second consumer service provider, and processing the second bill payment information.

[0105] In still other embodiments, the consumer is presented with a bill and pays the bill through direct payments systems. In one such embodiment, a bill is posted by the system 10 to a consumer via e-mail using Rich Text Format (RTF) or HTML format. For example, the system 10 transmits an e-mail to a consumer comprising amount due, biller's identification, date due, and other bill information. The e-mail comprises a button displaying the words "Pay Now." If the consumer clicks the "Pay Now" button, the consumer can choose to pay the bill from their e-mail system or from the biller-branded web site (as describe above). If the consumer chooses to pay via their e-mail system, the user is asked via e-mail to provide remittance information necessary to pay the bill and the information is sent via e-mail to the BPS system 10 by the consumer. A unique identification key is assigned by the system 10 for each bill sent out via e-mail. In another embodiment, the information is stored at the system 10 and the user may simply click "Pay Now" to use the remittance information previously provided by the consumer and stored at the BSP system 10.

[0106] In still other embodiments, the consumer is presented with a bill via the consumer's pager, cellular telephone, or personal digital assistant (PDA). The system 10 sends the bill data to the consumer's pager, cellular telephone, or PDA. Once the consumer views the bill data, the consumer can choose to pay the bill via telephone (e.g., using a VRU system managed by the BSP system 10) or through the biller's web site.

[0107] The BSP system 10 communicates with the biller in carrying out the transactions described above and in otherwise managing billing. In the embodiment shown, the communication is secure. The embodiment shown employs two security mechanisms: Secure Socket Layer (SSL) and Data Encryption. SSL includes a secure internet protocol (IP) connection between the biller 20 and the BSP system 10 to transfer data. In addition, the communication between the biller 20 and the BSP system 10 is encrypted using certificates.

[0108] Embodiments of the present invention may employ a wide variety of hardware and software to carry out their functions. Referring to FIG. 2 and FIG. 3, in one

embodiment, the biller agent 21 comprises a CPU configuration (including server, storage, and processing), the make-up of which depends on the biller daily volumes, a network configuration (including an Ether net or similar communication system), the make-up of which also depends largely on the biller daily volumes, and a telephony modem for direct dial-ups to the BSP system 10 when needed. The biller agent further comprises biller software, including Lightweight Directory Access Protocol (LDAP) client software used for managing data transfers between the biller 20 and the BSP system 10 and a biller operating system (e.g., an NT 4.0) as the data connection platform for the biller 20 to communicate with the BSP system 10. The biller staging servers 202a, 202b, 202c comprise an IBM RS6K SP/2 SMP clustered enterprise server, a smart router (e.g., a Cisco load-leveling router), telephony support (e.g., a dedicated modem for direct dial-ups), and a data back-up system. The staging servers 202a, 202b, 202c further comprise software, including an operating system (e.g., AIX 4.x), LDAP server used as a staging server to the BSP system 10, and connection adapters (including translation software to translate incoming bill data to BSP meta data).

[0109] The parallel routing servers 104, 108 may comprise IBM RS6K 6000 SP/2 SMP or Sun StarFire 10000 clustered (or other scalable routing and management hardware), a backbone connection between the BSP system, storage servers, payment servers, consolidators, and biller-branded web servers (e.g., a Fiber Optic or Ethernet backbone), and a smart router. The biller-branded web site 40 may comprise an IBM SP/2 SMP or HP StarFire 10000 or equivalent enterprise server, network connections, and a smart router. Finally, bill consolidator interface servers 220a, 220b, 220c, 220d may comprise HP Netserver LX PRO Cluster, network connections (e.g., to the bill consolidator service center), and a smart router. The BSP system 10 comprises software, such as operating system to manage the BSP routing operations (e.g., AIX / Solaris), an LDAP server used to manage segregation of billers, consumers, services, and other matters, and to manage authentication, an OFX server, and BSP system management software to manage and conduct the service offered by the BSP system 10.

[0110] Storage servers used in embodiments of the present invention may comprise an operating system and client storage software for managing receipt and storage of data. Similarly, payment servers may comprise an operating system for managing the payment processing servers and payment software that will manage methods of payment.

[0111] Moreover, the biller-branded web site may comprise a web-site server and related software, a LDAP client capable of communicating request to the BSP system for bill payment and presentment, and an authentication server.

[0112] In one embodiment, a directory structure is

employed in the service provider 10 that facilitates the routing of information between bill consolidators and billers. In one such embodiment, the directory structure is associated with a database comprising information indicating the consolidator(s) with which a biller is associated, as well as related information. In an embodiment, the directory structure employs LDAP and comprises one or more parent directories associated with a parent company, and each parent directory may or may not include one or more sub-directories. Each sub-directory is associated with a subsidiary, division, or business unit of the parent company associated with the main directory with which the sub-directory is associated. Each directory includes information associated with the database that indicates the consolidators with which a biller is associated, and information identifying billers and users associated with the company, division, subsidiary, or business unit associated with the directory or sub-directory at hand. In other embodiments, the sub-directories may be further divided into further sub-directories associated with divisions of the subsidiary or other unit of the entity associated with a sub-directory. By using such a structure, if, for example, a business unit associated with a sub-directory of a first main directory is sold to a company associated with a second main directory, the administrator of the BSP system 10 may simply transfer the directory and the information therein as a sub-directory from a sub-directory of the first main directory to a sub-directory of the second main directory.

[0113] In another embodiment of the present invention, Advanced Function Presentation (AFP) (or advanced function printing) is employed in the biller agent 21. A biller agent 21 may comprise software that takes the same print stream that is paper-printable data and translate the stream into data comprising scaleable vector graphics (SVG), which is an internet standard. SVG allows the BSP system 10 to present bill data in a format identical to the way in which the data would be presented on paper. Such embodiments also allow such data to be adapted to any touchpoint (e.g., any consumer service provider) and scaled appropriately for viewing using the touchpoint. Use of the format allows the bill data, as presented, to be enlarged, rotated, or scaled, thus allowing flexibility to present billing data through multiple interfaces and display formats.

[0114] Various preferred embodiments of the invention have been described in fulfillment of the various objects of the invention. It should be recognized that these embodiments are merely illustrative of the principles of the present invention. Numerous modifications and adaptations thereof will be readily apparent to those skilled in the art without departing from the spirit and scope of the present invention.

Claims

1. A method for managing electronic bill presentment

and payment information, comprising:

enrolling at least one biller;

arranging an enrollment for the biller at a selected biller channel, wherein the biller channel comprises at least one of the following: a bill consolidator and a web site;

receiving an enrollment request for at least one customer of the biller;

forwarding the enrollment request to the biller;

receiving a data stream including data for at least one bill for the customer from the biller;

formatting the bill in a pre-determined format;

sending the formatted bill to the selected biller channel;

receiving notification of the customer's selection of a payment option for the bill; and

sending a notification of the customer's payment option selection to the biller.

2. The method of claim 1 wherein enrolling at least one biller comprises enrolling at least one biller by a biller service provider.

3. The method of claim 2 further comprising providing an interface for the biller to the biller service provider via a biller agent.

4. The method of claim 3 wherein receiving the enrollment request for at least one customer of the biller comprises receiving the enrollment request for at least one customer of the biller from a consumer service provider.

5. The method of claim 4 further comprising receiving an approval of the enrollment request from the biller.

6. The method of claim 5 further comprising sending a notification of the approval to the consumer service provider for the customer.

7. The method of claim 6 further comprising receiving a notification of receipt of payment on the bill by the biller service provider from the biller.

8. The method of claim 7 further comprising forwarding the notification of the receipt to the consumer service provider for the customer.

9. The method of claim 1 wherein the web site comprises a biller-branded web site.

10. The method of claim 8 wherein the web site comprises a biller-branded web site.

11. A method for managing electronic bill presentment and payment information, comprising:

enrolling a first biller in a bill presentment and payment management service; 10

establishing a relationship with a first consumer service provider on behalf of the first biller; 15

facilitating enrollment of a first consumer in the first biller; 20

receiving first bill information associated with the first consumer from the first biller; 25

presenting a first bill statement comprising the first bill information through the first consumer service provider; 30

receiving first bill payment information associated with the first bill statement from the first consumer through the first consumer service provider; and 35

processing the first bill payment information.

12. The method of claim 11 wherein the first consumer service provider comprises one of the following: a bill consolidator, a biller branded web site, a voice response unit system, an e-mail billing system, and a personal digital assistant system. 40

13. The method of claim 12 wherein establishing a relationship with the first consumer service provider on behalf of the first biller comprises enrolling the first biller in the bill presentment and payment management service. 45

14. The method of claim 13 further comprising: 50

facilitating enrollment of a second consumer in the first biller;

receiving second bill information associated with the second consumer from the first biller; 55

presenting a second bill statement comprising the second bill information through the first consumer service provider;

receiving second bill payment information associated with the second bill statement from the second consumer through the first consumer service provider; and 60

processing the second bill payment information.

tion.

15. The method of claim 13 further comprising:

enrolling a second biller in the bill presentment and payment management service;

establishing a relationship with a first consumer service provider on behalf of the second biller; facilitating enrollment of a second consumer in the second biller;

receiving second bill information associated with the second consumer from the second biller;

presenting a second bill statement comprising the second bill information through the first consumer service provider;

receiving second bill payment information associated with the second bill statement from the second consumer through the first consumer service provider; and

processing the second bill payment information.

16. The method of claim 13 further comprising:

enrolling a second biller in the bill presentment and payment management service;

establishing a relationship with a second consumer service provider on behalf of the second biller;

facilitating enrollment of a second consumer in the second biller;

receiving second bill information associated with the second consumer from the second biller;

presenting a second bill statement comprising the second bill information through the second consumer service provider;

receiving second bill payment information associated with the second bill statement from the second consumer through the second consumer service provider; and

processing the second bill payment information.

17. A system for managing electronic bill presentment and payment information, comprising:

means for enrolling at least one biller;

means for arranging an enrollment for the biller at a selected biller channel, wherein the biller

channel comprises at least one of the following:
a bill consolidator and a web side;

means for receiving an enrollment request for
at least one customer of the biller;

5

means for forwarding the enrollment request to
the biller;

means for receiving a data stream including
data for at least one bill for the customer from
the biller;

10

means for formatting the bill in a pre-deter-
mined format;

15

means for sending the formatted bill to the
selected biller channel;

means for receiving notification of the cus-
tomer's selection of a payment option for the
bill; and

20

means for sending a notification of the cus-
tomer's payment option selection to the biller.

25

18. The system of claim 17 wherein the means for
enrolling at least one biller comprises means for
enrolling at least one biller by a biller service pro-
vider.

30

19. The system of claim 18 further comprising means
for providing an interface for the biller to the biller
service provider via a biller agent.

35

20. The system of claim 19 wherein means for receiv-
ing the enrollment request for at least one customer
of the biller comprises means for receiving the
enrollment request for at least one customer of the
biller from a consumer service provider.

40

21. The system of claim 20 further comprising means
for receiving an approval of the enrollment request
from the biller.

45

22. The system of claim 21 further comprising means
for sending a notification of the approval to the con-
sumer service provider for the customer.

23. The system of claim 22 further comprising means
for receiving a notification of receipt of payment on
the bill by the biller service provider from the biller.

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24. The system of claim 23 further comprising means
for forwarding the notification of the receipt to the
consumer service provider for the customer.

55

25. The system of claim 17 wherein the web site com-

prises a biller-branded web site.

26. The system of claim 24 wherein the web site com-
prises a biller-branded web site.

27. A system for managing electronic bill presentment
and payment information, comprising:

means for enrolling a first biller in a bill present-
ment and payment management service;

means for establishing a relationship with a first
consumer service provider on behalf of the first
biller;

means for facilitating enrollment of a first con-
sumer in the first biller;

means for receiving first bill information associ-
ated with the first consumer from the first biller;

means for presenting a first bill statement com-
prising the first bill information through the first
consumer service provider;

means for receiving first bill payment informa-
tion associated with the first bill statement from
the first consumer through the first consumer
service provider; and

means for processing the first bill payment
information.

28. The system of claim 27 wherein the first consumer
service provider comprises one of the following: a
bill consolidator, a biller branded web site, a voice
response unit system, an e-mail billing system, and
a personal digital assistant system.

29. The system of claim 28 wherein the means for
establishing a relationship with the first consumer
service provider on behalf of the first biller com-
prises means for enrolling the first biller in the bill
presentment and payment management service.

30. The system of claim 29 further comprising:

means for facilitating enrollment of a second
consumer in the first biller;

means for receiving second bill information
associated with the second consumer from the
first biller;

means for presenting a second bill statement
comprising the second bill information through
the first consumer service provider;

means for receiving second bill payment information associated with the second bill statement from the second consumer through the first consumer service provider; and

5

means for processing the second bill payment information.

31. The system of claim 29 further comprising:

means for enrolling a second biller in the bill presentment and payment management service;

10

means for establishing a relationship with a first consumer service provider on behalf of the second biller;

15

means for facilitating enrollment of a second consumer in the second biller;

20

means for receiving second bill information associated with the second consumer from the second biller;

25

means for presenting a second bill statement comprising the second bill information through the first consumer service provider;

means for receiving second bill payment information associated with the second bill statement from the second consumer through the first consumer service provider; and

30

means for processing the second bill payment information.

35

32. The system of claim 29 further comprising:

means for enrolling a second biller in the bill presentment and payment management service;

40

means for establishing a relationship with a second consumer service provider on behalf of the second biller;

45

means for facilitating enrollment of a second consumer in the second biller;

50

means for receiving second bill information associated with the second consumer from the second biller;

means for presenting a second bill statement comprising the second bill information through the second consumer service provider;

55

means for receiving second bill payment information associated with the second bill statement from the second consumer through the second consumer service provider; and

means for processing the second bill payment information.

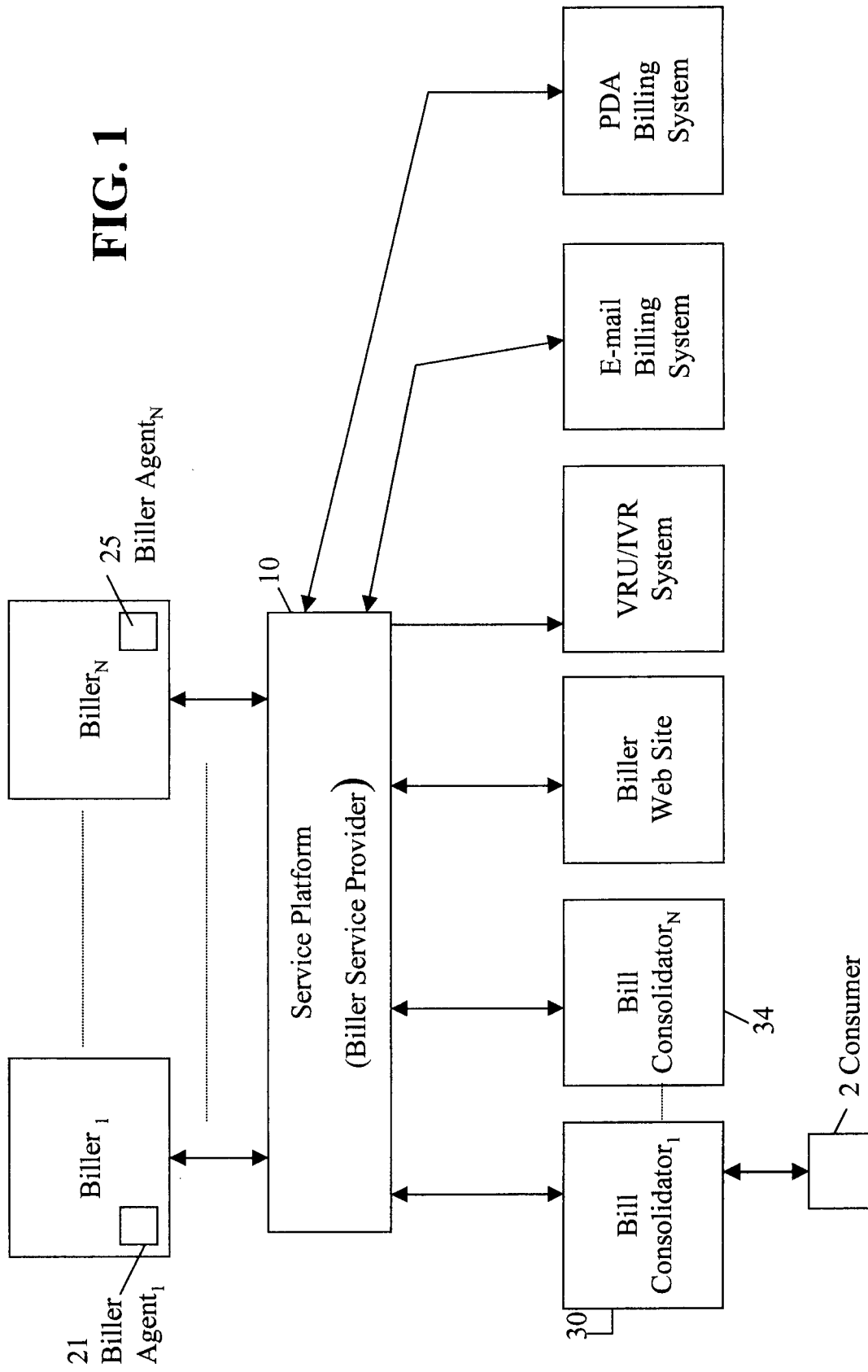
33. The system of claim 30 further comprising a unified customer service interface capable of displaying consumer transaction data, wherein the customer service interface is accessible by the first biller.

34. The system of claim 31 further comprising means for bulk storage comprising bill data stored at discounted rates.

35. The system of claim 34 wherein the means for bulk storage further comprises non-electronically presented bill data stored at volume discount rates.

36. The method of claim 13 further comprising providing a directory structure having a first parent directory and having a first sub-directory associated with the first parent directory.

37. The method of claim 36 wherein the first parent directory is associated with a first company and the first sub-directory is associated with one or more of the following: a subsidiary of the first company, a division of the first company, and a unit of the first company.



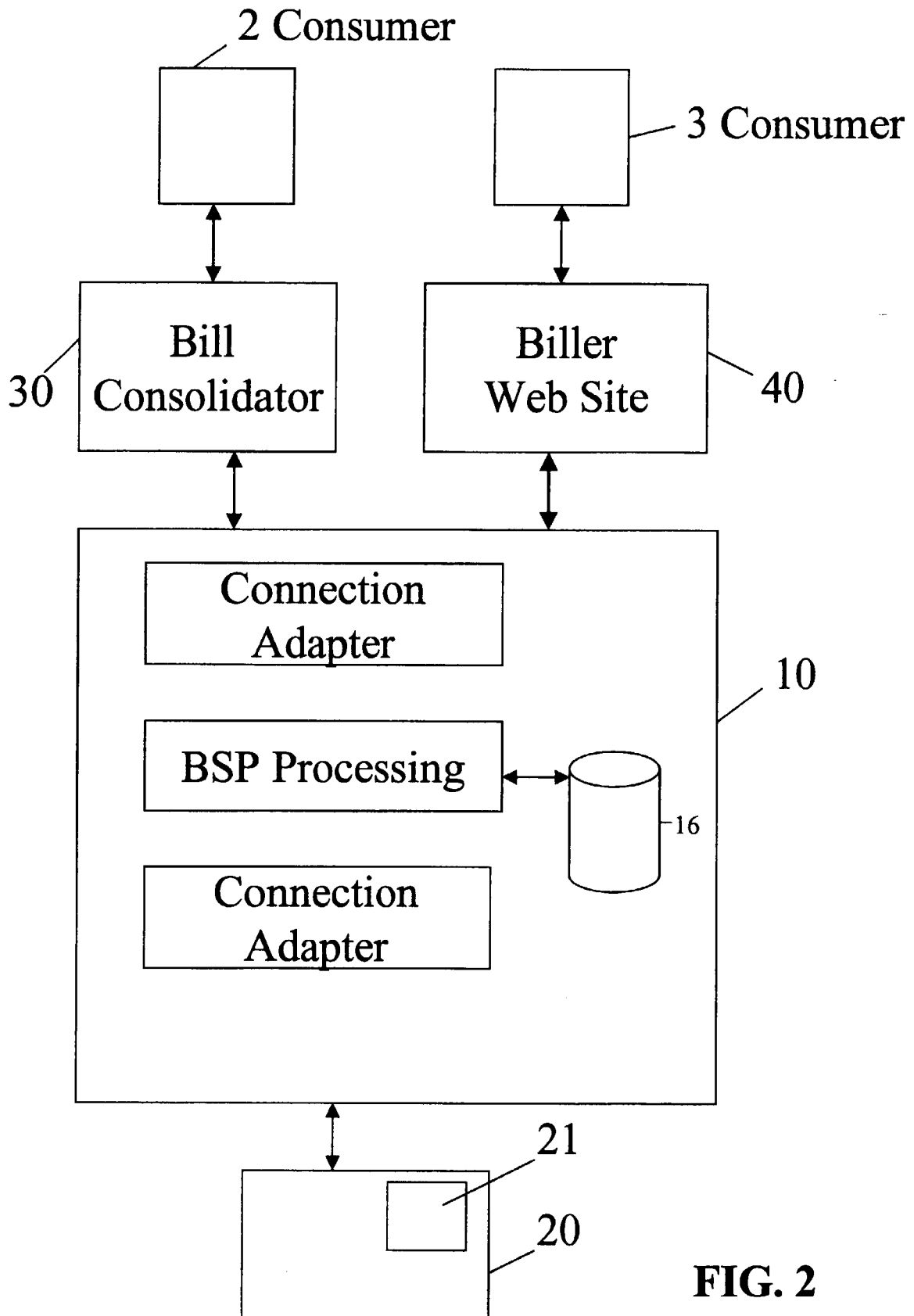


FIG. 2

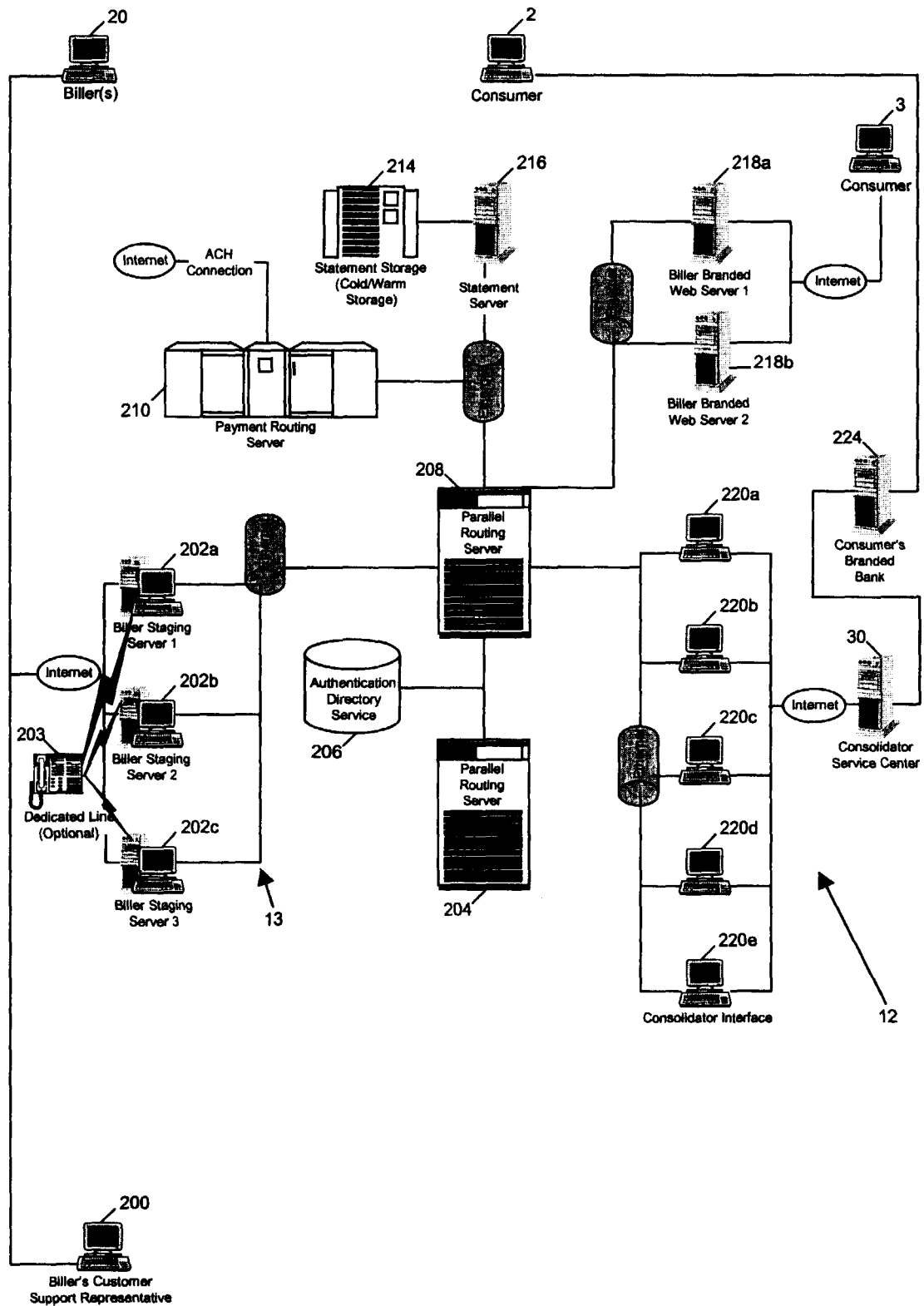


FIG. 3

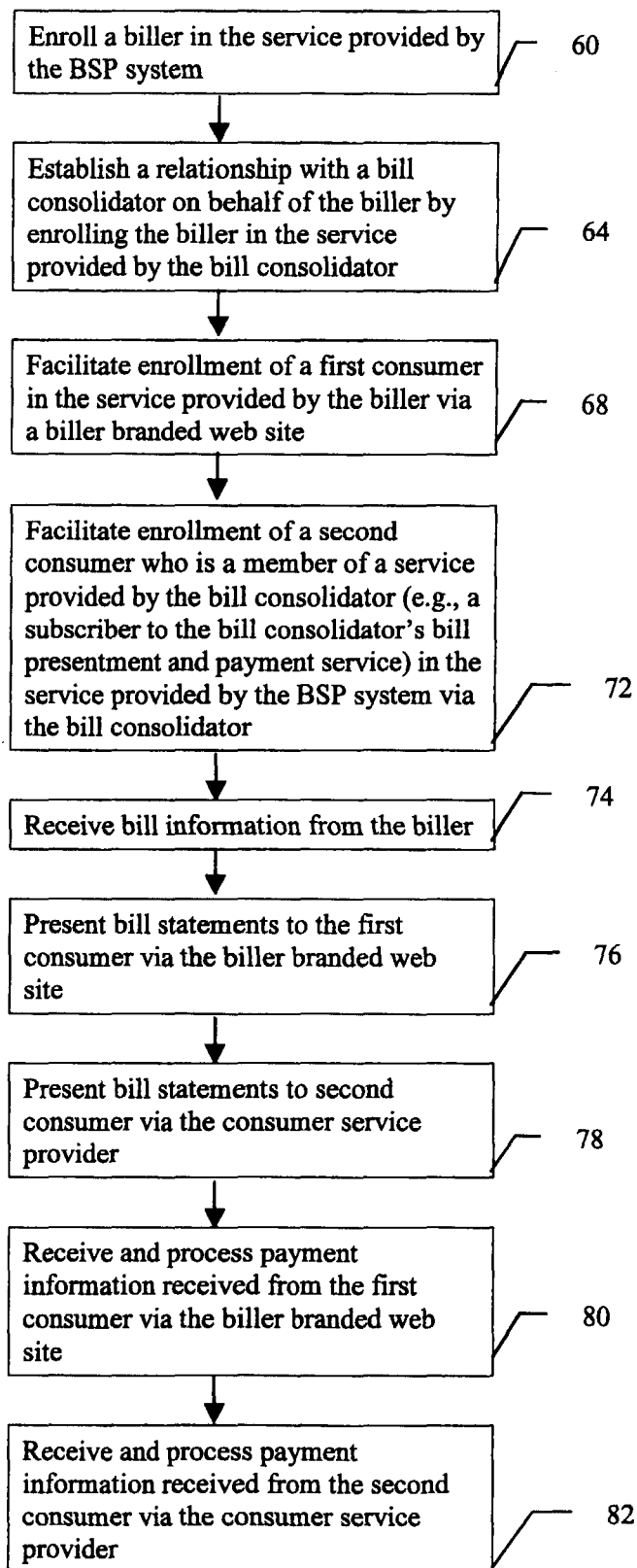


FIG. 4

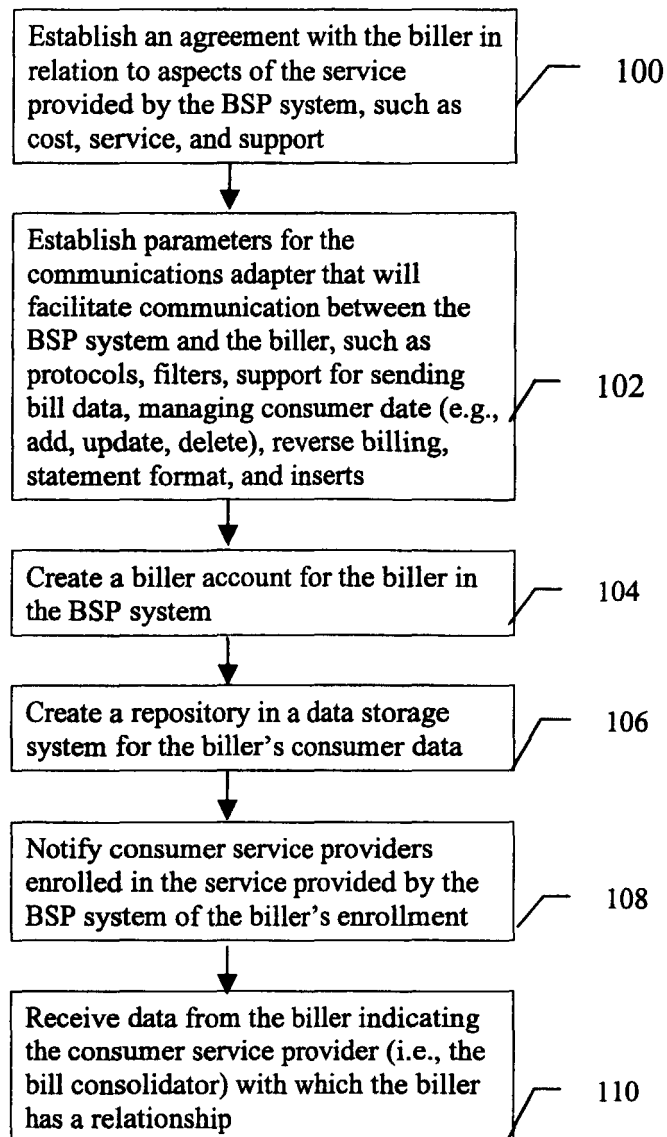


FIG. 5

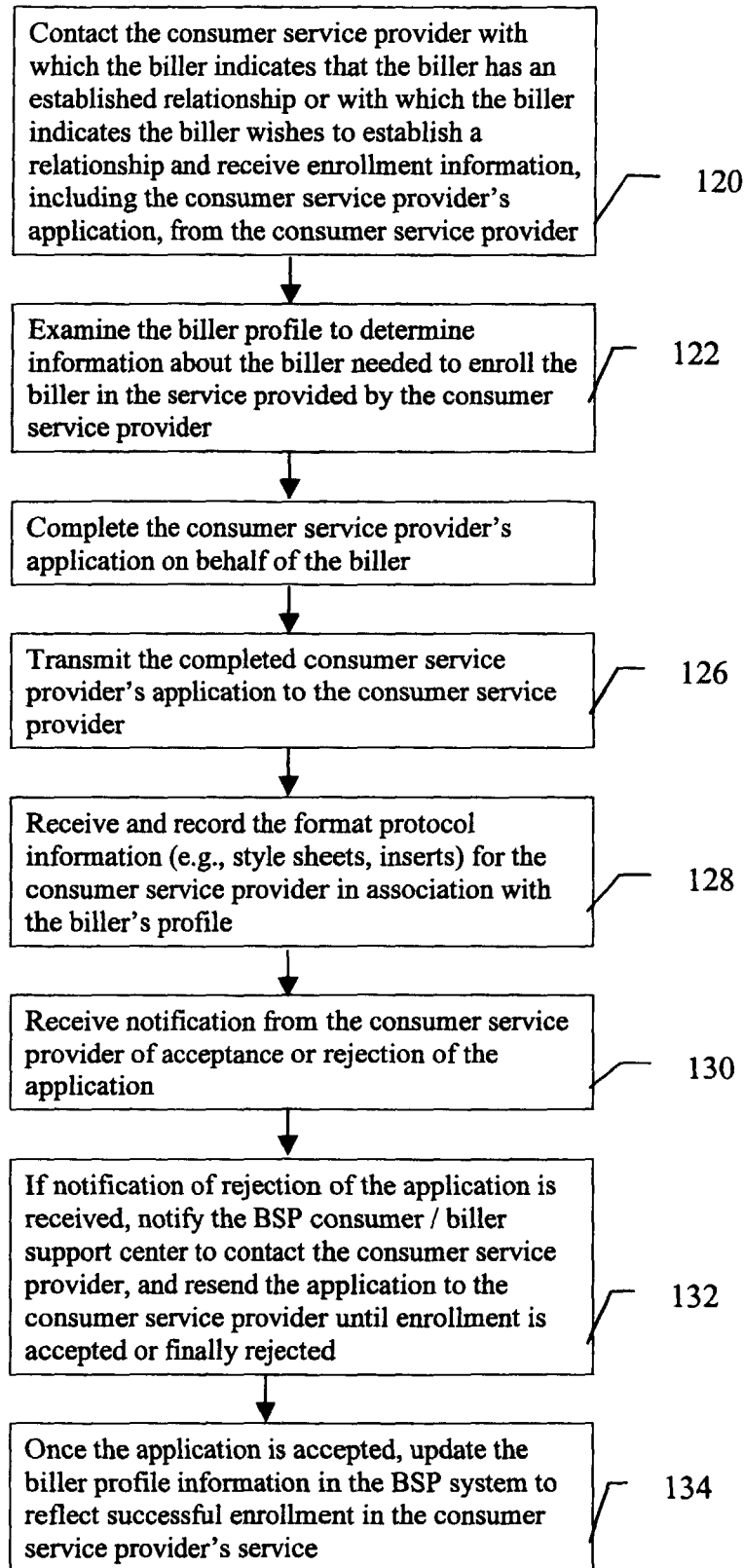


FIG. 6

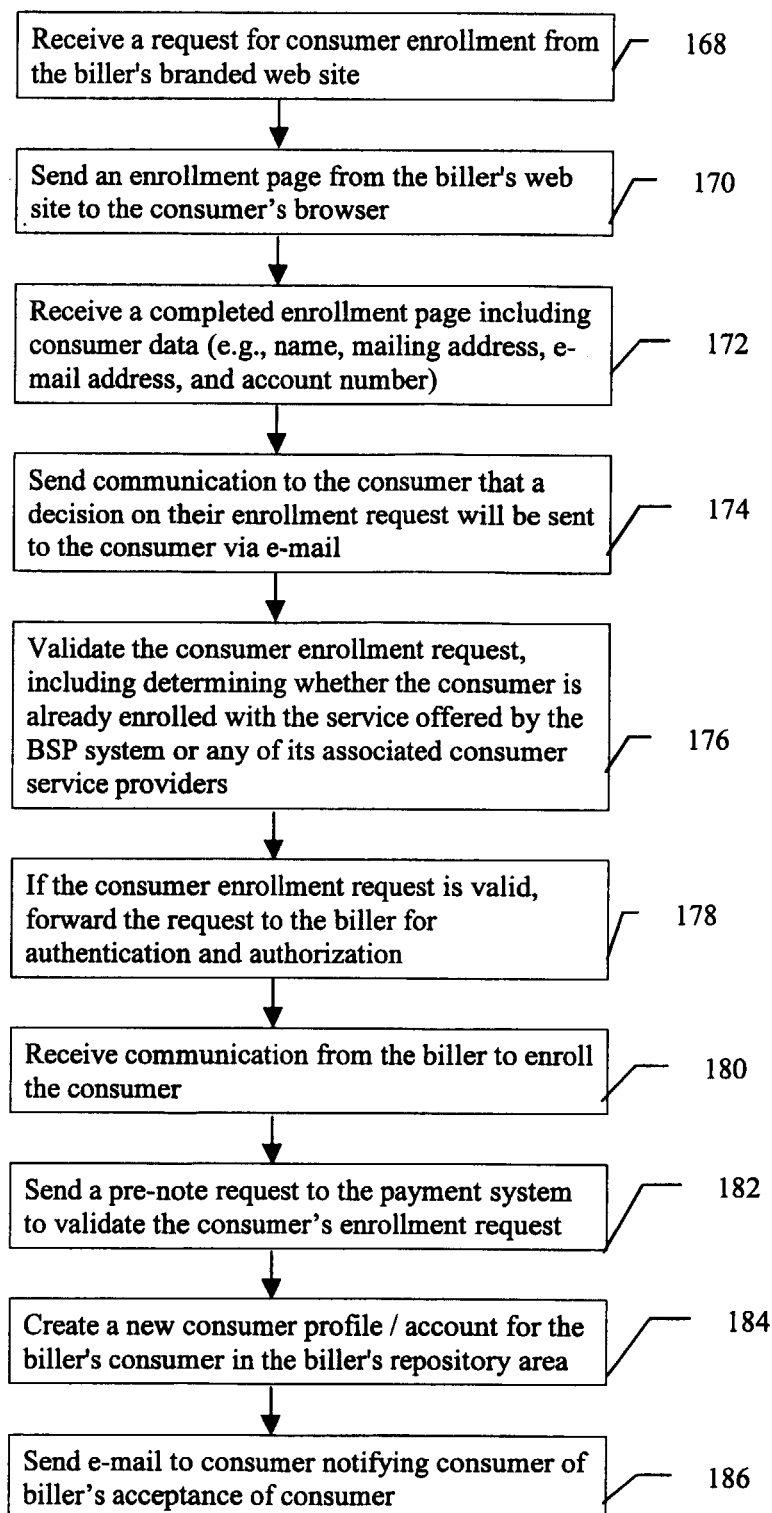


FIG. 7

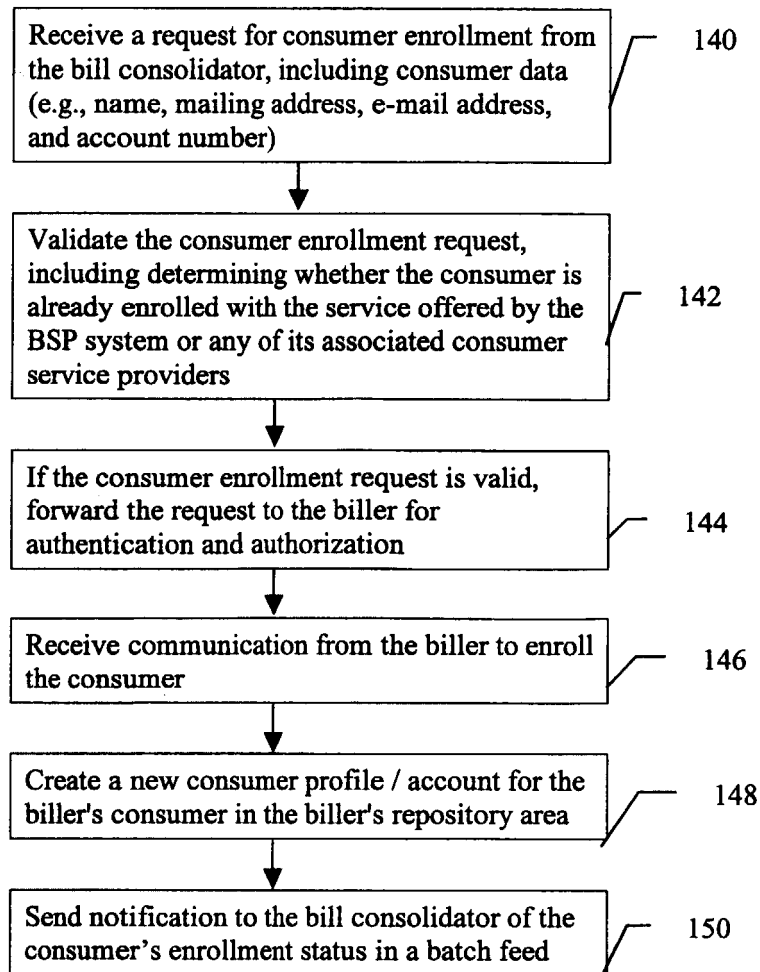


FIG. 8

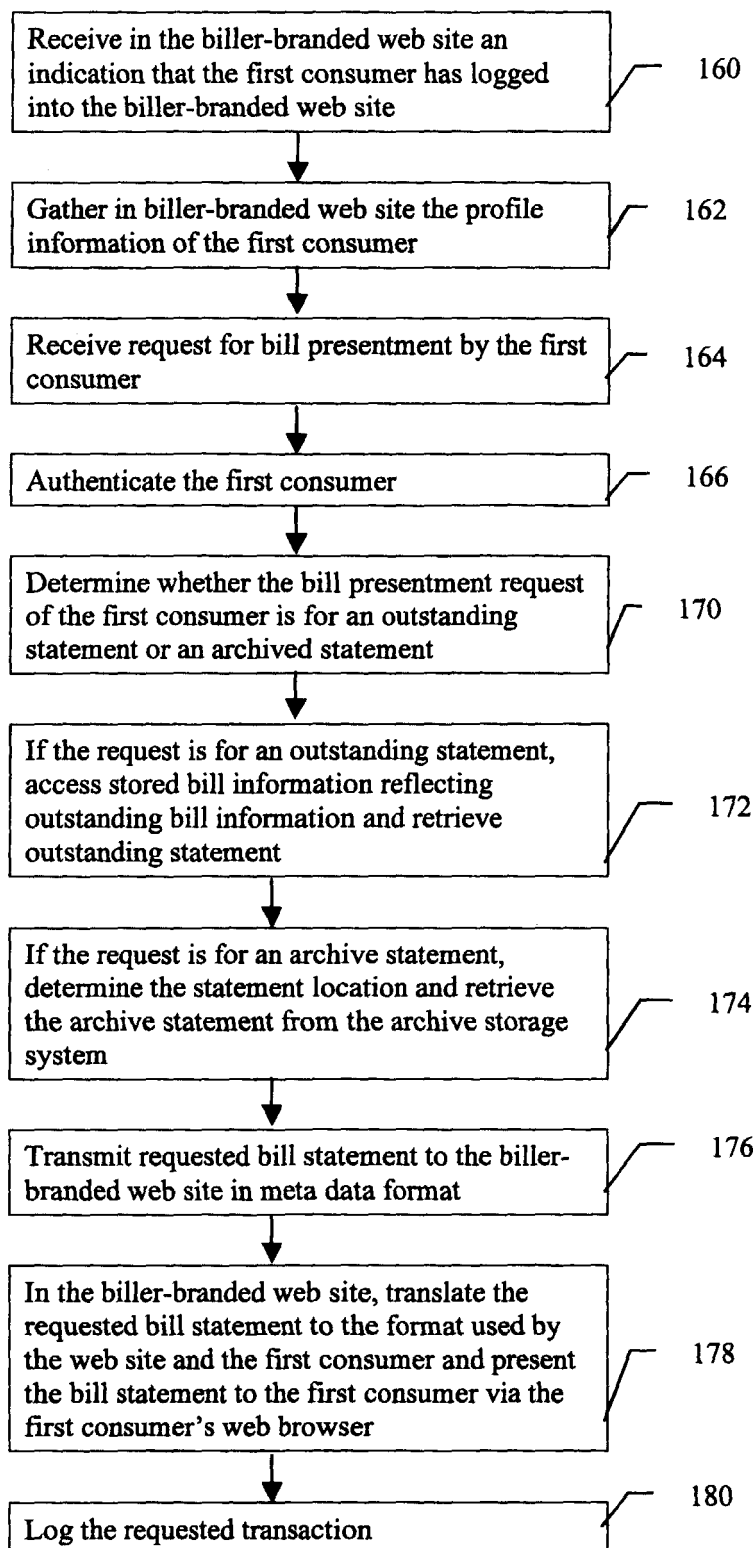


FIG. 9

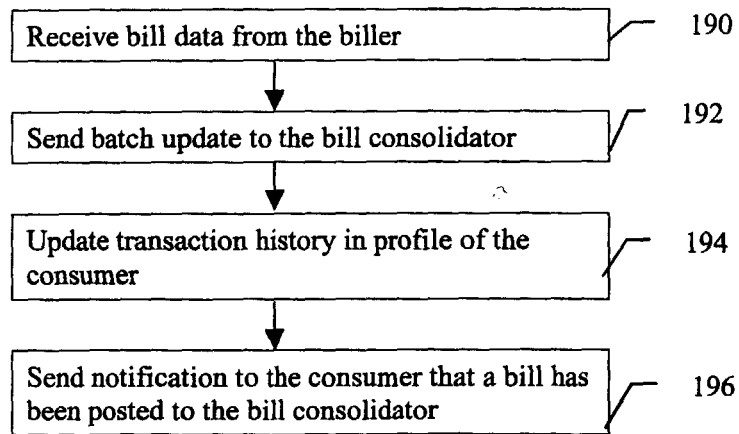


FIG. 10

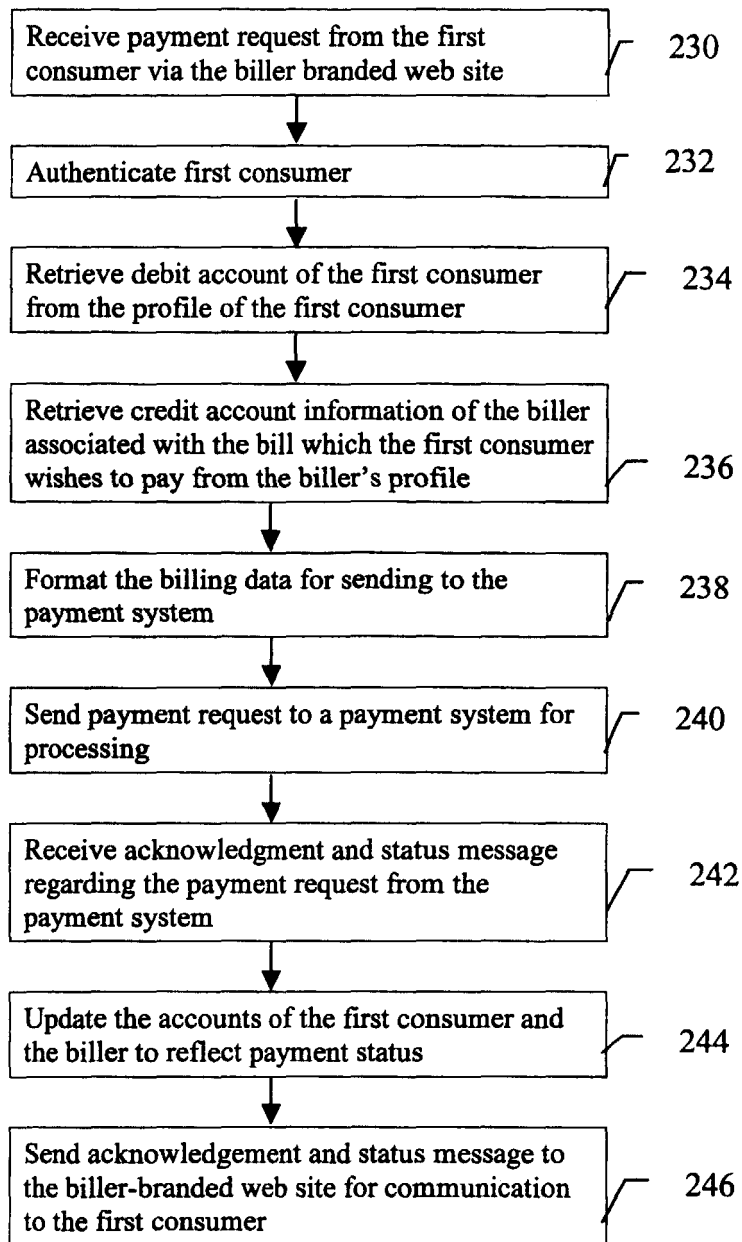


FIG. 11