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(54) **SYSTEM FOR ACCEPTING A FIRST ACCOUNT FOR MAKING PAYMENT FOR A TRANSACTION AND PAYING FOR THE TRANSACTION WITH FUNDS FROM A SECOND ACCOUNT**

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CPC **G06Q 20/22** (2013.01); **G06Q 20/4016** (2013.01)

(57) **ABSTRACT**

An online payment service receives from a consumer the identity of a first account for making a payment for a transaction. The payment service accepts the first account for making the payment. The payment is permitted to be made from a second account maintained for the consumer by the online payment service, where the payment may include coupons. The second account may be internal to the online payment system, and the first account may be external to the online payment service. A third party may participate in the transaction.
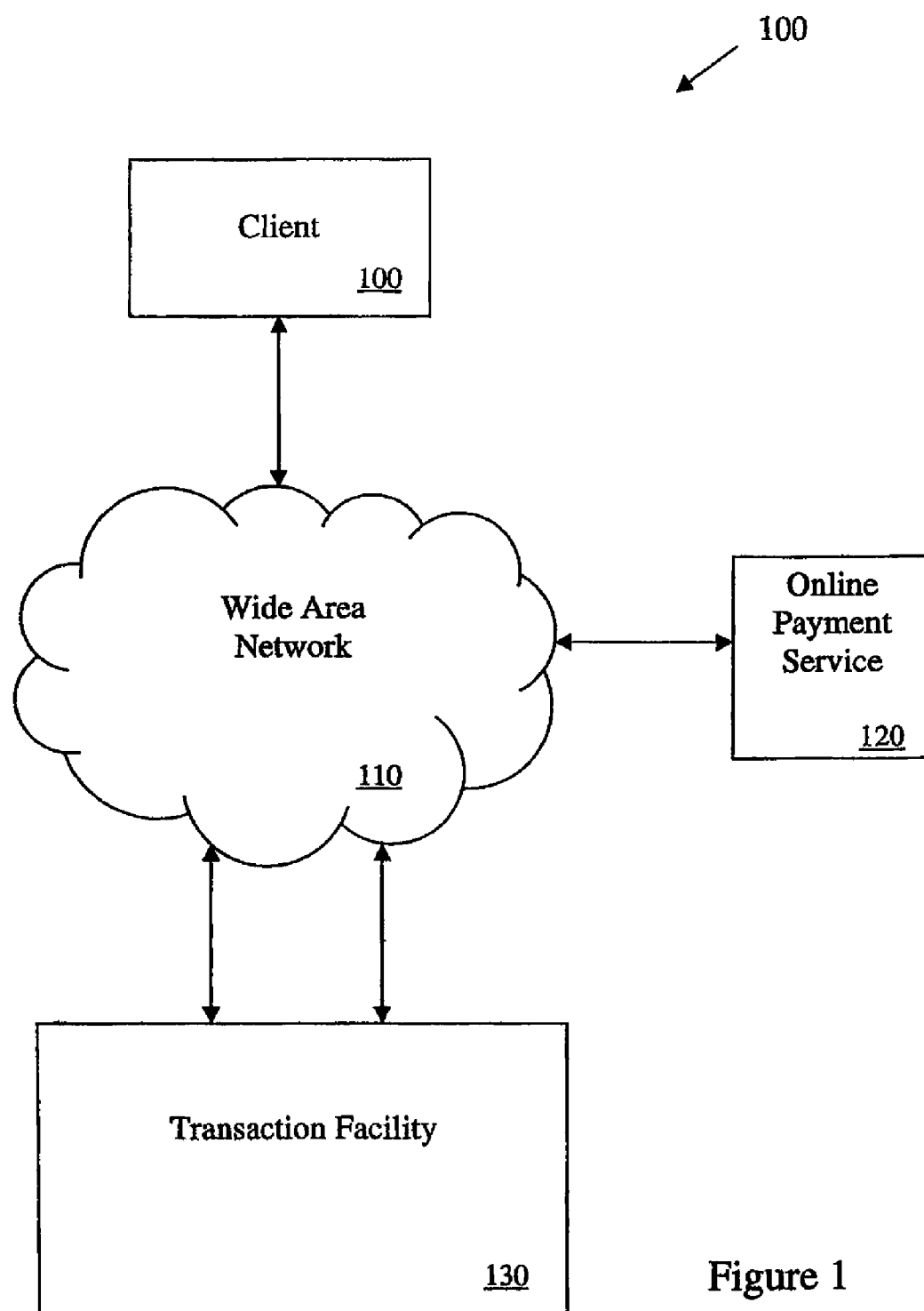
100

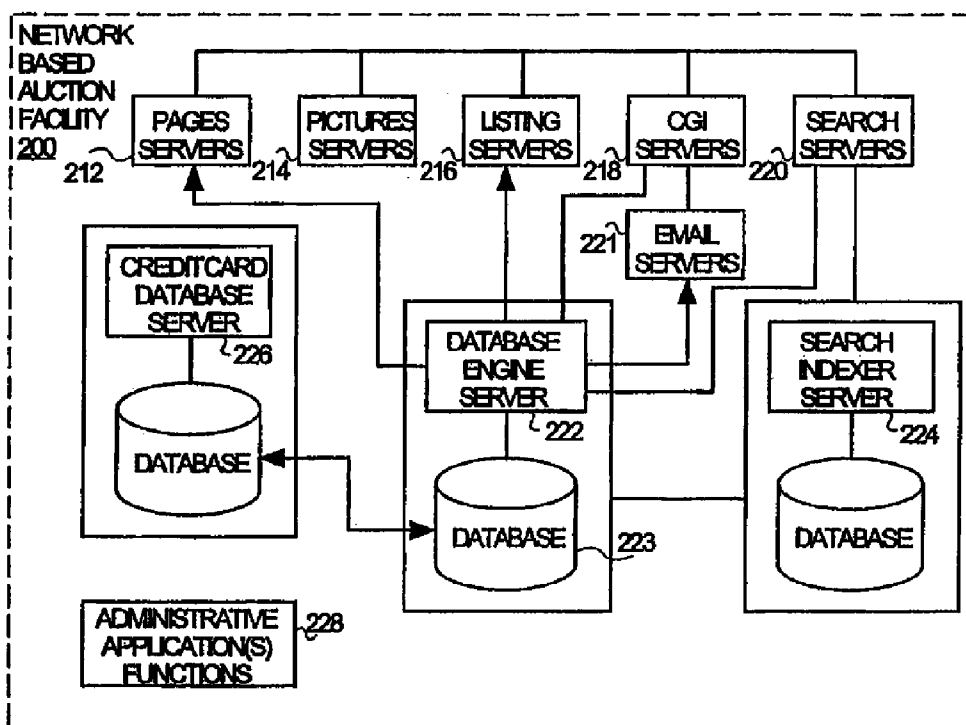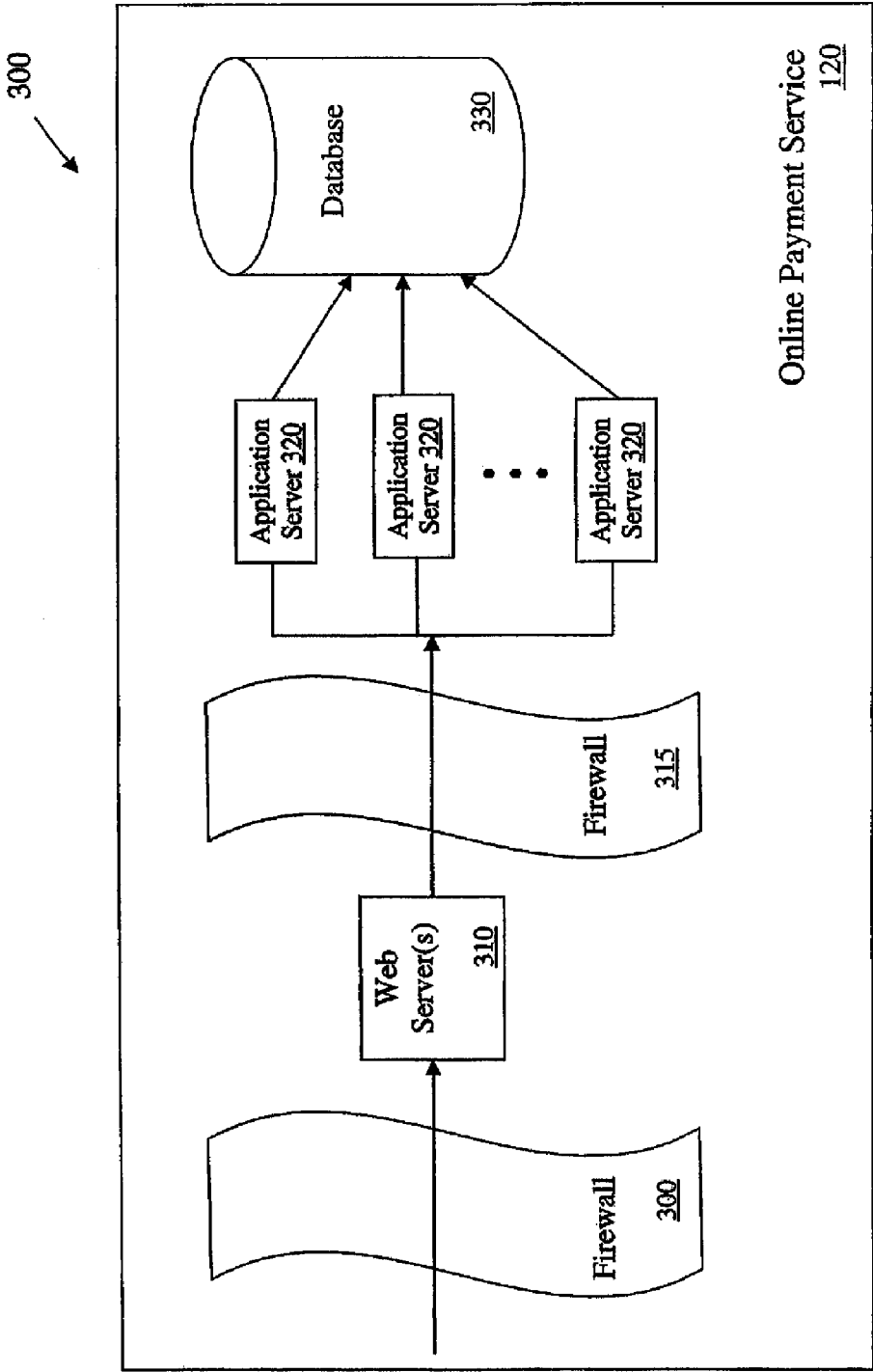Client
100

Wide Area Network
110

Online Payment Service
120

Transaction Facility
130

100

Client

100

Wide Area
Network

110

Online
Payment
Service

120

Transaction Facility

130

Figure 1

Figure 2

Figure 3

FIG. 4

CLUSTER 400

WEB SERVER(S) 310

FIREWALL

FIREWALL 315

300

APPLICATION SERVER 320

APPLICATION SERVER

APPLICATION SERVER

PRODUCTION DB 330

CLUSTER 410

WEB SERVER(S) 310

FIREWALL

FIREWALL 315

300

APPLICATION SERVER 320

APPLICATION SERVER

APPLICATION SERVER

PRODUCTION DB 330

WAREHOUSE CLUSTER 420

WEB SERVER(S) 310

FIREWALL

FIREWALL 315

300

RISK ANALYSIS SERVER 425

REPORTING SERVER 430

OLAP SERVER 435

EFT PROCESSING SERVER 440

320

DATA WAREHOUSE 450

500

502

```
Start
```

506

Communicate user interface information to
a first participant via a communications
network

508

Receive payment option information from the first
participant via the communications network

510

Pass the payment option information to a second
participant via the communications network

512

Accept personal billing information concerning a
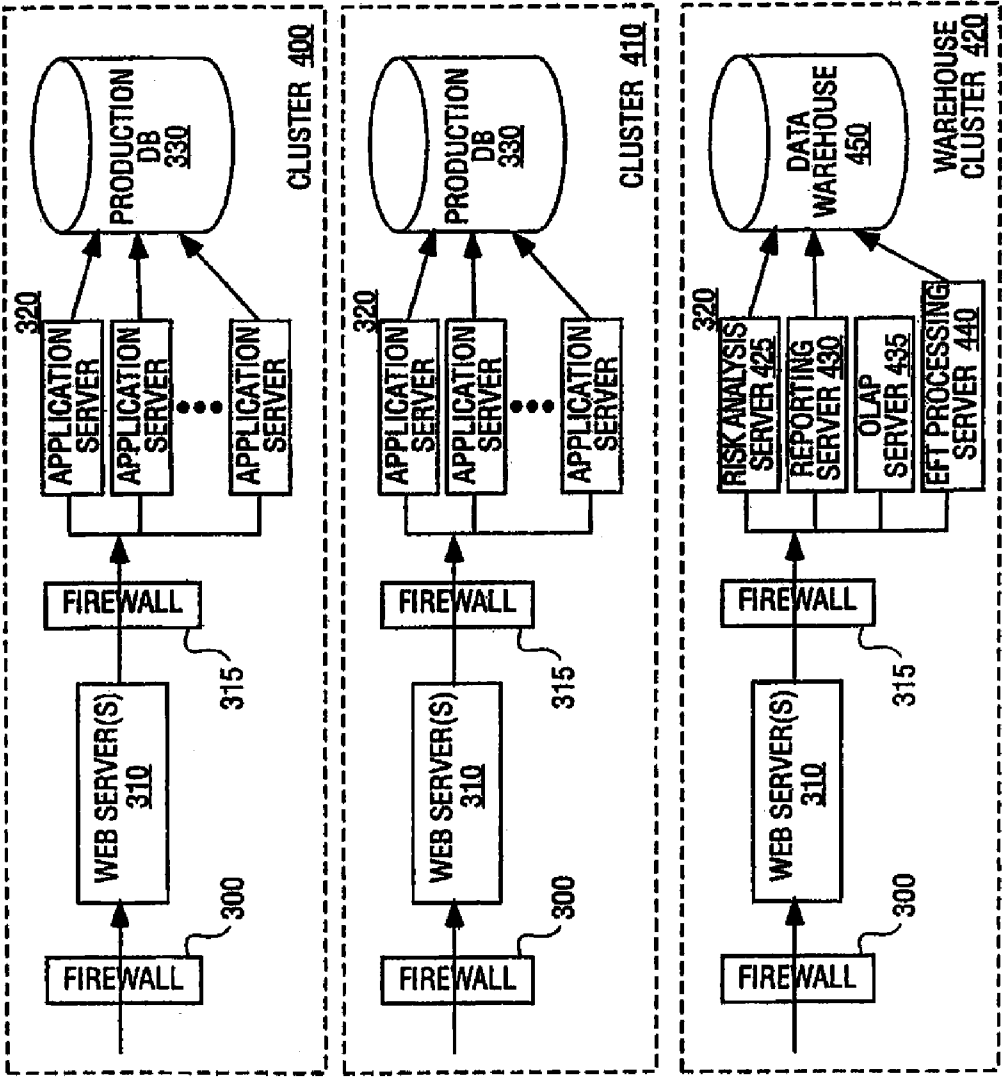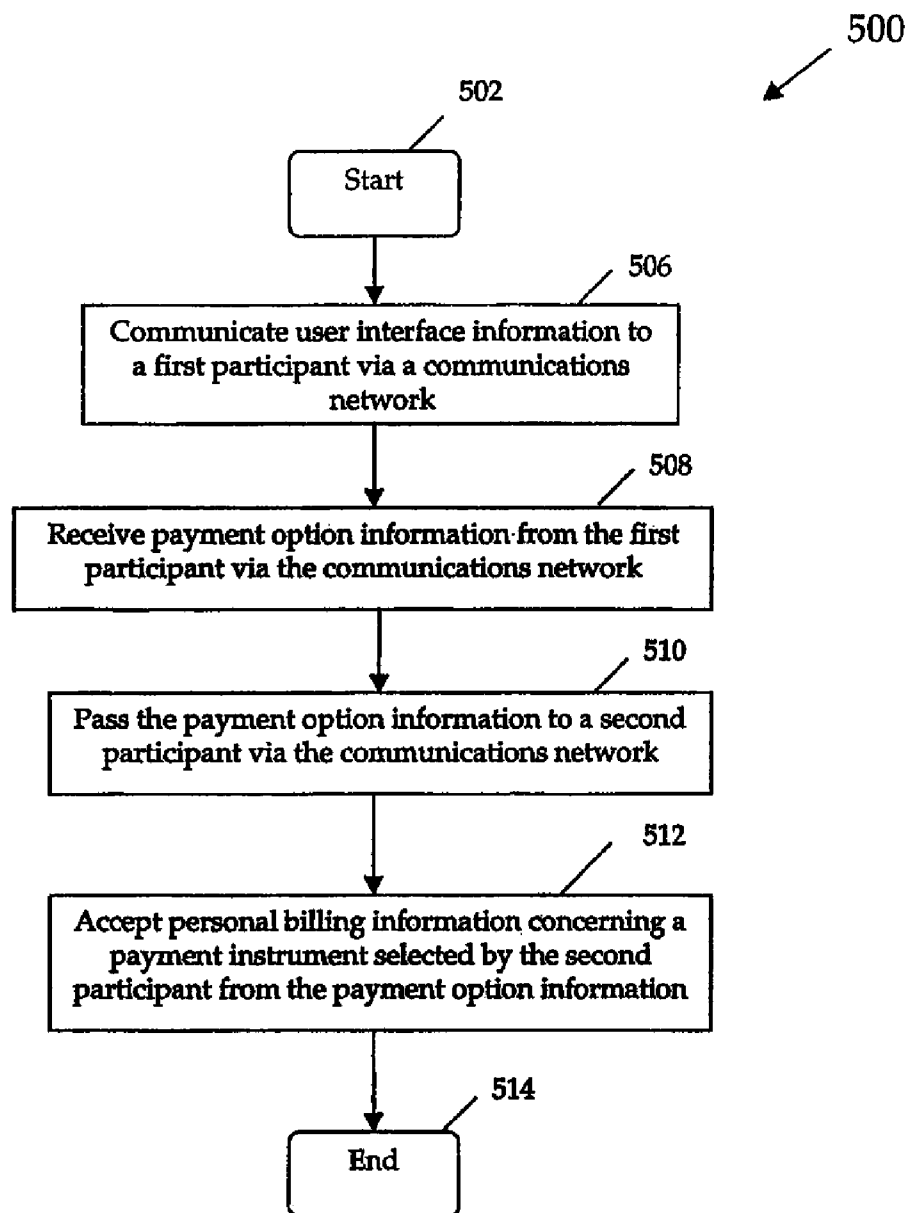payment instrument selected by the second
participant from the payment option information

514

```
End
```

Figure 5

FIG. 6

Figure 7

802

800

Seller Registration Interface

End-of-Auction Interface 804

Seller Initiates Payment   Buyer Initiates Payment

Seller Login Interface 806

Invoice Form Interface 808

Buyer Login Interface 810

Payment Option Interface 812

Buyer Is Registered   Buyer Is Not Registered

813 Revision of Billing Information Interface

814 Personal Billing Information Interface

816 Shipping Information Interface

816 Shipping Information Interface

818 Order Placing Interface

818 Order Placing Interface

820 Confirmation Interface

820 Confirmation Interface

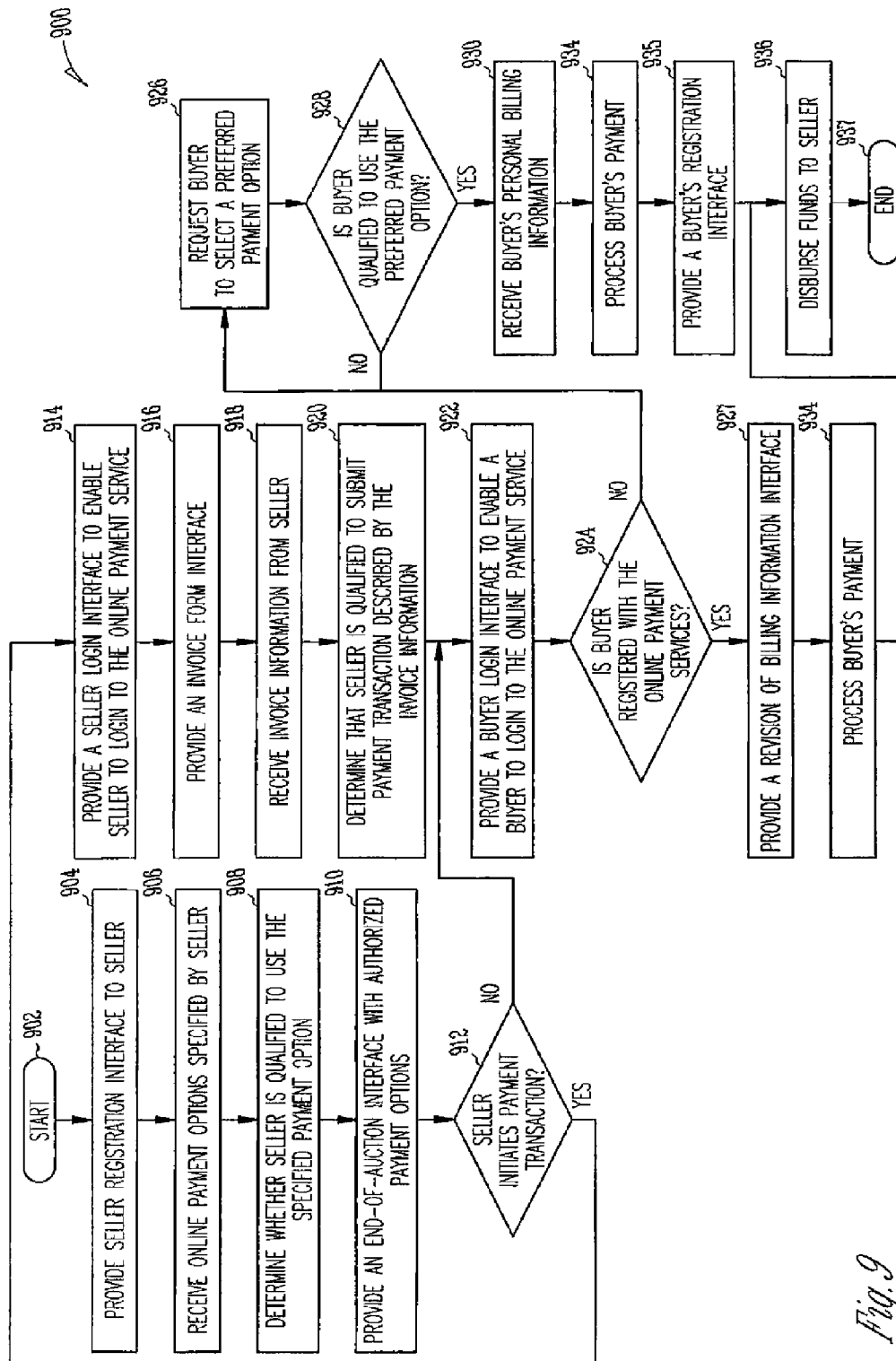822 Buyer Registration Interface

Figure 8

*Fig. 9*

1000

Payment Methods Choose all that you will accept	☐ Money Order/Cashiers Check ☐ Money Order/Cashiers Check ☐ Visa/MasterCard ☐ COD (cash on delivery) ☐ COD (cash on delivery) ☐ American Express ☑ See Item Description ☐ See Item Description ☐
Online payments VISA M/C DISC ☐ 1024	Online Payments learn more Accept credit cards (Visa, MasterCard, and Discover) or electronic checks from your winning bidders online. If you are not a registered seller, apply now 1022 ☐ Accept Credit Card payments (available to buyers in these countries) ☐ Accept Electronic Check payments.
Escrow	○ I will accept escrow, buyer pays (recommended) ○ I will pay escrow ◉ I will not accept escrow. (If selected, the Escrow section will not appear on the item listing) learn more
Where will you ship?	◉ Will ship to United States only ○ Will ship internationally (worldwide) ○ Will ship to United States and the following regions: (Check all that apply)

1010

1020

FIG. 10

1100

Item #330390395

Jewelry, Gemstones:Beads:Findings

Bidding is closed for this item.

Currently	$1.00	
Quantity	1	
Time left	Auction has ended.	
Started	May-11-00 16:06:38 PDT	
Ends	May-11-00 16:07:36 PDT	
Seller (Rating)	krauss@billpoint.com (0)	
	(view comments in seller's Feedback Profile) (view seller's other auctions)	
	(ask seller a question)	
High bid	jeff3@billpoint.com (0)	
Payment	See item description for payment methods accepted	

Online Payments [VISA] [MC] [DISC] Credit Card, ///// Electronic Check
To use Online Payments
 *High Bidder Click here ~1122
 *Seller   Click here ~1124   1110   1120

Shipping	Will ship to United States only, See item description for shipping charges
	Seller: Didn't sell your item the first time? We will refund your relisting fee if it
Relist Item	sells the second time around. Relist this item.

Seller assumes all responsibility for listing this item. you should contact the seller to resolve any questions before bidding. Auction currency is U.S. dollars ($) unless otherwise noted.

FIG. 11

1200

SECURE ONLINE PAYMENTS 🔒   <u>Help</u>

Welcome, k@billpoint.com!

How to use Online Payments

Follow these easy steps once you know the high bidder wants to use
Online Payments (<u>here's how to find out.</u>)

1210   1220

Seller   ① Send Invoice   ③ Ship Item
                      with total amount   when you receive
                      due   payment
                                                  confirmation email.

High Bidder   ② Pay for item
                          online once you receive
                          the invoice.
                          (MC, Visa, Disc) ▨ Electronic Check

Enter your Password to:

   • Send Invoice for this item to a High Bidder
   • View or cancel the Invoice (if it has not been paid)
   • View the Order Detail page or enter shipment tracking information (if
     Invoice has been paid).

1240

1230   Username: k@billpoint.com

         Password: [   ]
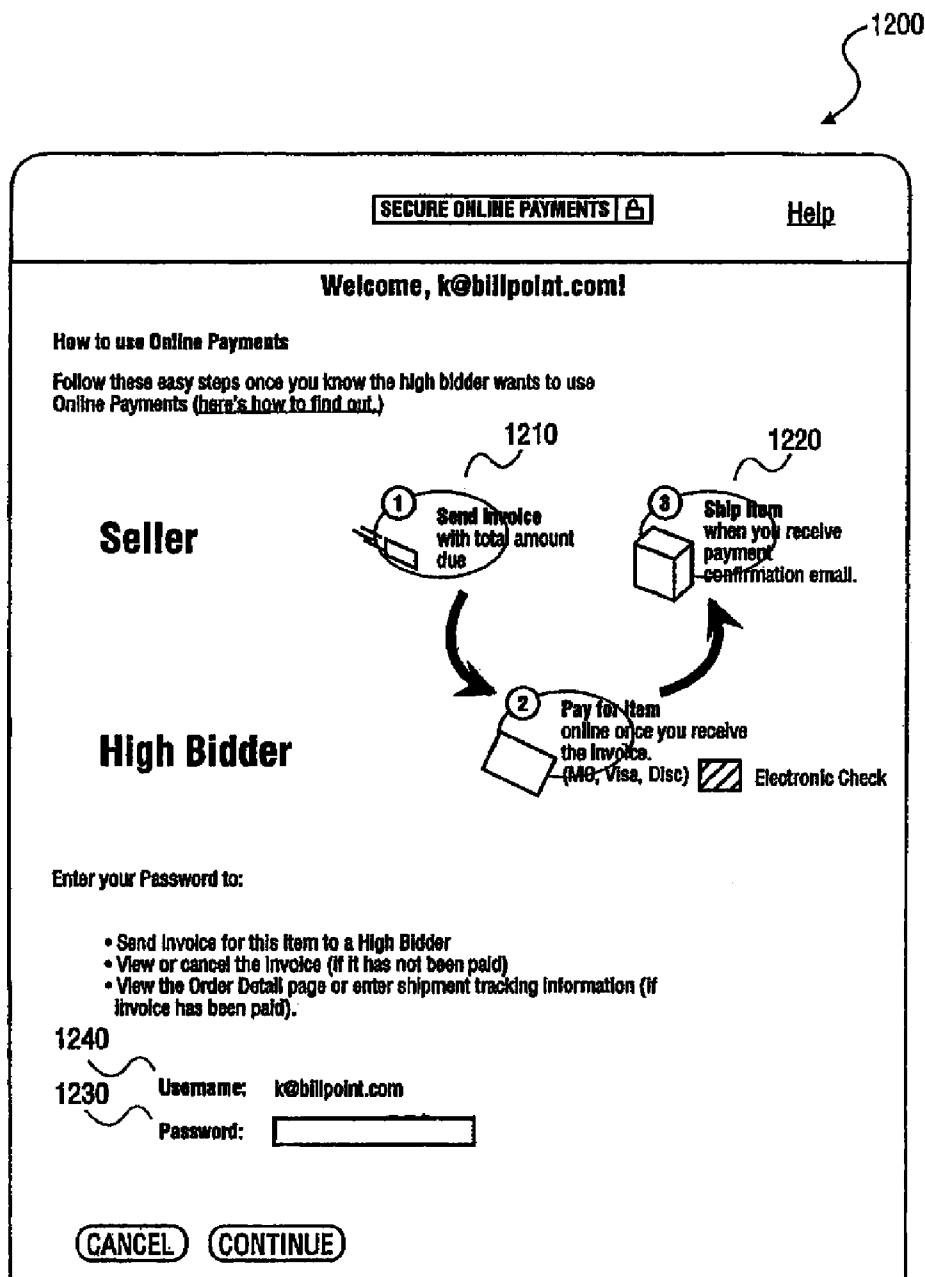
(CANCEL) (CONTINUE)

FIG. 12

1300

| SECURE ONLINE PAYMENTS 🔒 | Help |

Invoice Form

Complete this invoice once you have determined the final amount due for this item including shipping fees or taxes, and you know the high bidder wants to use Online Payments. After you submit this invoice, the buyer will automatically receive an e-mail with a link to begin payment.

After the buyer pays for the item online, you will receive a payment confirmation e-mail notifying you that payment has cleared. If the buyer pays with a credit card you should receive the confirmation e-mail immediately. If the buyer approximately 3-5 days. Then just ship the item!

Enter Billpoint Invoice Information

Item Name: Jar Jar Binks Doll ～1310
Item#: 504057950 ～1320
Final Auction Price: [25.50] ～1330
Shipping, Handling, & Insurance: [0.00] (optional) ～1340

Sales Tax: [0.00] (optional) ～1350
Buyer E-mail Address: jsmith@hotmail.com ～1360
Buyer User ID: jsmith ～1370
～1382   1384

Payment Methods: ☑ Credit Card ☑ Electronic Check
More information on payment methods.

1386

Your Message:
You may want to include a message to the buyer.

(optional) Message must be less than 500 characters. 1388

Return Policy:
Why this is important

Please note: Billpoint strongly recommends that you include your Return Policy on this Invoice for your protection to help avoid disputes.

Click the "REVIEW INVOICE" button below to view your Billpoint Invioce and confirm that it is correct before you submit it to the buyer.

(CANCEL) (REVIEW INVOICE) ～1390

1392

FIG. 13

1400

1430

High Bidder - How Online Payments Works   1420

Seller

① Send Invoice with total amount due

③ Ship Item when you receive payment confirmation email.

High Bidder   1410

② Pay for Item online once you receive the invoice. (MO, Visa, Disc) ▨ Electronic Check

To get strarted, the seller must send you a Invoice. If you haven't received an invoice, get a jumpstart by notifying the seller (with our easy-to-use email template) that you'd like to use Online Payments.

1412

To pay for Item @330390395 [Test Item], log in below.

1414 — Your User ID:
[   ]
You can also use your email address.

1416 — Your Password:
[   ]
Forgot your password?

Are you tired of typing in your User ID and Password over and over again? Save time by signing in. (You may also sign in securely).
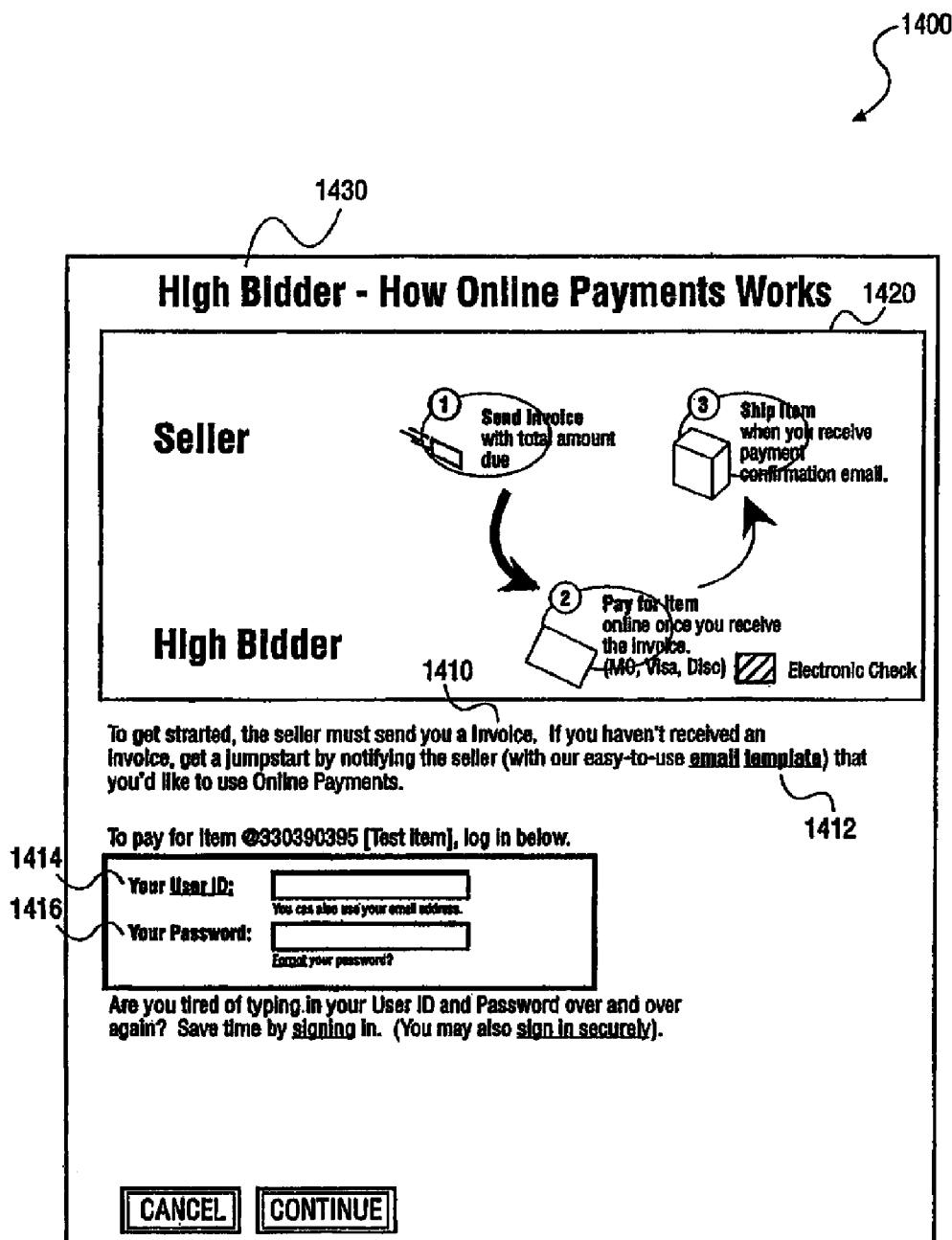
[CANCEL]   [CONTINUE]

FIG. 14

1500

SECURE ONLINE PAYMENTS 🔒   Help

Welcome to the new way to pay for your purchases!

To pay for this item online, first review the invoice
information below.
                              1520

If you have already registered, click here to pay in one step.

                                                              1510
Invoice

Item #:	504057950
Item Name:	(3) Jar Jar Binks Dolls
Seller:	toystoystoys
Date Invoice Sent:	09/15/99
Final Auction Price:	$25.50
Shipping, Handling, & Insurance:	$5.00
Sales Tax:	$0.00
Total Amount Due:	$30.50
Seller Message:	You'll love this!!
Return Policy:	AS is condition

Please choose one of the following payment methods, or click "Cancel" to exit:

[If only credit card is available:]

1530 ⟶ Click "Pay with Credit Card to pay for this item with a credit card, or click "Cancel"
          to exit:

[If only electronic check is available:]

1540 ⟶ Click "Pay with Electronic Check" to pay for this item using your checking account,
          or click "Cancel" to exit:

                                          1550
(PAY WITH CREDIT CARD)   [VISA] [MC] [DISC]

(PAY WITH ELECTRONIC CHECK)   1560

(CANCEL)

FIG. 15

1600

SECURE ONLINE PAYMENTS 🔒   Help

Seller: krauss@billpoint.com   Total Amount
                                        Due: $1.50
Item: Test Item
Name: Item #:   33039035

Enter New Credit Card Information and Place Your Order
                                                        1610

Please enter your credit card number and billing information into the **secure** form
below. This information is kept **confidential** and will not be seen by the seller.

Enter your credit card information 〜1620

All entries are required.

Credit card: [VISA   ▽]
Card Number: [   ]

Expiration: [May ▽] [2002 ▽]

Please enter your billing information as it appears on your credit card
statement:

                  Name: [   ] [ ] [   ]
         Billing Address: [   ]
                          [   ]
                  City: [   ]
     State/Province/Region: [   ]
                          Please enter 2 letter state code for US addresses (Ex, CA, RI)

         Zip/Postal Code: [   ]
                 Country: [United States ▽]
     Primary Phone Number: [   ]
                          Please include area code (Example: 123-456-7891)

         E-Mail Address: jeff3@billpoint.com

Click "CONTINUE" to enter shipping information—your credit card is NOT charged
at this time. To exit, click "CANCEL"

(CANCEL) (CONTINUE)

FIG. 16

17/20

1700

SECURE ONLINE PAYMENTS 🔒   Help

Seller: toystoystoys   Total Amount Due: $30.50
Item Name: Jar Jar Binks Doll   Item #:   504057950
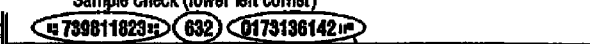
Checking Account Information

Please enter your payment information into the **secure** form below. This information is kept **confidential** and will not be seen by the seller. If you have questions on Electronic Checks, please see the Electronic Check FAQ for Buyers.

Enter your Checking Account Information

Please enter the checking account from which you would like to make this purchase. You can find the Bank Routing # and the Checking Account # on the bottom of the check, as shown in the example below.   1730

Bank Name: 1710   Bank Routing #: 1720   Checking Account #:

Sample Check (lower left corner)

1740   ⑆739811823⑆ (632) ⑈0173136142⑈

The Bank Routing # is   This check # should match   The Checking Account # is usually
9 digits between the   the # in the upper-right corner to the left of n** If check # is left
⑆ ⑆ symbols   of account #, Ignore check #.

Note: These three sets of numbers may appear in a different order on your check.

Enter your Name and Checkin Account Address 1750

Please enter your name and the address where you receive statements for your checking account.

Name:
Street Address:

City:
State:
Zip Code: CHOOSE ▼
Primary Phone Number:
        Please include area code (Example: 123-456-7891)

Enter a Secondary Form of Identification 1760

To protect the security of your checking account, you must provide a secondary form of identification. Please enter EITHER your Driver's License information OR your Social Security Number.

Driver's License: State Issued: Date of Birth:
                        CHOOSE   ▼
                                                (Example: 05/11/74)
        1762   OR   1764   1766

Social Security Number: 1770

        1768

Click "CONTINUE" to enter your shipping information--your checking account is NOT charged at this time. To exit, click "CANCEL"

(CANCEL) (CONTINUE)

FIG. 17

1800

SECURE ONLINE PAYMENTS 🔒   Help

Register

Want to pay for your purchases in one step?

Complete the short form below to save your payment information in a free
online payment account. Then just enter your password to pay in one easy step.

Choose a Secure Password   1820   1830

1810

User ID: Password: Retype Password:

Enter Your Question and Your Secret Answer   1850

1840

Secret Question: Secret Answer:

This is the question we will ask you if you forget our Password   Answer to the Secret Question
(Example: "Pet's Name?"   (Example: "Fido")

By clicking the button below, you agree to the terms and conditions of the
Participation Agreement and Privacy Policy.

(CANCEL ACCOUNT SETUP) (FINISH ACCOUNT SETUP)

FIG. 18

1900

SECURE ONLINE PAYMENTS 🔒　　　　　<u>Help</u>

Thank you! Your payment has been initiated.

Your electronic payment has been initiated. When your check payment
has cleared, both you and the seller will be notified.

This is your Order Receipt. You may want to print this page for your records.
A confirmation e-mail has been sent to you at <u>jsmith@hotmail.com</u>.

Your Order Receipt--Date Paid 09/15/99

Item #:	504057950	Ship to:	Jay Smith
Item Name:	jar jar binks doll		100 Main St.
Seller:	toystoystoys		San Francisco, CA
Seller's E-mail:	toystoystoys@aol.com		94123
Total Paid:	$30.50	Payment Method:	Electronic Check

FIG. 19

2000

2002

Processor

Instructions ⟋ 2026

2010

Video Display

2008

2004

Main Memory

Instructions ⟋ 2026

2012

Alpha-Numeric Input Device

2006

Static Memory

2014

Cursor Control Device

BUS

2022

Network Interface Device

2016

Drive Unit

Computer-Readable Medium   2024

Instructions   2026

Network

2020

Signal Generation Device
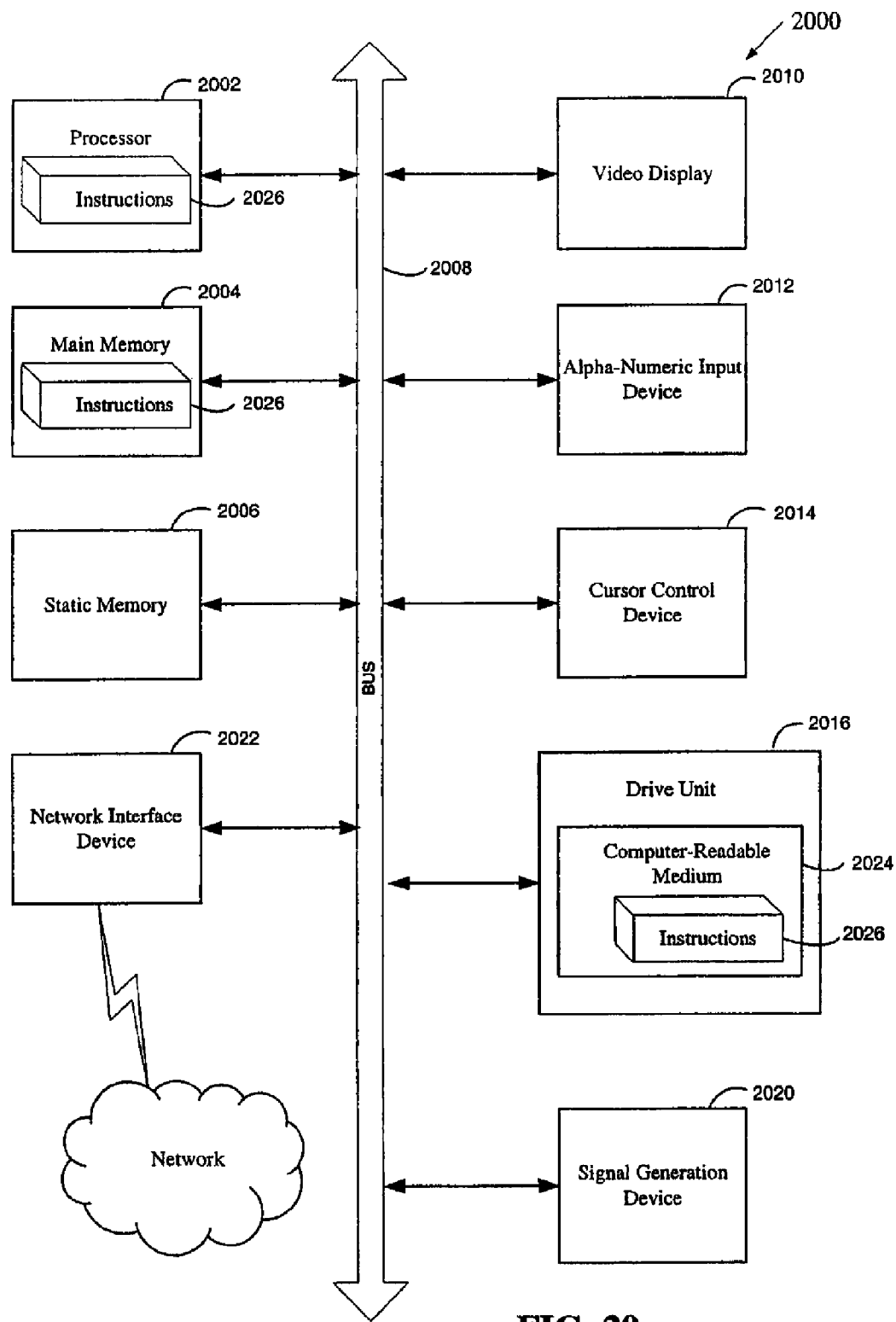
FIG. 20

SYSTEM FOR ACCEPTING A FIRST ACCOUNT FOR MAKING PAYMENT FOR A TRANSACTION AND PAYING FOR THE TRANSACTION WITH FUNDS FROM A SECOND ACCOUNT

RELATED APPLICATIONS

[0001] The present application is a continuation of U.S. patent application Ser. No. 13/569,883, filed Aug. 8, 2012, which is a continuation of U.S. patent application Ser. No. 12/397,244, filed Mar. 3, 2009, now U.S. Pat. No. 8,255,325, which is a continuation of U.S. patent application Ser. No. 11/332,068 filed Jan. 13, 2006, now U.S. Pat. No. 7,899,712, which is a continuation of U.S. patent application Ser. No. 09/577,434, filed May 22, 2000, now U.S. Pat. No. 7,499,875, which claims the benefit of the filing date of U.S. Prov. Pat. App. Ser. No. 60/190,420, filed Mar. 17, 2000, the applications of which are incorporated herein by reference in their entirety.

FIELD OF THE INVENTION

[0002] The present invention relates generally to the field of e-commerce and, more specifically, to facilitating online payment transactions in a network-based transaction facility using multiple payment instructions.

BACKGROUND OF THE INVENTION

[0003] For users of a network-based transaction facility, a reliable and convenient payment mechanism is particularly important for enhancing user trust in the transaction facility. A typical network-based transaction facility, however, does not ensure the expedient and secure completion of payment transactions. Instead, payment transactions between traders of an online trading community are typically conducted in a conventional, time-consuming manner using paper checks and money orders. Accordingly, such payment transactions delay payments to sellers and delivery of purchased goods to buyers. In addition, sellers are expected to bear the risk of bounced checks and buyers are running the risk of not receiving the goods after sending the money.

[0004] The above problems are typically faced by individuals or small businesses who cannot afford to build or buy the infrastructure to accept credit card payments from buyers in the network-based transaction facility. However, even a seller who does accept credit card payments can still lose those buyers who appreciate the convenience of online payments but do not have access to credit cards. In addition, a buyer may prefer not to disclose his or her credit card information over the Internet in general, or to a certain seller in particular. Further, credit card payments may not always be desirable for sellers because of their charge back recourse to buyers.

[0005] Therefore, it will be advantageous to provide traders with an efficient and secure mechanism for facilitating online payment transactions via a variety of payment instruments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] The present invention is illustrated by way of example and not limitation in the figures of the accompanying drawings, in which like references indicate similar elements and in which:

[0007] FIG. 1 is a block diagram of one embodiment of a system for processing online payment transactions between participants in a network-based transaction facility;

[0008] FIG. 2 is a block diagram of one embodiment of a network-based transaction facility;

[0009] FIG. 3 is a block diagram of one embodiment of an online payment service;

[0010] FIG. 4 is a block diagram of an exemplary online payment service supporting multiple data centers;

[0011] FIG. 5 is a flow chart of an exemplary method for facilitating online payment transactions using multiple payment instruments;

[0012] FIG. 6 is a block diagram of one embodiment of a database maintained by an online payment service;

[0013] FIG. 7 is a block diagram of one embodiment of a process flow for evaluating risks involved in an online payment transaction;

[0014] FIG. 8 is a block diagram of one embodiment of an interface sequence implemented to facilitate online payment transactions through multiple payment instruments;

[0015] FIG. 9 is a flow chart of an exemplary method for facilitating online payment transactions through multiple payment instruments using risk analysis;

[0016] FIGS. 10-19 are exemplary representations of various interfaces included in the sequence of interfaces shown in FIG. 8; and

[0017] FIG. 20 is a block diagram of one embodiment of a computer system. FIG. 1 shows a system for targeted commerce in network broadcasting, according to some embodiments.

DETAILED DESCRIPTION

[0018] A method and apparatus for facilitating online payment transactions in a network-based transaction facility using various payment instruments are described. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be evident, however, to one skilled in the art that the present invention may be practiced without these specific details.

System for Processing Online Payment Transactions

[0019] FIG. 1 is a block diagram of one embodiment of a system for processing online payment transactions between participants in a network-based transaction facility. In this embodiment, a client 100 is coupled to a transaction facility 130 via a communications network, including a wide area network 110 such as, for example, the Internet. Other examples of networks that the client may utilize to access the transaction facility 130 include a local area network (LAN), a wireless network (e.g., a cellular network), or the Plain Old Telephone Service (POTS) network.

[0020] The client 100 represents a device that allows a user to participate in a transaction facility 130. The transaction facility 130 handles all transactions between various participants including the user of the client computer 100. In one embodiment, the transaction facility 130 may be an online auction facility represented by an auction web site visited by various participants including the user of the client computer 100. An exemplary auction facility is described in greater detail in conjunction with FIG. 2. Alternatively, the transaction facility 130 may be an online retailer or wholesaler facility represented by a retailer or wholesaler web site visited by various buyers including the user of the client computer 100. In yet other embodiments, the transactions facility 130

may be any other online environment used by a participant to conduct business transactions.

[0021] The transaction facility **130** is coupled to an online payment service **120**. In one embodiment, the transaction facility **130** is coupled to the online payment service **120** via a communications network such as, for example, an internal network, the wide area network **110**, a wireless network (e.g., a cellular network), or the Plain Old Telephone Service (POTS) network. Alternatively, the online payment service **120** is integrated with the transaction facility **130** and it is a part of the transaction facility **130**. The online payment service **120** is also coupled to the client **100** via any of the described above communications networks. The online payment service **120** is a service for enabling online payment transactions between participants of the transaction facility **130**, including the user of the client computer **100**.

[0022] In one embodiment, the online payments service **120** enables the participants to make online payments in the course of business conducted in the transaction facility **130** using multiple payment instructions. These payment instructions may include, for example, credit cards, debit cards, wire transfers, electronic funds transfers (EFT), transfers from internal accounts within the transaction facility **130** or the online payment service **120**, loan financing, lines of credit, coupon or gift certificates, etc. In this embodiment, the transaction facility **130** facilitates business transaction between the user of the client **110** and other participants. The client **110** presents user interface information to the user. The user interface information identifies multiple payment instruments available for processing payment transactions pertaining to corresponding business transactions.

[0023] In one embodiment, the user selects one or more payments instruments from the available payments instruments. The client **110** then communicates payment option information of the user to the transaction facility **130**. The payment option information indicates the willingness of the user to accept payments from other participants via the selected payment instruments. The online payment service **120** receives the payment option information from the transaction facility **130**, communicates the payment option information to a participant conducting business with the user, and enables the participant to choose a preferred instrument from the payment instruments selected by the user. The online payment service **120** then accepts personal billing information concerning the preferred payment instrument from the participant to facilitate the payment transaction between the participant and the user.

Transaction Facility

[0024] FIG. **2** is a block diagram illustrating an exemplary network-based transaction facility in the form of an Internet-based auction facility **200**. While an exemplary embodiment of the present invention is described within the context of an auction facility, it will be appreciated by those skilled in the art that the invention will find application in many different types of computer-based, and network-based, commerce facilities.

[0025] The auction facility **200** includes one or more of a number of types of front-end servers, namely page servers **212** that deliver web pages (e markup language documents), picture servers **214** that dynamically deliver images to be displayed within Web pages, listing servers **216**, CGI servers **218** that provide an intelligent interface to the back-end of facility **210**, and search servers **220** that handle search requests to the facility **10**. E-mail servers **221** provide, inter aria, automated e-mail communications to users of the facility **200**.

[0026] The back-end servers include a database engine server **222**, a search index server **224** and a credit card database server **226**, each of which maintains and facilitates access to a respective database.

[0027] The Internet-based auction facility **200** may be accessed by a client program, such as a browser (e.g., the Internet Explorer distributed by Microsoft Corp. of Redmond, Wash.) that executes on the client computer **100** and accesses the facility **200** via the communications network **110**.

Online Payment Service

[0028] FIG. **3** is a block diagram of one embodiment of an online payment service **120**. The online payment service **120** includes a firewall **300**, one or more web servers **310**, a firewall **315**, a set of application servers **320**, and one or more databases **330**. The firewall **300** isolates the online payment service **120** from external Internet accesses. The firewall **310** enhances security within the online payment service **120** by preventing internal access to information stored in the database **330**. The only access permitted to the database is from applications servers **320**, making valid database requests.

[0029] The web servers **310** facilitate the exchange of information between the online payment service **120**, the transaction facility **130** and the participants of the transaction facility **130**, including the user of the client **100**. In one embodiment, the web servers **310** encrypt data outgoing from the online payment service **120** using a secure protocol (e.g., a secure socket layer (SSL) protocol, a secure HTTP protocol, etc.). In one embodiment, a digital signature mechanism is implemented to prevent tampering of data prior to the encryption stage.

[0030] The application servers **320** handle various tasks executed within the online payment service **120**. Each application server **320** is responsible for a certain pre-assigned task. These tasks may include, for example, executing payment transactions, registering participant accounts, maintaining account statuses for each user, providing customer service, delivering emails, providing analysis (e.g., risk analysis) and reporting, processing electronic fund transfers EFTs, and other application services. The applications servers **320** access the database **330** to enter or retrieve various data. The database **330** is described in greater detail below in conjunction with FIG. **6**.

[0031] In one embodiment, the online payment service **120** is coupled, via a network, to multiple external payment processors to complete various types of online payment transactions. For example, the online payment service **120** may be coupled to a credit card processor to process credit card payments. The online payment service is **120** may also by coupled to an EFT processor to process electronic checks and money order payments. Other external payment processor may include, for example, a wire transfer processor, a loan financing processor, a line of credit processor, a coupon or gift certificate processor, etc.

[0032] FIG. **6** is a database diagram illustrating an exemplary database **600** supported by the online payment service **120**. The database **600** may, in one embodiment, be implemented as a relational database, and includes a number of tables having entries, or records, that are linked by indices and

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keys. In an alternative embodiment, the database **600** may be implemented as collection of objects in an object-oriented database.

[0033] Central to the database **600** is a user table **610**, which contains a record for each user of the online payment service **120**. A user may operate as a seller, buyer, or both, within the transaction facility **130**. A seller table **620** is linked to the user table **610** and includes more detailed information about each seller. A buyer table **630** which is also linked to the user table **410** includes detailed information about each buyer. The database **600** also includes payment instruments tables **670** that may be linked to the user table **610**. Each payment instrument table **670** pertains to an individual payment instrument available for use in the transaction facility **130**. Available payment instruments may include, for example, credit cards, debit cards, automated clearing house (ACH) transfers using electronic checks and money orders, wire transfers, transfers from an internal account within the online payment service **120** or the transaction facility **130**, loan financing, lines of credit, coupons or gift certificates, etc. Each payment instrument table **670** includes corresponding billing information provided by a user. A user record in the user table **610** may be linked to a payment instrument record in multiple payment instrument tables **670** if the user provides billing information on more than one payment instrument.

[0034] The database **600** also includes a payment transaction table **640** which is linked to the seller table **620** and the buyer table **630**. The payment transaction table **640** contains information on each financial exchange between a buyer and a seller. A payment transaction in the transaction table **640** may be represented by one or more accounting records in an accounting record table **650**. The accounting records support an accounting system of the online payment service **120** and contain various accounting information, such as, for example, information on debits and credits to buyers, sellers, the online payment service, or other third parties participating in payment transaction. A payment transaction that does not correspond to any accounting record may indicate that the transaction was not completed successfully (e.g., the buyer's credit card was invalid).

[0035] A ledger table **660** is linked to the accounting record table **650**, the user table **610** and the payment instrument tables **670**. A ledger record contains information on an actual fund transfer between a user and the online payment service **120**. The funds transfer may be a debit (e.g., a charge to a buyer's credit card) or a credit (e.g., a disbursement to a seller's checking account). The funds transfer is conducted through a particular payment instrument selected by the buyer and seller and approved by the online payment service **120** in a manner described in more detail below.

[0036] One embodiment of an architecture of the online payment service **120** will now be described in more detail. In this embodiment, the online payment service **120** supports a large number of buyers and sellers who are distributed across the globe, executing transactions at any time of day and night. In order to provide stable physical environment and reliable application architecture, online payment service clusters are installed at several different geographical locations. If a single data center location goes down, transaction volume can be processed by clusters at the remaining locations. Each cluster, in turn, may consist of multiple machines with redundant service.

[0037] FIG. **4** is a block diagram of an exemplary online payment service **120** supporting multiple data centers. In this

embodiment, clusters **400**, **410** and **420** reside in different data centers. The same web servers **310** and application servers **320** are included in both clusters **400** and **410**. The application servers **320** of the clusters **400** and **410** perform transaction management functions, such as, for example, transaction execution, account registration, account status, customer service, e-mail delivery, etc. In one embodiment, in each of the clusters **400** and **410**, multiple instances of every application server run in parallel to balance the system load between the different functions. Application servers can be installed on different physical machines to increase reliability of the system. In one embodiment, each of the clusters **400** and **410** has external connections with one or more payment processors (e.g., a credit card processor, an EFT processor, a wire transfer processor, etc.).

[0038] In one embodiment, each of the clusters **400** and **410** includes a production database **330**. Shared data (e.g., buyer and seller profile information) in the production database **330** may be dynamically replicated to both data centers. Transaction data (e.g., current account statement information) may not need to be replicated as it can be constructed in a variety of other ways using the production data. For example, upon a user request for an online account statement, a query (e.g., an SQL query) may be run to build a complete transaction record.

[0039] In one embodiment, analysis and reporting functions may be separated from the transaction activity because these functions are time consuming. That is, analysis and reporting functions may be executed by the warehouse cluster **420** located separately from the clusters **400** and **410**. The analysis and reporting functions may include, for example, risk or fraud analysis, standard reporting, online analytical processing (OLAP) providing database indexing to enhance quick access to data EFT processing, etc. The analysis and reporting functions may be carried out against a separate data warehouse system, such as a data warehouse **450**. Data pertaining to the analysis and reporting may be extracted from the production database **330** at predefined time intervals and stored in the data warehouse **450**. As a result, user transaction activity is not impacted by execution of time-consuming analysis and reporting functions.

Multiple Payment Instruments

[0040] In order to provide participants of the transaction facility **130** with an effective and secure mechanism of conducting online payment transactions, one embodiment of the present invention proposes a method and system whereby the participants may conveniently use multiple payment instruments to make online payments for products obtained in the course of their commercial activity in the transaction facility **130**.

[0041] FIG. **5** is a flow chart illustrating an exemplary method **500** of facilitating online payment transactions using multiple payment instruments. The method **500** may be performed by processing logic, which may comprise hardware, software, or a combination of both. The processing logic may be either in the online payment service **120**, or partially or entirely in a separate device and/or system(s).

[0042] Referring to FIG. **5**, the method **500** begins with the online payment service **120** communicating user interface information to a first participant via a communications network (processing block **506**). The user interface information identifies multiple payment instruments available for processing payment transactions in the transaction facility **130**.

[0043] At processing block **508**, processing logic in the online payment service **120** receives payment option information from the first participant via the communications network. The payment option information indicates a willingness of the first participant to accept payments from a second participant through one or more available payment instruments. As described above, available payment instruments may include, for example, credit cards, debit cards, wire transfers, electronic checks and money orders. In addition, the online payment service **120** may permit payments through direct transfers from an internal account which is maintained for a participant within the transaction facility **130** or the online payment service **120**.

[0044] In one embodiment, payment instruments may also include loan financing and lines of credit. In this embodiment, the online payment service **120** may cooperate with a third party processor (e.g., a financial institution) to process loan financing and to create or extend a line of credit for a participant. Other payment instruments may include coupons and gift certificates, or any other U.S. or international vehicles. In the cases of coupons and gift certificates, the online payment service **120** (in cooperation with a third party or internally) determines whether a coupon or a gift certificate is valid.

[0045] Next, processing logic in the online payment service **120** passes the payment option information to the second participant via the communications network (processing block **510**). Afterwards, at processing block **512**, processing logic in the online payment service accepts personal billing information of the second participant to facilitate a payment transaction between the first participant and the second participant. The personal billing information transferred over the communications network pertains to a payment instrument selected by the second participant from the payment instruments specified by the first participant.

[0046] In one embodiment, processing logic in the online payment system **120** communicates the personal billing information of the second participant, via the communications network, to a financial institution to process the payment transaction. Alternatively, the personal billing information may be processed internally (e.g., when a payment is made using a direct transfer from an internal account within the online payment system **120** or the transaction facility **130**). Afterwards, when the payment transaction completes, the first participant is notified. In one embodiment, notification may be sent immediately after accepting the personal billing information (e.g., when a payment is made using a credit card). Alternatively, notification is sent after a certain time period expires (e.g., when a payment is made using an electronic check).

[0047] In one embodiment, at various stages of the payment transaction between the first participant and the second participant, risk involved in the payment transactions is evaluated by a risk analysis system of the online payment system **120**. The various stages may include, for example, the time the payment transaction is initiated, the time either the first or second participant registers with the online payment service **120**, the time the first participant provides invoice information, the time the second participant provides personal billing information pertaining to a particular payment instrument, the time funds are disbursed to the first participant, etc. Based on the involved risk, the payment transaction between the first and second participants may be interrupted or restricted (e.g., preventing a participant from accepting or paying with a certain payment instrument). The risk analysis system is described in greater detail below in conjunction with FIG. **7**.

[0048] In one embodiment, processing logic in the online payment service **120** accepts multiple payments owed to the first participants by other participants in the course of business transactions conducted by the first participant in the transaction facility **130**. The multiple payments are accepted via the communications network and may be made using various payment instruments. Next, processing logic in the online payment service **120** accumulates these payments over a period of time and then distributes a single disbursement which includes the accumulated payments to the first participant.

[0049] In one embodiment, the online payment service **120** accepts a payment from the second participant in one currency and distributes the payment to the first participant in different currency. The above online payment options address time-consuming and unreliable paper-based payment methods and provide an efficient and secure mechanism to conduct payment transactions within the transaction facility **130**.

[0050] FIG. **7** is a block diagram of one embodiment of a process flow for evaluating risks involved in an online payment transaction. As described above, the involved risks are evaluated at various stages of the payment transaction. The involved risks may concern, for example, a buyer's ability to pay, a likelihood that a buyer or a seller may be fraudulent (e.g., a buyer uses a stolen credit card, or a seller lists goods for sale online with no intent or ability to deliver the purchased goods), a seller's ability to fulfill purchase orders promptly, etc. Based on the risk evaluation, the online payment service **120** may reject or restrict a payment transaction between a buyer and a seller in a manner described below. In one embodiment, the risk evaluation is performed in real time and enables an uninterrupted processing of the payment transaction.

[0051] In one embodiment, the online payment service **120** contains a payment processing system **710** and a risk management system **720**. The payment processing system **710** is responsible for executing payment transactions. Specifically, the payment processing system **710** receives information from the transaction facility, stores some or all of this information for historical purposes in a local database (i.e., a payment transaction data store **730**), and determines what information to pass to the risk management system **720**. The risk management system **720** utilizes this information to deternine a risk level involved in the payment transaction. In one embodiment, the risk management system **720** may also use input from one or more third party risk analysis providers **740** to evaluate the risk level of the payment transaction. The results of the evaluation are passed back to the payment processing system **710** which continues processing the payment transaction based on the evaluation results.

[0052] In one embodiment, payment transactions are initiated in the transaction facility **130**. The transaction facility **130** passes a variety of information concerning a payment transaction and its participants (a buyer and a seller) to the payment processing system **710**. The payment transaction information may include, for example, a payment transaction amount, currency in which the payment transaction is to be conducted, description of the goods or services being exchanged, etc. The participant information may include, for example, identifying information of both a buyer and a seller (e.g., names, identification codes, contact information) and information pertaining to their business participation in the

transaction facility **130**. For instance, the transaction facility **130** may pass to the payment processing system **710** information on how long both the buyer and the seller have been registered with the transaction facility **130**, their historical business activity within the transaction facility **130** (e.g., number of prior transactions, gross sales, average amount of a sale), user classification schemes and peer rating schemes used in the transaction facility **130** (e.g. user feedback ratings), third party trust ratings carried out by the transaction facility **130** (e.g. credit reports), etc. It should be noted that a wide variety of information other than the information described above may be passed to the payment processing system **710** from the transaction facility **130** for evaluating potential risk involved in the payment transaction.

[0053] In another embodiment, the payment processing system **710** itself may initiate a payment transaction (e.g., if the payment processing system **710** is notified that a buyer and a seller agreed that a payment would take place on a future date). In this embodiment, the payment processing system **710** then requests relevant information (including any or all of the above info elation) from the transaction facility **130**.

[0054] The payment processing system **710** passes any or all of the above information to the risk management system **720**. In addition, the payment processing system **710** may pass certain internal transaction data (e.g., response codes from a credit card processor) to the risk management system **720**. The risk management system **720** uses the above information to determine the risk level of the payment transaction. In addition, the risk management system **720** may include in its analysis data stored in the payment transaction data store **730** (e.g. historical transaction activity of the seller and the buyer) and information collected by system operation staff related to either the buyer or the seller (e.g., customer service responses, "blacklists" identifying fraudulent customers, etc.).

[0055] In one embodiment, the risk management system **720** also includes in its analysis external risk analysis results. In this embodiment, the risk management system **720** may request one or more third party risk analysis providers **740** to provide an additional evaluation of the risk involved in the payment transaction. For instance, a financial institution may provide additional levels of screening to identify potentially fraudulent participants. The risk management system **720** may transmit to the third party risk analysis providers **740** any or all of the information collected for the payment transaction. The third party risk analysis providers **740** analyze this information and information obtained from their own sources to determine a risk assessment for the payment transaction. The risk assessment information is then sent back to the risk management system **720**.

[0056] Based on the information received from various external and internal sources, the risk management system **720** determines the risk level of the payment transaction using a scoring algorithm. It should be noted that any scoring algorithm known in the art may be used by the risk management system **720** without loss of generality. The risk management system **720** produces a consolidated risk response and passes it to the payment processing system **710**. The risk response may include, for example, information indicating that service should be denied to a participant due to high likelihood of fraud, information on a recommended service fee for processing the payment transaction, information on recommended restrictions on payment instruments to be used by either the

buyer or the seller, information on recommended restrictions on disbursing funds to the seller, etc.

[0057] The payment processing system **710** receives the risk response from the risk management system **720** and makes a final determination concerning the payment transaction. That is, the payment processing system **710** may reject the payment transaction (or deny service to either the buyer or the seller entirely), process the payment transaction without any changes, or restrict the timing and/or the manner in which the payment transaction is conducted. For example, the payment processing system **710** may limit payment instruments offered for use in the payment transaction, may assign or modify a fee for processing the payment transaction, may restrict the time or the manner in which funds are disbursed to the seller, etc.

User Interfaces

[0058] Functions of the online payment service **120** pertaining to payments through multiple payment instruments will now be described within the context of user interfaces, according to one embodiment of the present invention. FIG. **8** shows an interface sequence **800**, according to an exemplary embodiment of the present invention, that may be implemented by the transaction facility **130** and the online payment service **120** for the purposes of providing multiple online payment options to participants in the transaction facility **130**. Exemplary representations of the various interfaces included within the sequence **800** are shown in FIGS. **10-19**. While exemplary interfaces are described within the context of an auction facility, it will be appreciated by those skilled in the art that they may be implemented in many different types of computer-based, and network-based, transaction facilities.

[0059] The interface sequence **800** commences with a seller registration interface **802** through which a seller may specify what online payment instruments the seller will accept from various buyers. The seller registration interface **802** is generated by the transaction facility **130** and may be accessed at any time during a business transaction (e.g., during an auction) or upon an end of the business transaction (e.g., upon en and of auction). The seller needs to go through the seller registration interface **802** only once unless the seller wants to modify the payment instruments specified initially.

[0060] Upon the end of the business transaction, an end of business transaction interface **804** is displayed by the transaction facility **130**. The end of business transaction interface **804** identifies a seller and a buyer and the payment instruments acceptable to the seller. If the payment transaction is initiated by the seller, the seller is then presented with a seller login interface **806** which allows the seller to login to the online payment service **120** by entering the seller's password. Subsequently, the seller is presented with an invoice form interface **808**. The invoice form interface **808** displays an explanation of the payment process and requests the seller to enter the invoice terms.

[0061] After the seller confirms that the invoice terms are correct, the buyer receives an email with a link to a buyer login interface **810**. Alternatively, if the payment transaction is initiated by the buyer, the invoice is not generated and the buyer does not need to wait for the above email. Instead the buyer can directly access the buyer login interface **810** which enables the buyer to login to the online payment service **120**.

[0062] Next, the buyer is presented with a payment option interface **812** which allows the buyer to select a particular payment instrument for use in this payment transaction. In

addition, the payment option interface **812** enables the buyer to avoid entering the buyer's personal billing information in a personal billing information interface **814** if the buyer has previously registered with the online payment service **120**. If so, the buyer is presented with a revision of billing and shipping information interface **813** and then with an order placing interface **818**. By clicking a place order button on the order placing interface **818**, the buyer authorizes the online payment service to execute the payment transaction (e.g., charging the buyer's credit card, initiating an electronic funds transfer, etc.). Further, the buyer is presented with a confirmation interface **820** confirming that the buyer's purchase is complete. In case of an electronic funds transfer, the confirmation interface **820** notifies the buyer that the online payment service **120** has initiated the buyer's electronic check payment.

[0063] If the buyer has not previously registered with the online payment service **120**, the buyer is presented with the personal billing information interface **814** which requests the buyer to enter billing information pertaining to the payment instrument selected by the buyer. Next, the buyer is presented with a shipping information interface **816** which requests the buyer to enter shipping information for this order and then with an order placing interface **818** and then with the confirmation interface **820**. Afterwards, the buyer is invited to register with the online payment service **120** using a buyer registration interface **822**. By registering, the buyer permits the online payment service **120** to store the buyer's personal billing information so that the buyer does not need to enter it every time the buyer pays for the goods through a corresponding payment instrument. The personal billing information of the buyer is kept confidential and is not communicated to the seller.

[0064] The interfaces **802-820** will now be described within the context of a method **900**, according to one embodiment of the present invention, of facilitating payment transactions through multiple payment instruments using risk analysis. The method **900** is illustrated by the flow chart indicated in FIG. **9**. The method **900** is performed by processing logic, which may comprise hardware, software, or a combination of both. The processing logic may be either in the online payment service **120**, or partially or entirely in a separate device and/or system(s).

[0065] The method **900** commences with providing the seller registration interface **802** to the seller at block **904**. The seller registration interface presents to the seller available payment instruments that can be used for conducting payment transactions in the transaction facility **130**.

[0066] At block **906**, processing logic in the online payment service **120** receives information on payment instruments selected by the seller from the list of available payment instruments. At block **908**, processing logic in the online payment option **120** determines whether the seller is qualified to use the payment instruments selected by the seller. This determination is performed using the risk management system **720** as described above in conjunction with FIG. **7**.

[0067] The method **900** continues with providing the end of business transaction interface **804** which specifies those payment instruments selected by the seller that were approved during the risk analysis process (block **910**). Next, at decision box **912**, a determination is made as to whether an initiator of the payment transaction is the seller or the buyer. If the seller initiates the payment transaction, the seller is provided with the seller login interface **806** to enable the seller to login to the

online payment service (block **914**). At block **916**, the seller is presented with the invoice form interface **916**.

[0068] Next, at block **918**, processing logic in the online payment service **120** receives invoice information entered by the seller through the invoice form interface **808** and then, at block **920**, determines whether the seller is qualified to submit the payment transaction described by the invoice information. That is, the risk management system **720** is used to evaluate a likelihood of the seller's ability to fulfill the purchase according to the invoice terms. If processing logic in the online payment service **120** determines that the seller is qualified to submit this payment transaction, the buyer is sent an e-mail which contains a link to begin payment. The link enables the buyer to access the buyer login interface **810** (block **922**).

[0069] Alternatively, if the initiator of the payment transaction is the buyer, the method **900** proceeds directly to block **922**, at which the buyer is presented with the buyer login interface **810**. The buyer login interface **810** includes information instructing the buyer to notify the seller (e.g., by e-mail using included e-mail template) about the buyer's willingness to conduct the payment transaction through one of the available payment instruments.

[0070] Further, after the buyer successfully logs in to the online payment service **120**, at decision box **924**, a determination is made as to whether the buyer is registered with the online payment service **120**. If the buyer is not registered, the buyer is requested to specify a preferred payment method for this payment transaction through the payment option interface **810**. If the buyer initiated the payment transaction, the preferred payment method may be selected from multiple payment instruments available for conducting payment transactions in the transaction facility **130**. Alternatively, if the initiator of the payment transaction was the seller, the preferred payment method may be selected from the payment instruments approved in the qualification process described above.

[0071] At decision box **928**, a determination is made as whether the buyer is qualified to use the preferred payment instrument using the risk evaluation process described above. If the buyer is not qualified to use this payment instrument, the method **900** returns to block **926**, at which the buyer is asked to select another payment instrument. Alternatively, if the buyer is qualified, at block **930**, the buyer's personal billing information pertaining to the preferred billing instrument is received from the buyer through the personal billing information interface **814**. Information included in the personal billing information interface **814** varies depending on the payment instrument selected by the buyer. In addition, the buyer may be requested to enter the buyer's shipping information through the shipping information interface **816**.

[0072] Next, at block **934**, processing logic in the online payment service **120** processes the buyer's payment and generates the confirmation interface **820** notifying the buyer either that the purchase is complete (e.g., the payment is made through a credit card) or that the buyer's payment has been initiated (e.g., the payment is made through an electronic funds transfer). Further, the buyer is presented with the buyer registration interface **822** which enables the buyer to store the buyer's personal billing information and shipping information in an account maintained for the buyer by the online payment service **120**. The method **900** then proceeds to block **936**.

[0073] In an alternate embodiment, in which the buyer is already registered with the online payment service 120, the method 900 proceeds to block 927, at which the buyer is invited to revise his or her billing and/or shipping information through the revision of billing and shipping information interface 813. Then, the method 900 proceeds to block 934 and further to block 934.

[0074] At block 934, processing logic in the online payment service 120 disburses funds to the seller. In one embodiment, multiple payments made by various buyers using the same or different payment instruments are accumulated on behalf of the seller over a certain period of time and then a single disbursement (in the amount equal to the accumulated payments minus an appropriate service fee) is distributed to the seller, in one embodiment, the time of disbursement, the manner of disbursement (e.g., a payment instrument to be used for disbursement) and the amount of the service fee are determined based on the risk evaluation process described above in conjunction with FIG. 7.

[0075] Exemplary user interfaces will now be further described with reference to FIGS. 10-19. While the exemplary interfaces are described as comprising markup language documents displayed by a browser, it will be appreciated that the described interfaces could comprise user interfaces presented by any Windows™ client application or stand-alone application, and need not necessarily comprise markup language documents. In addition, it will be appreciated by those skilled in the art that, although the exemplary interfaces are described in the context of an auction facility, they may be implemented in a wide variety of different types of computer-based, and network-based, transaction facilities.

[0076] FIG. 10 illustrates an exemplary seller registration interface 802 that enables the seller to specify various options concerning business transactions that are conducted in the environment of the transaction facility 130. Some of the various options pertain to payment options, such as payment methods 1010 and online payments 1020. The online payments 1020 specify multiple payment instruments. Although FIG. 10 illustrates only credit card and electronic check payment instruments, the seller registration interface may identify a wide variety of other payment instruments as described above. Using one or more check boxes corresponding to the payment instruments (e.g. check box 1022 and 1024), the seller may specify what payment instruments he or she will accept in payment transactions with various buyers.

[0077] FIG. 11 illustrates an exemplary end of business transaction interface 804 which in this example indicates the end of auction. The end of business transaction interface specifies payment instruments selected by the seller (e.g. a credit card 1110 and an electronic check 1120) and enables either the seller or the buyer to initiate the payment transaction by using a corresponding link (i.e., a seller link 1124 or a buyer link 1124).

[0078] FIG. 12 is an exemplary seller login interface 806 which enables the seller to login to the online payment service 120 by providing the seller's password 1230. The seller login interface 806 also includes links to explanations on how to use online payments (e.g., a link 1210 to an explanation for a first step of sending an invoice and a link 1220 to an explanation for a second step of shipping an item).

[0079] FIG. 13 is an exemplary invoice form interface 808 which includes input fields for entering various invoice information (e.g., a final auction price 1330, shipping insurance 1340, sales tax 1350, a message 1386, and a return policy

1388). The invoice interface also specifies payment instruments 1380 that are acceptable for this transaction (e.g., credit card 1382 and electronic check 1384) and provides information on how the payment transaction will be processed. For example, if the buyer chooses to pay with a credit card, the seller will be notified that the payment is processed once the buyer's credit card information is received. If the buyer pays with an electronic check, the seller will be notified about the completion of the payment transaction after the expiration of a certain time period (e.g. in 3-5 days).

[0080] FIG. 14 is an exemplary buyer login interface 810 which enables the buyer to login to the online payment service 120 by providing the buyer's user identifier 1414 and password 1416. In addition, the buyer login interface 810 includes information indicating that the payment transaction must be either initiated by the seller 230 (text 1410) or the buyer (text 1412).

[0081] FIG. 15 is an exemplary payment option interface 812 which includes invoice information 1510 and asks the buyer to select one of the online payment methods (e.g., a credit card 1530 or an electronic check 1540) by using either a "pay with credit card" button 1550 or a "pay with electronic check" button 1560. The payment option interface also allows the buyer to pay in one step using a link 1520 if the buyer is registered with the online payment service 120.

[0082] FIG. 16 is an exemplary billing information interface 814 generated in response to a buyer request to pay with a credit card payment instrument. The interface 814 includes input fields 1620 pertaining to the buyer's credit card information. In addition, the interface 814 includes information indicating that the buyer's billing information is kept confidential and will not be disclosed to the seller.

[0083] FIG. 17 is an exemplary billing information interface 814 generated in response to a buyer request to pay with an electronic check payment instrument. The interface 814 includes the buyer's checking account information including a bank name 1710, a bank routing number 1720, a checking account 1730, and a buyer's name and a checking account address 1750. In one embodiment, in order to prevent potential fraudulent activity, the interface 814 includes secondary form of identification input fields 1762-1768.

[0084] FIG. 18 is an exemplary buyer registration interface 822 including input fields 1810-1850 enabling the buyer to register with the online payment service 120 for storing his or her billing information in an account maintained by the online payment service 120.

[0085] FIG. 19 is an exemplary confirmation interface 820 notifying the user that the payment transaction has been initiated.

[0086] In summary, it will be appreciated that the above described interfaces, and underlying technologies, provide a convenient vehicle for facilitating payment transactions in a transaction facility using multiple payment instruments.

[0087] FIG. 20 shows a diagrammatic representation of machine in the exemplary form of a computer system 2000 within which a set of instructions, for causing the machine to perform any one of the methodologies discussed above, may be executed. In alternative embodiments, the machine may comprise a network router, a network switch, a network bridge, Personal Digital Assistant (PDA), a cellular telephone, a web appliance or any machine capable of executing a sequence of instructions that specify actions to be taken by that machine

[0088] The computer system **2000** includes a processor **2002**, a main memory **2004** and a static memory **2006**, which communicate with each other via a bus **2008**. The computer system **2000** may further include a video display unit **2010** (e.g., a liquid crystal display (LCD) or a cathode ray tube (CRT)). The computer system **2000** also includes an alphanumeric input device **2012** (e.g., a keyboard), a cursor control device **2014** (e.g., a mouse), a disk drive unit **2016**, a signal generation device **2020** (e.g., a speaker) and a network interface device **2022**.

[0089] The disk drive unit **2016** includes a computer-readable medium **2024** on which is stored a set of instructions (i.e., software) **2026** embodying any one, or all, of the methodologies described above. The software **2026** is also shown to reside, completely or at least partially, within the main memory **2004** and/or within the processor **2002**. The software **2026** may further be transmitted or received via the network interface device **2022**. For the purposes of this specification, the term "computer-readable medium" shall be taken to include any medium that is capable of storing or encoding a sequence of instructions for execution by the computer and that cause the computer to perform any one of the methodologies of the present invention. The term "computer-readable medium" shall accordingly be taken to included, but not be limited to, solid-state memories, optical and magnetic disks, and carrier wave signals.

[0090] Thus, a method and apparatus for facilitating online payment transactions in a network-based transaction facility using multiple payment instruments have been described. Although the present invention has been described with reference to specific exemplary embodiments, it will be evident that various modifications and changes may be made to these embodiments without departing from the broader spirit and scope of the invention. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense.

What is claimed is:

1. A system comprising:

at least one hardware processor maintained to communicate with a client machine via a network interface, the at least one hardware processor configured to include:

a receiver module to receive, via a message exchange with the client machine, information that identifies a first account for making a payment for a transaction, the information being generated by selection of a selectable element at a user interface at the client machine, the message exchange utilizing the network interface of the at least one hardware processor;

a retriever module to retrieve information related to the first account;

an approval module, responsive to risk analysis of the information related to the first account, to accept the first account for making the payment; and

a payment module, responsive to the approval module, to map the first account to a second account maintained by an online payment service and to activate software to make payment for the transaction with funds from the second account, the payment including coupons.

2. The system of claim **1**, wherein the second account is internal to the online payment service and the first account is external to the online payment service.

3. The system of claim **1**, wherein a third party participates in the transaction.

4. The system of claim **1**, wherein the at least one hardware processor is further configured to include a risk analysis module to evaluate the risk involved in accepting the first account for making the payment.

5. The system of claim **4**, wherein evaluating the risk involved is performed by a third party.

6. The system of claim **4**, wherein evaluating the risk involved comprises evaluating information accessible to a transaction facility.

7. The system of claim **1**, wherein information related to the first account for making the payment is transmitted from a mobile device.

8. A system comprising:

at least one hardware processor maintained to communicate with a client machine via a network interface, the at least one hardware processor configured to include:

a receiver module to receive, via a message exchange with the client machine, information that identifies a first account for making a payment for a transaction, the information being generated by selection of a selectable element at a user interface at the client machine, the message exchange utilizing the network interface of the at least one hardware processor, the message being configured as a message in an application protocol and transmitted by the client machine;

a retriever module residing at an online payment service to retrieve information related to the first account;

an approval module, responsive to risk analysis of the information related to the first account, to accept the first account for making the payment; and

a payment module, residing at the online payment service and responsive to the approval module, to map the first account to a second account maintained by a payment service and to activate software to make payment for the transaction with funds from the second account, the payment including coupons.

9. The system of claim **8**, wherein the second account is internal to the online payment service and the first account is external to the online payment service.

10. The system of claim **8**, wherein a third party participates in the transaction.

11. The system of claim **8**, wherein the risk analysis comprises evaluating the risk involved in accepting the first account for making the payment.

12. The system of claim **11**, wherein evaluating the risk involved comprises evaluating information accessible to a transaction facility.

13. The system of claim **11**, wherein evaluating the risk involved is performed by a third party.

14. The system of claim **8**, wherein the information related to the first account for making the payment is transmitted from a mobile device.

15. A system comprising:

at least one hardware processor maintained to communicate with a client machine via a network interface, the at least one hardware processor configured to include:

a receiver module to receive, via a message exchange with the client machine, information that identifies a first account for making a payment for a transaction, the information being generated by selection of a selectable element at a user interface at the client machine, the message exchange utilizing the network interface of the at least one hardware processor, the selection causing the information to be configured

using a communication protocol specified in an application layer and transmitted in a transport layer by the client machine;

a retriever module to configure a request to retrieve, from an external server over a communication network, information related to the first account, and to retrieve the information pursuant to the request;

an approval module, responsive to risk analysis of the information related to the first account, to issue a request to accept the first account for making the payment; and

a payment module, responsive to the approval module, to map the first account to a second account maintained by a payment service and to activate software to make payment for the transaction with funds from the second account, the payment including coupons.

16. The system of claim **15**, wherein the second account is internal to the payment service and the first account is external to the payment service.

17. The system of claim **15**, wherein a third party participates in the transaction.

18. The system of claim **15**, wherein the at least one hardware processor is further configured to include a risk analysis module to evaluate the risk involved in accepting the first account for making the payment.

19. The system of claim **18**, wherein evaluating the risk involved comprises evaluating information accessible to a transaction facility.

20. The system of claim **15**, wherein the information related to the first account for making the payment is transmitted from a mobile device.

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